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Bridging the Technological Gap: The Need for AI Literacy among Lawyers and Judges in Pakistan

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ABSTRACT

The quick adoption of Artificial Intelligence (AI) into the legal practice of the world has changed the traditional legal research, drafting, and adjudication modes of practice. Nevertheless, Pakistani legal fraternity is still in dire need to be ready to embrace these technological changes. The paper will discuss the urgency of teaching AI literacy to lawyers and judges in Pakistan and how a lack of awareness and training on the use of AI can lead to the ineffectiveness and lack of integrity of the justice system. The qualitative examination of the existing practice and the comparison with technologically advanced jurisdictions shows that the main obstacles to change include the lack of digital competency programs, technological illiteracy regarding education, and the unwillingness of institutions to adopt change. This paper suggests that legal professionals must be provided with basic AI literacy to promote fair and transparent justice delivery and technological flexibility. It advises curricular changes in the field of legal education, ongoing judicial education, and governmental policy interventions that would promote responsible and efficient use of AI in the legal field in Pakistan.

Key Words: AI Literacy, AI and Law, Legal System and AI, Pakistan Legal System, Legal Education

Introduction:

Artificial Intelligence (AI) is not a groundbreaking subject that exists in the realm of science fiction, it is a fast-growing reality that is transforming industries globally, and the legal profession is not an exception. AI is a large area of technologies that allow machines to execute the activities that mostly demand human intelligence skills, including learning, problem solving, decision-making, and language comprehension (Surden, 2019, p. 1307). AI is changing the way laws are interpreted, written and administered in all parts of the world; be it through high-level algorithms that process large volumes of data or through natural language processors that can be used to prepare documents. This technological revolution will offer unprecedented efficiencies, increased accuracy and may offer more access to justice (Remus & Levy, 2017). However, in order to maximize the potential of artificial intelligence, legal experts are



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urgently needed to acquire what is now widely known as AI literacy. AI literacy involves more than just recognizing that AI exists, but actually understanding the back-end principles of AI systems and their processes, knowledgeable of the affordances and constraints that they have, ethical implications, and is able to utilize AI-based tools judiciously and critically (Gultekin-Varkonyi, 2025). Without such fundamental literacy, the productivity, as well as accuracy, of legal practitioners, will probably suffer, and they continue to perpetuate injustices, unknowingly relying on AI outputs. The legal profession is one field that is being completely redefined with the advent of artificial intelligence, a field of operation that has long relied on extensive research, document preparation, and logical reasoning (National Jurist, 2025).

The present research paper shall establish the paramount role of AI literacy among lawyers and judges in Pakistan in the contemporary times. It will posit that in the absence of concerted action to factor AI education in legal training and professional development, Pakistani legal practitioners would be left behind the rest of the world, which would therefore affect the efficient, precise, and accessible administration of justice in the country. The paper will discuss the international move towards AI in law, explain the importance of AI in both lawyers and judges, and will challenge the challenges that Pakistan is facing plus offer practical solutions to close this technological gap. The final aim is to make sure the legal system in Pakistan is sound and fair and capable of taking on the future that is more AI-driven.

The Global Shift toward AI in Law

Artificial intelligence integration in legal systems is not a new phenomenon but a worldwide trend, and many countries are trying AI tools and introducing them into the legal systems to make them efficient in the areas of judicial and legal research, as well as administrative processes. Countries such as the United States, the United Kingdom, and Singapore are leading in this change because they invest a lot in the effective and ethical application of AI technologies by training their legal professionals, both judges and lawyers (United Nations University, 2024).

The use of AI-powered platforms is becoming more common in the United States, including automating documents, e-discovery, and legal research. As an example, some companies such as LexisNexis and Thomson Reuters have created advanced AI to be able to sort through large bodies of law and find pertinent precedents and even predict the outcome of a case. The use of AI as a case predictor, where machine learning algorithms use historical case data to predict a possible judicial decision, is becoming increasingly popular and provides lawyers with tactical advantages in litigation (Surden, 2019). Moreover, AI is already being applied in such fields as the review of contracts, where algorithms have the ability to recognize clauses, anomalies, and compliance violations very fast, cutting the time and cost of conducting a manual review significantly (Bucher, 2025). Applications of AI in legal search, e.g., can identify similar cases in a much faster manner and are of great assistance in the preparation of legal arguments (Tu, 2024).

The UK is no exception, and some of the efforts of legal tech have been aimed at enhancing access to justice and making court processes smoother. Legal research, document generation, and even assistance in the analysis of evidence are already being done using AI. Efforts to bring digitalization to the justice system are actively driven by the UK government and legal institutions, as AI has the potential to increase efficiency and decrease backlog (UK Ministry of Justice, 2025). The Law Society of England and Wales has already issued guidance as to the application of AI to legal practice, with



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particular attention to the ethics and the importance of lawyers being familiar with the technology (The Law Society, 2019).

Singapore is a frontrunner in the utilization of technology in the legal system. The nation has taken the lead in establishing smart courts and e-justice solutions, incorporating AI to perform a number of tasks, such as automated transcription, case management, and even dispute resolution. The judicial system of Singapore has been keen on adopting technology and has offered training and tools to enable the law practitioners to understand the changing digital world (Oxford Institute of Technology & Justice, 2023). They usually take such initiatives to create and implement the most advanced legal AI solutions as public-private partnerships.

These are not the only examples, and other countries such as China have gone to great lengths towards building sophisticated e-justice systems and intelligent courts. They use AI to perform automated case filing and evidence management, intelligent sentencing suggestions, and more, all of which seek to improve judicial transparency and efficiency to a scale not previously thought achievable (Oxford Institute of Technology & Justice, 2025). The European Union in its AI Act as well is establishing legal standards of AI literacy, especially of legal AI systems in the case management, in the context of the global regulation push of responsible AI use (European Commission for the Efficiency of Justice, 2018).

The world is experiencing a major technological revolution in the legal systems. Most notably, the benefits, such as increased efficiency, accuracy, and extended access to justice, are quite convincing. Nevertheless, unlike these liberal jurisdictions, Pakistan does not have a structured system of integrating artificial intelligence in law education or the professional growth of lawyers and judges now. Furthermore, there are no large-scale, state-funded projects or extensive legal technology platforms to provide the Pakistani legal community with the means to survive this looming technological shift. Such a shortfall is a severe technological lapse that, in its absence, is likely to alienate the Pakistani legal system to the rest of the international legal community with respect to efficiency, innovation and, above all, the administration of justice.

Significance of AI Literacy for Lawyers

Within the area of legal practice, AI literacy is swiftly shifting to a discretionary capability to a required ability. The legal profession is being radically transformed by artificial intelligence because the profession has traditionally been characterized by a great deal of research, extremely painstaking drafting, and complex analytical thinking. Even lawyers who learn to use AI tools and apply them successfully are likely to have a significant competitive advantage, but those who do not adapt to such technologies will become obsolete (Thomson Reuters, 2025).

The most obvious benefits of AI literacy among lawyers are the possibility of optimizing work processes and improving the overall efficiency. Ethical and responsible use of advanced AI services could save a lot of time previously wasted on repetitive work, including both specialized legal-research services like Casetext and LexisNexis AI or general-purpose large language models like ChatGPT. Some of the capabilities offered by these tools are:

Speed up the legal research:

AI is able to find millions of legal documents, statutes, case law and scholarly articles in a matter of seconds, which will provide corroborative information and also reveal trends in legal research otherwise taking hours or days of manpower. This enables the lawyers



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to look at the strategic analysis and not the long manual searches (Bloomberg Law, n.d.). Such solutions as LexisNexis AI and westlaw edge use machine learning to deliver more useful search results and understanding of judicial behavior.

Automate Document Drafting and Review:

AI can help to create first-draft documents of agreement, pleadings and other legal documentation using templates and certain inputs. Moreover, AI-based reviewing tools have the ability to spot anomalies, inaccuracies, or omit another clause within complex documents within a short period of time, with its high accuracy and diminished chances of oversight enhancing its efficacy (Harvard Law School Center on the Legal Profession, 2025). This comes in handy especially in high volume fields like mergers and acquisitions or intellectual property law.

Enhance Due Diligence:

AI can process large volumes of data to determine due diligence on a merger and acquisition transaction, as well as any other transactional activity, and mark risks and liabilities that a human team alone are much more inefficient than AI teams (Bin Wen, 2025). This feature enables law firms to handle large amounts of contracts and financial records in a manner that has never been done before.

In addition to efficiency, AI literacy is directly related to better quality and accuracy of legal work. Automating repetitive processes and offering detailed information analysis, AI reduces the human factor and ensures that legal arguments are constructed on the basis of up-to-date and applicable information. This will result in more powerful cases, more well written documents and more knowledgeable legal advice (Daniel, 2025). The fact that law-related information can be obtained and integrated within a very short period of time allows lawyers to introduce more well-researched and convincing arguments.

Most importantly, access to justice can be improved greatly with the use of AI literacy. The low affordability of traditional legal services is another factor that renders them unaffordable to a big part of the population. With the decreased time and resource investment to complete legal tasks, AI tools can help decrease operational expenses in law firms. This, in its turn, can be turned into less expensive legal services, which will enable people and small businesses be closer to justice (Smith, 2025). Even smaller companies or individual professionals, which are traditionally resource-limited, may use the advanced AI tools to compete with bigger companies on the same field and extend their ability to serve their clients.

Last but not the least, AI literacy is necessary to make sure the AI-created legal content is not being misused. Lawyers should be in a position to define the output given to them by AI tools with a critical approach. It incorporates the awareness of the possibility of biases in AI algorithms, understanding when AI-generated data may not be accurate or a hallucination, and being aware of the ethical limitations of AI application in legal practice (Warraich et al., 2025). In the absence of this skill of critical evaluation, attorneys become prone to filing flawed arguments or referencing cases that do not exist or end up breaking professional obligation. Thus the concept of AI literacy does not only pertain to the utilization of the tools themselves, but to their limitations and responsible and ethical use in the name of seeking justice. The law field has the responsibility to make sure that technology can help deliver justice and not destroy it and that it needs to understand the potential and the traps of AI (Ohio State Bar Association, 2024).

Why AI Literacy is Important for Judges



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In the case of judges, AI literacy is just as important as it is crucial to lawyers, even though the reasons behind this are different. The judiciary is the final decision maker of justice and with the increase in the penetration of AI in the legal practice, judges should be prepared in order to comprehend, analyze and hear cases based on artificial intelligence evidence, arguments, and tools. In the absence of this knowledge, there are great chances of misconceptions, loss of confidence by the people, and inability to stand by the issue of justice and due process (National Center for State Courts, n.d.).

The main justification of judicial AI literacy is the increasing demand to aid the process of legal documents and digital evidence as well as data of cybercrimes generated with AI. The lawyers are already experimenting with AI in writing pleadings, motions, and research memoranda. These computer-aided submissions are inevitable to the judges. They should be capable of:

Evaluating AI-generated content:

Judges should be in a position to determine the reliability, the accuracy, and the bias of the information found in documents or arguments generated by AI. This involves knowing the history of the AI-generated text, the models that it was trained on, and the data (Magesh et al., 2024). The absence of this knowledge might result in the promotion of improper or even fabricated legal materials as depicted in instances where lawyers have presented AI-generated citations, which were not there (Merken, 2023).

Evaluate online evidence:

In a massively digitalized world, most digital evidence is in complicated digital formats, and therefore this evidence can be data worked upon or displayed by AI systems. The judges need to understand the AI analysis of digital forensics, surveillance data, social media information, and other electronic data, and its methods to judge whether it is admissible and probative (Dixon, 2020). This is of specific importance in terms of the aspects of cybercrime, where it is essential to make sure that the technical properties of evidence are properly comprehended to provide an impeccable conduct of the trials and correct the verdicts.

Moreover, artificial-intelligence (AI) literacy allows the judges to assess the AI-based technologies used by the lawyers and investigators. With the rising adoption of a predictive-policing algorithm, facial-recognition software, and other AI-based technologies by law-enforcement and legal professionals, judges must also evaluate the legality, as well as the fairness, of their use. They need to understand how these tools work, what risks of mistakes accompany them, and what consequences they will have on the rights of people (Selçuk et al., 2025). This kind of expertise is essential in making a well-informed decision on search warrants, admissibility of evidence and sentencing and this will alleviate the frustration of justice by murky technological procedures. To avoid excessive influence on the decision-making process, judges should be cognizant of the abilities and constraints of such tools as litigation analytics that can offer information about the judicial behavior and case outcomes (National Center for State Courts, 2024).

Judicial AI literacy is, perhaps, the most critical measure to avoid complete blind trust in the automated systems and guarantee the rights to a fair trial. The efficiency provided by AI can be very attractive, but it should not distract the most basic principles of justice. This requires the judges to be in a position to critically examine the output of AI, challenge its assumptions as well as make sure that there is the human touch in the judicial decision making process (The National Judicial College, n.d.). This involves acknowledging and eliminating algorithmic bias, which unintentionally reproduces or



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increases social disparities in society, and could have a discriminatory effect (Roy, 2017). In the absence of a critical concept of AI, judges may unwillingly rely on automated suggestions, which may negatively affect the constitutional rights of litigants and the perception of a fair judicial system. The right to fair trials of people is based on the fact that judges are able to review all the aspects of a case, including those affected by AI, and not necessarily rely on technology (HeinOnline, n.d.).

In short, AI literacy will help judges to continue being the guardians of justice in a more technologically-centric legal environment. It allows them to make better choices, practice ethical principles, and make sure that the AI adoption becomes a means to improve, not to decline, the credibility and impartiality of the judicial system. This is a proactive move needed to maintain the trust of the people and also to secure the provision and equity of justice during the digital age (Buckland, 2023).

Challenges in Pakistan

Traditionally, global tendencies prefer the implementation of artificial intelligence in law enforcement, but Pakistan is a different case, and the obstacles to the adoption and implementation of AI in the legal field are significant and interfering. These difficulties are caused in part by the systemic nature of the problem, as well as the lack of proactive policy frameworks and the general lack of technological literacy among the representatives of the legal community (Shah et al., 2025).

First in these difficulties is the absence of well-organized training courses or sensitizations of the judiciary and lawyers. Unlike many developed countries which have begun setting up legal tech incubators, tailored specializations, and judicial education programs focused on improving AI literacy, Pakistan still does not have a fully developed approach to address this need in its legal and judicial system. This lack of has resulted in a situation where the legal professionals, both experienced and new with the qualification, do not have any formal means of learning about the existence of AI tools, how they can be applied and the associated ethical considerations. Exposure to AI, in case of any, is mostly informal, fragmented, inconsistent, and thus a major gap in knowledge exists (Khalil, 2025). The general reluctance to change in conventional institutions only aggravates this situation as the benefits of new technologies may not be obvious and a top priority.

To make this problem worse, there is no legal education curriculum that can appropriately address AI or legal technology. Pakistani law schools, which act as the training soil of legal practitioners to come, have been mainly conservative in their methods of pedagogy. The curriculums are usually obsolete with a major part of the lesson emphasizing traditional legal topics without adopting the new technologies. Thus, law students are not ready to enter the field to find their way in a more AI-centric legal environment, and this trend will leave the technology gap intact instead of closing it (Shah et al., 2025). This lack of background knowledge also means that novices to the profession cannot easily convert to technological changes and use AI tools effectively.

Besides, Bar Councils and judicial academies are the key institutions of continuous professional development, and they are yet to integrate AI awareness modules into their training as an obligatory or, at least, optional course. The bodies play the role of making sure that legal practitioners and judges stay competent and in touch with the legal developments. Their neglect of introducing AI literacy into their programs is a big opportunity that has been missed to transform the technology levels in the overall legal ecosystem. No institutional support and systematic training by these major institutions can make AI literacy adoption a widespread and extensive phenomenon; instead, it will



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be a case of an individual effort rather than systematic assistance (Farid & Ghazanfar, 2025).

Lastly, the critical challenge is the threat of reliance on unverified sources of AI, which may give incorrect legal outcomes. Without appropriate training and critical evaluation, the legal workers may be enticed to use the easily obtainable, and in many cases free AI applications without realizing their limitations and bias, as well as the quality of their source information. This type of blind trust can result in the creation of flawed legal research, erroneous arguments, or even the creation of fake reference materials to a case, which has been witnessed in other jurisdictions where lawyers have proven responsible in using generative AI (Mangan, 2023). Such misjudgments do not only weaken the integrity of the law and justice processes but are also a genuine risk to the adequate administration of the law; they can cause wrongful decisions of the court and a loss of trust of people into the law system. To handle these issues, a complex intervention plan that encompasses educating and policy formulation along with institutional reforms to ensure the development of a technologically proficient legal fraternity in Pakistan are required (Ahmad & Bakhsh, 2024). Moreover, ineffective data infrastructure and weak privacy laws in Pakistan are also a major challenge to ethical and secure implementation of AI in the law (Jhokio et al., 2025).

Recommendations

A multidimensional approach is needed because Pakistan requires an AI literate population and an ability to stabilize the situation to ensure that the legal system may be flexible, open, and effective in the age of artificial intelligence. This part will provide a series of policy and educational suggestions that could contribute to the development of AI literacy in Pakistani lawyers and judges.

Curricular and Educational Reforms

Artificial Intelligence Literacy in Law School: Pakistan needs to urgently redesign the law school curriculum to include mandatory courses or modules on Artificial Intelligence and legal technology. These modules should cover the basics of AI, its use in legal research, document automation, predictive analytics, and the ethical issues it presents in its use. To gain both theoretical and technical expertise, practical workshops, case studies, and experiential learning activities should be involved.

Faculty Capacity Building:

Colleges should invest in faculty development programs where the educators of law can be trained on new technologies in the field of law. Joint efforts with computer science programs, international schools, or legal technology practitioner organizations would be useful to make sure that the staff members possess sufficient skills to deliver effective courses related to AI.

Judicial Training and Continuing Professional Development:

Judicial academies must also develop AI literacy programs based on the continuing judge education. These must encompass tutoring on how to assess AI generated evidence, algorithmic bias, cybercrime research and how AI can be applied ethically in adjudication. This would be encouraged by connecting these programs to Continuing Professional Development (CPD) credits and make them uniform throughout the judicial ranks.



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Initiatives at the Institutional and Policy Level

AI Awareness and Ethics Programs: The Bar Councils must initiate AI awareness and ethics programs led by the AI community. Regular seminars, workshops and certification on AI ethics and responsible use should be conducted by provincial and national Bar Councils. These initiatives need to focus on the protection of data, the confidentiality of clients, prejudice identification, and human regulation of AI-based law practice.

Ethical and Regulatory Guidelines Development:

Together with the courts, educational organisations, and legal tech professionals, Bar Councils are expected to develop an extensive framework of the best practices regarding AI-assisted legal work. These guidelines ought to set the rules on AI to verify documents, disclosure requirements in utilizing AI in legal drafting, and client data protection procedures.

Regulatory Standards of AI in the Judicial Practice:

The Supreme Court and High Courts or a legal technology regulatory expert agency need to come up with official provisions that regulate the usage of AI in the legal research, evaluation of evidence, and composition of verdicts. This would make the use of AI tools in the justice system of Pakistan transparent, accountable, and consistent.

Teamwork, Innovation, and Infrastructure Creation

Interdisciplinary Collaboration: The establishment of forums that contribute to long-term dialogue between legal experts, technological specialists, and policymakers is necessary to secure cross-sector interdependence, as well as the creation of indigenous legal AI products jointly. These joint ventures may be helpful in ensuring that AI systems are aligned with the socio-legal realities in Pakistan, thus increasing relevance and accessibility.

Establishment of Legal Tech Innovation Hubs:

Promote the creation of legal tech innovation centers or incubators in universities or large cities. Research, development, and testing of domestic legal AI solutions suited to the Pakistani environment may be conducted at these hubs. Additionally, they would offer a setting for learning, experimentation, and the development of a thriving legal tech community

Digital Infrastructure investment:

The government working together with the private sector should invest in the underlying digital infrastructure that is necessary to integrate AI. This includes safe data-storage facilities, cloud-computing services, and reliable internet connectivity in urban and rural areas, therefore, providing fair and open-access technological progress.

With these all-encompassing measures, Pakistan is in a position to produce a generation of AI-aware legal experts who are able to handle the complexities of a technology-driven justice system. Enhancing the AI literacy is not a technological update, it is a cultural shift to a more transparent, efficient, and fair system of law.

Conclusion

The development of the Artificial Intelligence can be discussed as the turning point in the history of many different professions, and the legal sphere is not an exception. The world of law is fast becoming integrated with AI tools as the global legal sphere has explained



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in this research paper to promote efficiency, accuracy and accessibility. The United States, the United Kingdom, Singapore and China are in the process of educating their legal practitioners to explore this new technology frontier, and they realize that AI is not a tool to be added but an innovation.

To Pakistan, the need to instil AI literacy in its lawyers and judges can not be ignored. The legal system of the country is at the risk of falling in a major technological disadvantage without the active and proactive adoption of AI education, which will undermine its opportunity to provide timely, correct, and fair justice. By having lawyers that are AI literate, one will be able to utilize the power of powerful tools to research, develop, and manage cases and in the process ease the workloads, enhance the quality of work done, and eventually make legal services more available and affordable. Likewise, AI-informed judges are more likely to critically assess AI-generated evidence, appreciate AI-informed investigative instruments, and thwart the unthinking use of automated systems that may undermine the right to a fair trial.

However, the main challenges that Pakistan faces today are the lack of systematised training programmes, outdatedness of the law education course and lack of institutional backing as a result of the Bar Councils and judicial academies. The existence of these lacunae leaves the space in which the artificial intelligence can be abused, which can give rise to inaccuracies and undermine the trust of people in the legal system. The listed recommendations, i.e., the inclusion of AI literacy in the law school and judicial academy curriculum, the design of Bar Council conferences on AI ethics, succinct legal practice guidelines, and the establishment of partnerships between the legal and technological professions, are a whole structure. The adoption of such measures is more than just an adoption of nascent technology and it seeks to modernise the whole basis of justice delivery in Pakistan.

To sum up, the future of the legal profession is inevitably connected with artificial intelligence. Although AI will never replace lawyers or judges, those with a strong comprehension and skillful execution of AI will outshine those with no such competencies. As a result, the development of deep AI literacy becomes not only a suggestion, but also a necessity to modernise legal machinery in Pakistan, thus allowing the country to have an operating, updated, and efficient justice system that can effectively serve its people in the twenty-first century. This is a strategic investment that will become more efficient and objective of the legal system, which will bring Pakistan to an even more developed level in the legal community of the world and guarantee the delivery of justice in the constantly changing technological environment.

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