

Examining the Intersection of Artificial Intelligence and Legal Decision-Making

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Abstract

This research paper examines the increasing need for and importance of artificial intelligence (AI) in the legal profession. Along with highlighting its significance, it discusses the benefits and drawbacks of AI in the legal profession. Furthermore, it also analyses the capability of AI to replace human judges in future. Additionally, it investigates the possible problems and impacts on society by integrating AI into the legal profession, such as people's lack of confidence in AI-generated decisions, parties' privacy, unemployment, and transparency. Moreover, it explores how AI can serve as an assistive device rather than a complete replacement for human involvement. It examines countries like China, the USA, and Canada, where AI machines are already being used in their legal proceeding for research, decision-making, and even in some countries, as a substitute for human judges. Furthermore, it investigates the social, ethical and economic effects, and their sufficient solutions, by integrating AI into the judicial system, especially in Pakistan. The effectiveness of AI is compared to human judgments to assess its potential role. Lastly, it provides recommendations for the better implementation of AI tools in Pakistan's judicial system, suggesting strategic actions to facilitate the integration of AI tools in the legal field.

Keywords: General Artificial Intelligence, Decision-Making, AI Judges, Lack of Confidence, Ethical Framework.

Introduction

Artificial Intelligence (AI) is a vanguard technology that possesses tools like deep learning networks, including autoencoders, generative adversarial networks (GANs), or variational

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autoencoders (VAEs), to generate content in response to written prompts (Kabir & Alam, 2023). The generative AI models can produce new data with similar characteristics by utilising the pattern and stricter input data (Karpathy, Brockman, Ho, Goodfellow, & Wojciech, 2016).

No literature reviews have acknowledged the existing gap in knowledge concerning the influence of AI on legal arguments. The interaction between AI and legal principles in real-world cases is of utmost importance. This implies the need for frameworks and protocols that would allow the responsible integration of AI into the judicial system (Stawa, 2018).

With time, Artificial Intelligence is gaining importance in various fields like commercial, entertainment, and digital art, where the ability to create captivating content swiftly holds immense value.

Nevertheless, people are also examining the ethical concerns surrounding the utilisation of generative AI. It is important to consider privacy issues, content ownership, and the possibility of unfairness in shared information. Even with concerns, generative AI continues to be an intriguing area of study and advancement in artificial intelligence. It can produce innovative applications in a wide range of fields (Beerbum, 2023).

Legal research can be conducted more efficiently and quickly using these new technologies. Through computer learning, lawyers can discover vast amounts of legal information and gain valuable knowledge. But over-reliance on such technologies, however, may lead to overdependence on automated systems, thereby somewhat compromising the depth of critical thinking and human analysis. On the other hand, there is no surety that AI will fully pick up on fine details in complex legal matters. All it could mean is that research would be deficient since such a machine would not express the right depth. This, however, is counterproductive to the ability of lawyers to carry out such thorough and nuanced legal research (Selbst, 2020).

Although natural language processing may simplify the review and decision-making related to the legal dimensions of documents, it may simultaneously expose shared risks regarding accuracy and undermine the nuanced complexity of understanding. The assessment of the impact that Generative Artificial Intelligence (GAI) will have on attorneys, clients, and the legal system is

necessary to predict its future influence on legal judgments. One has to be sure that in evolving technologies, fairness, equal rights, and respect for individuals remain unviolated.

Research Methodology

This study examined the effectiveness of artificial intelligence (AI) in the legal profession by utilising both qualitative and quantitative research methodologies. This mixed-methods approach provides opportunities and a comprehensive analysis by combining numerical data and in-depth insights, resulting in a more thorough and balanced analysis of the topic. The quantitative data from the surveys were analysed using statistical methods to identify patterns, trends, and correlations. The qualitative responses were reviewed and categorised thematically to extract meaningful insights.

Data Collection Approach

The researcher utilised two primary methods for data collection:

1. Literature Review:

- An extensive analysis of existing literature, including books, journal articles, news articles and reports, was conducted to gather secondary data on AI's integration into the legal profession.

2. Survey Questionnaire:

- A structured survey questionnaire was designed to collect both quantitative and qualitative data.
- The survey was distributed to a total of 122 participants, including professionals and students in the legal field.

Participant Demographics

Category	Number of Participants	Percentage
Judges	15	12.3%
Judicial Staff	10	8.2%

Lawyers	55	45.1%
Law Students	35	28.7%
AI Experts	07	5.7%
Total	122	100%

This diverse participant pool ensured representation from different segments of the legal profession, adding depth and variety to the collected data.

Research Questions

The core aim of this research is to examine the overlap of Artificial Intelligence and decision-making from a legal perspective and to address the problems and questions that arise from this intersection:

- i. What are the bright and dark sides of AI?
- ii. What are the potential effects of AI on the legal profession?
- iii. What measures should be taken to protect privacy when AI decides the case?
- iv. Does AI have the potential and capability to replace human judges and make more effective decisions?
- v. What steps should be taken to improve AI bias and ensure impartiality?

Research Gap

There is an important and big gap which is in understanding the impacts of AI on the judicial system and decision-making. No literature or work exists regarding the influence of AI in legal decision-making and legal arguments. It is important to explore further by using legal principles to understand the implications of AI on human interpretation. Furthermore, there is no work exists which investigates the potential of AI in real-world cases. It is difficult to understand the efficiency of AI in real-world cases. Now we need to fill this gap by developing the appropriate frameworks and protocols for integrating AI into the judicial system responsibly.

Literature Review

AI for Decision-Making and Legal Research

The first and important step, that helps legal practitioners in legal arguments and decision-making, is legal research. Previously, the lawyers would set about the legal research manually, due to that they faced draw in their results, mistakes and time-consuming. Now in this AI world, legal professionals should take help from machine learning and Natural language processing, to get improved, precise, effective findings in their legal research (Kabir & Alam, 2023). We have multiple options in legal research that can help address legal questions and matters, such as document review software, chatbots and GPT4. By utilising technology, it can interpret and address questions communicated in everyday language.

Understanding the law and applying it to resolve cases is crucial when making decisions in court. The usual practice is for humans, like judges and lawyers, to interpret rules and past cases, at the time of legal decision-making (Farthing, Howell, Lecchi, & Paleologos, 2021). The utilization of AI, particularly machine learning, can enhance the quality of legal judgments by analysing extensive legal data to offer guidance and forecasts. AI tools utilised in the legal system consist of software capable of forecasting results and systems designed to aid in decision-making processes. For instance, Lex Machina is a tool that makes use of artificial intelligence and machine learning to analyze legal data and assist in identifying patterns and trends in decision-making. Artificial intelligence is utilised in various ways within the legal system, as demonstrated by the following examples (Faggella, 2021):

1. **ThoughtRiver:** ThoughtRiver's area of expertise lies in the management of risks through the review of contracts, assessment of portfolios, and conducting investigations. Its Fathom Contextual Interpretation Engine assists in summarising numerous contracts efficiently. The system will also issue a caution for high-risk contracts.
2. **Kira Systems:** It offers software that can accurately assess contracts during due diligence. It utilises advanced computer programs to locate, underscore, and retrieve essential data for study. It is simple for team members to find and validate the origin of the information. According to Kira Systems, its

software can accelerate the process by 40% for new users and 90% for experienced users.

3. **LawGeex:** LawGeex examines contracts using machine learning, linguistic analysis, measurements, and legal acumen to ensure they comply with set standards. When a contract fails to meet the criteria, the AI provides suggestions for modifications before seeking approval. The company claims that its software has the potential to save substantial amounts of time and money, although they have not yet provided evidence to support this assertion.
4. **Ross Intelligence:** Lawyers can use ROSS Intelligence to ask questions in natural language and receive useful information, such as suggested readings, related court cases, and other resources to aid in their legal research. The software utilises specialised programs to analyze extensive legal data and improve its ability to provide accurate answers. Baker Hostetler, an established law firm, has incorporated ROSS Intelligence into its bankruptcy division to facilitate the management of extensive data. ROSS swiftly searches through a plethora of documents to find pertinent information that will enhance the company's performance (Kabir & Alam, 2023).

The way lawyers conduct their research is being transformed by these new AI companies. They assist lawyers in increasing their efficiency, reducing errors, and enhancing their decision-making abilities. These tools are revolutionizing the legal field by making research more efficient, precise, and affordable, while also providing access to crucial information. The CEPEJ approved the European Ethical Charter for the use of Artificial Intelligence in the legal system during its 31st meeting (Stawa, 2018). With the improvement of AI, we can expect to see more developments and an increasing number of lawyers utilising these technologies.

The Pros and Cons of Artificial Intelligence in the Legal Profession

In recent times, the utilisation of AI in the legal industry has transformed the delivery and management of legal services (Ng, Windholz, & Moutsias, 2023). AI can assist with numerous tasks by

processing extensive data and performing actions without human involvement, such as:

- i. The use of AI in the legal industry can enhance efficiency, accuracy, and financial savings (Selbst & Barocas, 2018).
- ii. Lawyers can be aided by artificial intelligence in removing monotonous and time-consuming duties like examining documents and researching laws. This provides lawyers with the opportunity to focus more on difficult legal duties (Doran & Dominique, 2017).
- iii. It would make it fairer, and unlike human judges, AI does not get tired and does not depend on its glucose levels to function (Kahneman, 2011).
- iv. AI can identify patterns within text and documents, making it a valuable tool for managing extensive quantities of data or handling intricate situations.
- v. The use of AI to offer suggestions can support individuals and parties involved in a court case in finding a solution when they are uncertain of their next move. Lawyers can be aided by advisory AI. AI identifies crucial data and responds to an inquiry (Selbst & Barocas, 2018).
- vi. Many people are curious about AI technology that purportedly can anticipate court decisions. The term commonly used in English/American for this is "proactive justice". Court cases may lead to unforeseen results. As the circumstances become more challenging, the level of risk rises. This is why AI is a topic of great interest to many people, as it boasts the potential to minimise risk (Berk & Bleich, 2014).

As above, we have discussed how the benefits should we get from AI, now we should know the disadvantages of AI in the legal profession:

- i. The first and most disadvantages of AI programs is bias, prepossess and shabbiness in the decision (Zalnieriute, Moses, & Williams, 2019).
- ii. We all know that AI is much faster than a human, but we should know that AI is circumscribed in thinking, feeling and understanding the situation like humans. These factors are important as their action can change and put in danger the lives of many innocent people (Kabir & Alam, 2023).

- iii. The integration of AI in the legal profession could lead not only to the unemployment of many people in the legal profession but also to limit job opportunities, as AI have no age.
- iv. Transparency is another big issue that we could face because the decision of AI will not be based on the reasons for the decision. It is important to uncover the reasons (Eschenbach, 2021).
- v. Another issue that we could face is privacy concerns and data protection when using AI tools (Selbst & Powles, 2017).

Artificial Intelligence as a Judge

Many judicial tasks rely on human intelligence and cannot be effectively automated by computer programs that cannot interact with people in a compassionate, emotional, or flexible manner. Harvey describes the functioning of an AI judge and gives examples of algorithms used in legal databases (Harvey, 2016). Computer programs are utilised by these databases to locate specific information when searching for particular words. Utilising databases is not the only requirement for an AI judge. To come to a decision, it is necessary to extract the essential information and then juxtapose it with a current case.

Harvey noted that the essential aspect of this stage is to establish the appropriate mathematical principles for comparing and predicting, while also using math to calculate the probabilities of various outcomes to derive useful information. Nevertheless, Harvey's model continues to incorporate human judgment in the decision-making process.

By analysing written information, researchers utilised AI computer programs to speculate on the potential outcome of a situation. A computer program was created by Aletras and his team to examine the language utilised in the European Court of Human Rights judgments concerning violations of human rights (Aletras, Tsarapatsanis, & Pietro, 2016). Their goal was to uncover any prevalent approaches used by the judges when reaching verdicts in these cases. The program was able to identify patterns and make predictions about written cases with an accuracy of 79%.

Surden addresses concerns that could arise when employing machine learning to create accurate AI for anticipating legal results. For machine learning to work well, the data it provides must closely resemble the new information it is aiming to comprehend (Surden, 2014). If a computer program encounters an unfamiliar situation, it could have difficulty making correct judgments. These difficulties may arise when there is a lack of precedents for the computer program to reference and create reliable patterns.

Although AI researchers have demonstrated proficiency in other sectors, it seems plausible that they can adapt their expertise to predict legal outcomes, despite it being a new endeavour. DeepMind researchers have trained an AI system called AlphaGo to outperform a European expert in the game of Go by directly instructing it from the game and utilising diverse learning approaches (Silver D., Huang, Maddison, Guez, & Sifre, 2016). Studying laws and past cases enables Judge AI to demonstrate its understanding and utilisation of the law, as evidenced by these wins, despite the difficulty of rephrasing legislation. It is feasible for Judge AI to employ these rules in actual situations. Due to advancements in other fields and the rapid development of AI, we will probably see improved Judge AI within the next decade (Ashley, 2017).

Substituting Human Judges with AI Judges

Utilising modern technology can aid people in expediting the resolution of problems or gaining a better grasp of the issues they need to address in court. As an example, technology can enable people to make choices and utilise artificial intelligence to expand the possibilities available to them. It can perform tests, provide recommendations, and come to conclusions. Advanced technologies like Artificial Legal Intelligence (ALI) have the potential to offer expert legal guidance and make legal decisions (Susskind, 1998).

AI's influence on the justice system is substantial due to its versatility in the different aspects of the legal process. The use of technology in certain aspects of legal work has raised concerns about how it might impact the jobs of lawyers and judges (Susskind, 2017). It is widely anticipated that the rise of AI and other advancements will lead to a significant number of jobs being carried

out by AI rather than by humans in the next two decades (Dolphin, 2015). There has been little conversation about the potential impact of technological developments on high-level legal positions, such as judges, and the potential substitution of some positions with new technology like Judge AI.

Does this imply that machines will replace judges? It's not likely, at least not right away. This is due to the various factors that can influence the decision-making process of judges. According to the Australian Law Reform Commission, factors such as intuition, practical knowledge, and the impact of decisions on society should be taken into account (Commission, 1998). Technology may become increasingly valuable in resolving family conflicts if it can assist people in making informed decisions and predicting potential results (Sourdin, 2018). Their role involves creating a draft decision for judges to review, which can contribute to legal processes and decisions.

These changes lead people to contemplate the future decisions of courts and judges, as well as the structuring of data. This also prompts speculation on the settings and procedures for decision-making by executives versus judges. Some individuals underestimate the significance of judges in society and believe they can be replaced by AI. The responsibility encompasses more than just making legal decisions, it also involves ensuring that people abide by and embrace the laws.

Technology Supporting Judges in Decision-Making

As stated earlier, while AI has the potential to take over certain aspects of adjudicative work currently performed by human judges, it is more likely that technological progress will aid human judges in their judicial responsibilities. Some argue that AI should be used to assist people in their work rather than causing them to lose their jobs. The goal is to improve efficiency, not displace workers (Surden, 2014). There are instances when it appears that co-bots will hold greater significance than robots when it comes to employing AI judges.

Artificial Intelligence programs have the potential to aid human judges by generating decisions based on inputted information, rather than substituting them entirely. These programs can generate a preliminary judgment by utilising the determined

outcome of the system (Sourdin, 2015). Subsequently, human judges can utilise this draft judgment as a foundation to articulate their reasoning, thereby ensuring human supervision over the computer program. This approach enables the incorporation of discretionary or social factors that may surpass the capabilities of the AI program.

Judges could benefit from the use of more advanced technology to aid them in their duties (Agar, 2007). In the future, human judges could be more skillful and apt. They could put computer programs in their body and change their genes. These types of advancements and developments in AI tools can hold a great benefit for human judges in prosecuting justice (McIntosh, 2008).

Fairness and Preference in Artificial Intelligence Judges

Many countries throughout the world are still under discussion, and some countries have started integrating AI technologies into their justice system. Those countries which use AI in their justice system give favourable and reliable results (Panca Sarjana Putra & Bhanu Prakash Nunna, 2023). At the top of the list of those countries is Estonia, which came out from the traditional approach of their justice system, and integrated AI into their justice system to improve and oversee the government services, provide faster results and reduce the burden of cases in court. Another example is China, which has created an AI tool, “Xiaofa”, that can help legal staff interpret legal terms and provide solutions and recommendations for the concerned legal matters. Unlike Estonia, China took big steps to enhance the efficiency of the justice system and created 100-plus robots, like Xiaofa, throughout the country (Yuswar, 2023).

According to Daily Mail’s reports in 2016, a significant advancement in Artificial Intelligence (AI) in the UK. Three university experts researched the efficiency of AI in decision-making if it works along with human judges, and they got 79% of the time right. Making the computer a “Man of the world” can make a more effective interpretation of the rules by using precedents of the apex courts (Fernando, 2023).

So far, we have two perspectives on AI integration, the first one is that AI has the potential to reduce biases in its decision-

making by using its data-centred methodology (Panca Sarjana Putra & Bhanu Prakash Nunna, 2023). The second one is that AI has the potential and efficiency to work faster than human judges, but AI lacks emotions, social, and ethical aspects and understanding of the situation and circumstance of the case. Emotions and understanding are the two important factors in deciding a case. A mere decision based on the input information is not reliable and acceptable (Robayo-Pinzon, O., & Rojas-Berrio, S, 2023).

AI is only efficient in deciding legal matters and implementing rules and laws rightly or according to the situation, when the guidelines and sufficient knowledge are input in by using algorithms. That is why the ability of AI is restricted in deciding those matters which contain explanation, interpretation and emotions (Yalcin, Themeli & Stamhuis, 2022). In legal matters, when a judge knows that the person's respect, integrity and influence on society are at stake, the judge will take into consideration the intention of the person and society and decide the case according to the circumstances. From the above discussion, we can presume that there is still a long way to replace human judges with AI (Chowdhury, 2022).

The AI Promotion: Moving Beyond a Mere Advisory Role

A judge who takes assistance from AI staff can handle cases more effectively than human judges who work along with human attorney staff. By using AI staff, a human judge can improve the efficiency of decisions and speed up the decision-making process. As a fallible human, a judge can make mistakes, but to avoid making mistakes, they can seek help from AI staff. These biases are generally based on race, ethnicity, gender discrimination and social status. Some judges make decisions based on personal preference, which is not supported under any law, rules or regulations. But using AI judges or staff, there will be no chance of biases or personal preference while making decisions. (Ben-Ari, Frish, & Lazovski, 2017).

If we want to reduce these biases and personal preferences which affect decisions by integrating AI into the justice system, we must have an AI framework that deals with every factor of AI and contains the rules and regulations for the conduct of AI. In the case that AI judges can offer a similar or better level of justice than

human judges, at a lower cost and quicker pace, we should think about adjusting the regulations to employ AI judges (Putra, Fernando, & Nunna, 2023).

The development of human judgments is a result of years of experience, a process that may not apply to AIs. Nevertheless, the primary criterion for promotion should still be the level of trust we have in the candidate's judgment. The Henry Test offers a valuable method to assess this judgment. If a panel of evaluators concludes that an AI judge program produces persuasive opinions in the cases provided during the test, it is reasonable to expect AI judges to offer a greater number of written opinions supporting their judgments compared to human judges, who often rely on brief decisions. In the case of human judges, we generally have to place our trust in their exercise of discretion, whether it is based on our familiarity with the judge's character, our belief that they are faithfully upholding their oath of impartiality, or simply due to the practical necessity arising from the heavy workload of courts, which prevents judges from providing detailed justifications for every decision on every motion. However, AI judges lack personal credentials that could inspire trust. Therefore, their written justifications are the only means by which we can accept their decisions. It is precisely because of these explanations that we can have greater confidence in the defensibility of their judgments compared to the opaque "here's what I think" approach that a human judge might adopt.

The Human-AI Fairness Gap in Decision-Making

There is still uncertainty surrounding the acceptance of robot judges by the general population. It's a fact that we shouldn't expect robot judges to always be fair. It isn't always possible for judges to meet this impeccable standard. Eugene Volokh argues that instead of determining if AI judges are entirely fair, we should focus on comparing their fairness to that of human judges (Volokh, 2019). The distinction in decision-making processes between humans and AI may be a factor, though not the sole factor, in favour of using human judges over robot judges in legal proceedings. Legal psychologists suggest that people are more prone to comply with the law when they perceive the legal system as just (Tyler, 2006).

The study showed that enhanced comprehension and attentive listening play a significant role in making just judgments,

whether they are made by a person or a computer. The individual felt more satisfied with the court's decision when they were able to comprehend it. After hearing both sides in the trial, they felt that the process was more equitable.

In our imperfect world, we must choose between flawed individuals and imperfect machines. The key concern is not whether robot judges exhibit bias, but rather the degree to which they are more or less biased than human judges. According to the economist Sendhil Mullainathan, "biases can exist in both human and AI judges. It is generally tough to acknowledge the prejudices of human judges. It is a challenging endeavour to assess human judges by asking them to determine the same case twice, once with a white defendant and once with a black defendant" (Volkh, 2019).

This article does not discuss the intricate and controversial issue of racial discrimination in the court system. Nonetheless, some human judges exhibit discrimination towards individuals of different races (Abrams, Bertrand, & Mullainathan, 2012). The article discussed a comparison between human judges and AI judges in a particular scenario. Furthermore, AI judges could bring about other positive outcomes, like fairness and reliability (Quinn, 2021). For example, the use of robot judges could result in a higher percentage of cases being decided in a public court. Another vital element of fairness in discussions is the expansion of the use of mediation and arbitration. There is apprehension among experts that these methods are not equitable, and the general public could have similar reservations.

Automating the Judicial Process

Anthony D'Amato, a human rights expert, questioned whether computers could replace judges if the law is unambiguous and automation eliminates the influence of personal beliefs on decision-making (D'Amato, 2011). The law is ambiguous and not fully determined. Chances are slim it will occur. The meaning of legal language is frequently ambiguous (Schauer, 2013), leading to ongoing debates about how laws should be interpreted (Tobia, Slocum & Nourse, 2022). The latest computers are endeavouring to replicate human judgment rather than dismiss it (Awad, Levine, & Anderson, 2022).

In American criminal law, AI offers help and recommendations, but the ultimate legal verdicts are still determined by judges in courtrooms (Nagel, 1965). Lord Pannick, a barrister in the UK, has proposed the idea of utilising computer software to aid in determining criminal sentences (Pannick, 2017). According to him, the use of a computer can bring about more consistent decision-making, financial savings on appeals, and the avoidance of irrelevant factors being taken into account. No state has authorised computers to decide on someone's guilt or innocence, but one country is open to employing them for particular types of cases. Estonia is working on a robot to make decisions for small cases with less than 7,000 euros at stake (Cowan, 2019).

D'Amato hypothesised that “ordinary individuals might consider the legal system to be more equitable if computers were responsible for the tasks currently undertaken by judges. The general perception is that judges are unable to avoid displaying bias and prejudice and are unable to distance themselves from their privileged position in society. However, there is no inherent bias in computers unless it is specifically added. The result will remain unchanged, irrespective of race, colour, wealth, talent, or social status (D’Amato, 2011).”

Nevertheless, it's crucial to recognise that people may not consistently tell the truth and make sound judgments, even with the rise of AI (Kroll, Huey, & Robinson, 2016). According to computer scientist Jon Kleinberg and his associates, “Machines have the potential to provide a more thorough comprehension of the reasoning behind decision-making and can assist in pinpointing and addressing discrimination (Kleinberg, Ludwig, & Mullainathan, 2018).” Aziz Haq, in his article, claims that “AI has more potential benefits than humans, as human judgment can be more consequential than AI” (Haq, 2020).”

Survey Title: Investigating AI’s Role in Legal Decision-Making

Purpose of Survey

The survey was conducted via Google form to gather valuable views and input from law students, AI and law experts, law teachers, lawyers and judges over the advantages and disadvantages of AI implementation in the legal profession and recommendations

for the better implementation of AI in Pakistan's legal system. If we need AI in our legal system, then how can we make and enhance the efficiency and accessibility of legal decision-making? Currently, in Pakistan, there is no framework regarding AI, so what do they think about the AI framework in Pakistan, and how should it be beneficial for upcoming generations? The core purpose of the researcher behind this survey is to provide a better platform to those who want to take over this topic and want to add their part to the role of AI.

Questions

The following key research questions were put to the respondents to get the answers relevant to this study:

- i. Are you familiar with the concept of AI in the legal decision-making process?
- ii. Do we still need human judges in the age of AI?
- iii. Do you think AI can be helpful in reasoned legal decision-making?
- iv. To what extent, you are getting help from AI in legal decision-making?
- v. Do you believe integrating GAI in legal decision-making could enhance efficiency and effectiveness in Pakistan's legal system?
- vi. what potential benefits could arise from incorporating AI in legal decision-making, and how might it impact the judicial system?

Results and Discussion

This research survey was conducted by completing questionnaires from advocates, prosecutors, Judges, Law teachers, Law students, Judicial Staff, and AI experts.

Section A: Participants' Demographic Visualisation

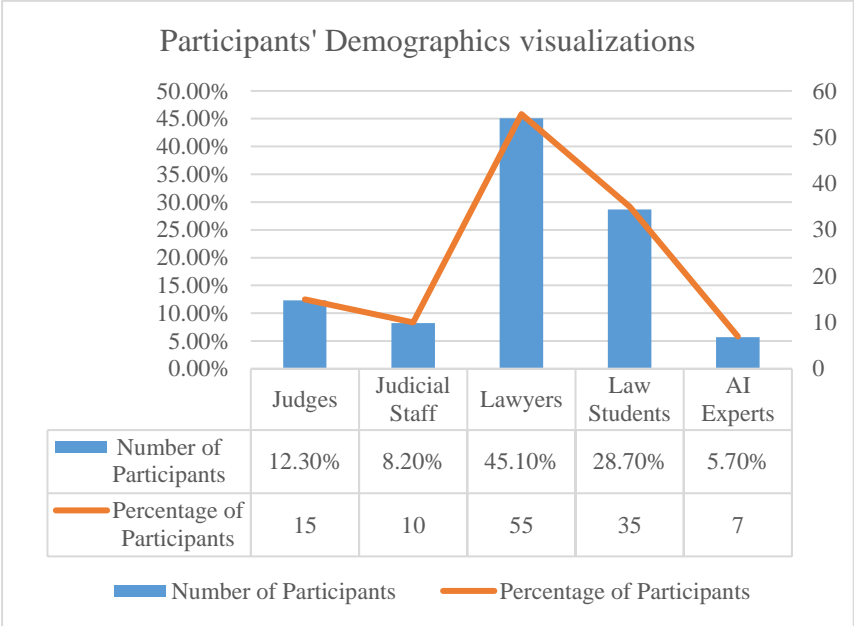


Fig. 1. Participants' Demographics

Section B: Survey Questionnaires & their Findings

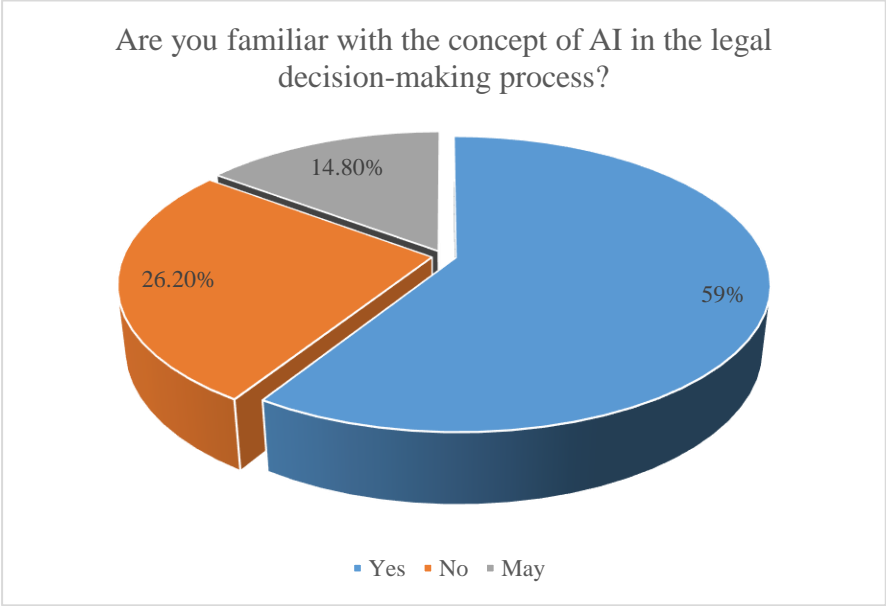


Fig. 2. Identifying the Familiarity

Aim: The purpose of this question is to assess the awareness levels of respondents regarding emerging technologies.

Findings: As shown in Fig. 2, **59% said “Yes”** they are aware of the concept of AI in decision-making. In comparison, **26.2% of respondents admitted that they have “No” any idea** regarding modern world technologies and **14.8% of respondents, selected the “Maybe” option** because they are not certain whether they are aware of AI or not.

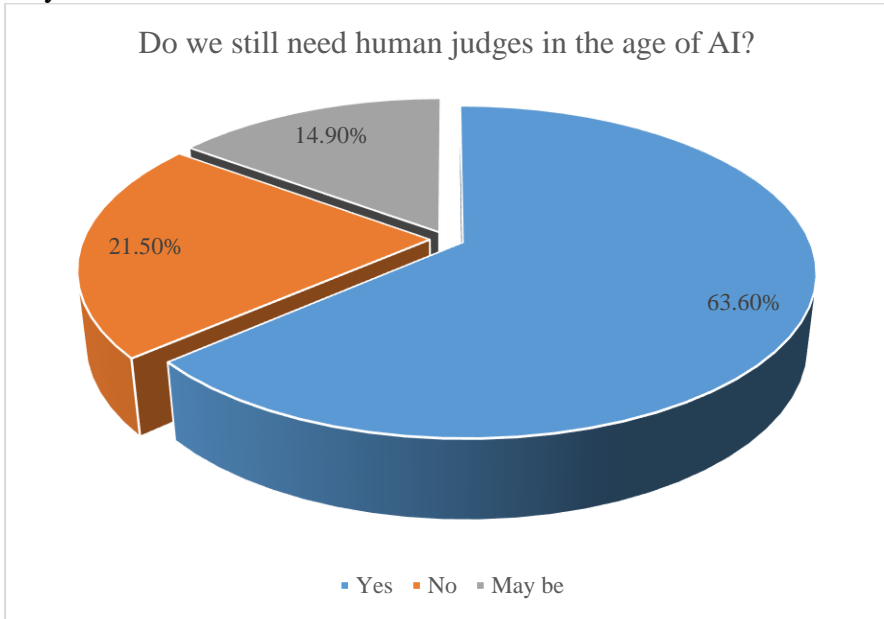


Fig. 3. Need for Human Judges in the Age of AI

Aim: This question aimed to know respondents' viewpoint on the replacement of human judges with AI and they want to remove the traditional decision-making process.

Findings: In response to this question, **63.6% of respondents want AI judges in the legal system of Pakistan, while 21.5% said “No” they do not want AI technologies** because they believed in human-based decisions and **14.9% were uncertain and chose the “Maye be” option.**

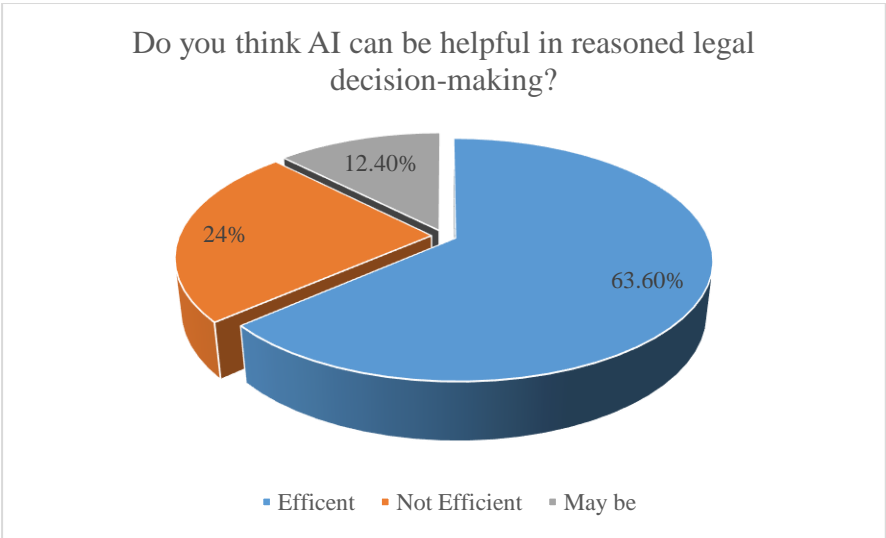


Fig. 4. AI in Legal Reasoning

Aim: This question aims to assess participants' perspectives on whether AI can contribute to making logical, well-reasoned decisions in the legal field by analysing facts and applying legal principles effectively.

Findings: As shown in Fig. 4, the *majority 63.6% of respondents have faith that with the help of AI*, we can make sound decisions, *while 24% of respondents think that AI is not efficient enough to make sound decisions and 12.4% express sceptic.*

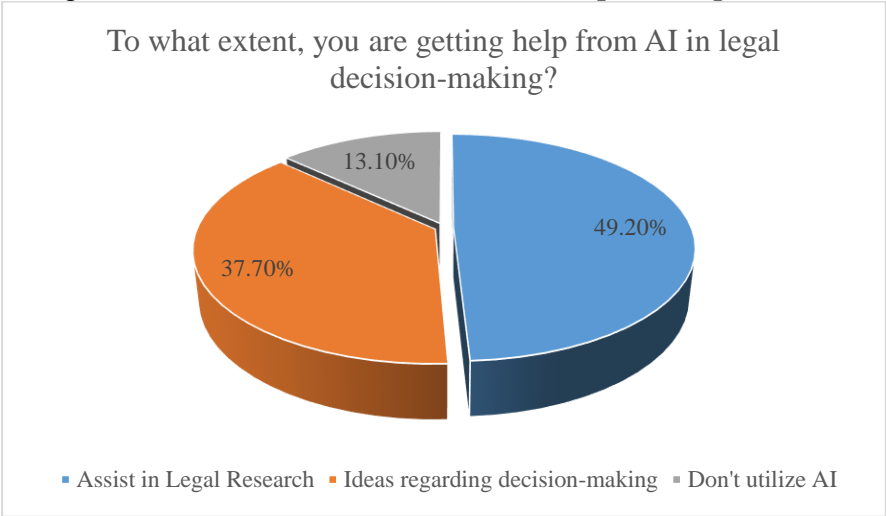


Fig. 5. Extent of AI Assistance

Aim: This question aims to evaluate the extent to which participants currently utilise AI tools in legal decision-making processes and the specific areas where AI assistance is being applied.

Findings: As shown in Fig. 5, **49.2% of responders reported using “AI to aid or assist in legal research”**, **37.7% of responders were of the view that they rely on AI primarily for “obtaining ideas relevant to legal decision making”** and **13.1% responders expressed that they do not utilise AI at all in their legal decision-making processes**, indicating a preference for traditional methods or a lack of access to AI technologies.

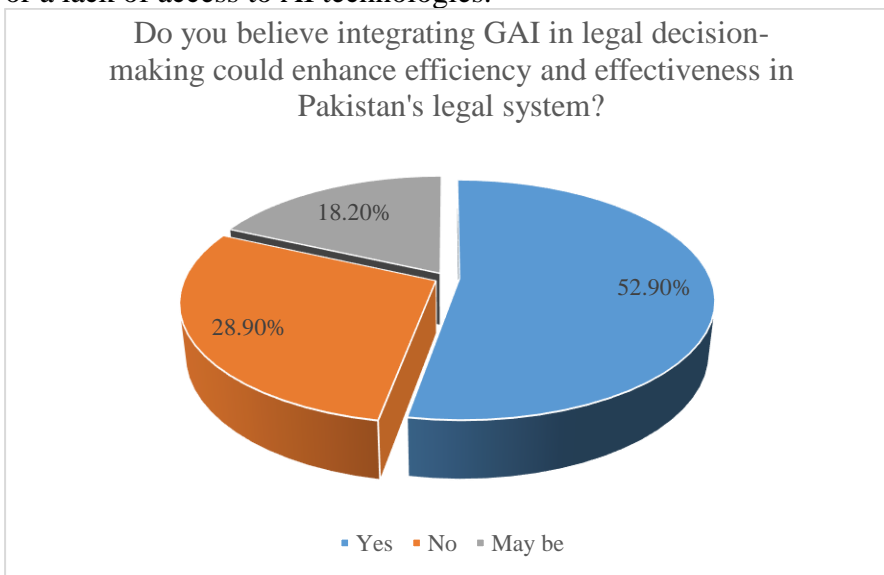


Fig. 5. GAI Integration in Law

Aim: This question aims to explore participants' opinions on whether integrating Generative AI (GAI) into legal decision-making could improve the efficiency and effectiveness of Pakistan's legal system.

Finding: In the fifth question of the survey, **52.9% of respondents expressed optimism about the potential for integrating GAI** to enhance efficiency and effectiveness within the Pakistan legal system, **28.9% of respondents expressed scepticism regarding the feasibility** or desirability of integrating GAI into the legal decision-making framework and **18.2% respondents remained undecided or caution** about the implications of integrating GAI into Pakistan legal system.

Q. In your opinion, what potential benefits could arise from the incorporation of AI in legal decision-making, and how might it impact the decision-making?

The last question of the survey explores the potential benefits and impacts of the incorporation of AI in legal decision-making. In this question, I received the responses in descriptive form and the responses show the following impacts and benefits of AI in legal decision-making:

1. Benefits of incorporation of AI in legal decision-making:
 - AI automation streamlines routine tasks such as legal research, document review, and case management, freeing up time for legal professionals to focus on high-value activities.
 - AI technologies broaden access to justice, legal information, advice, and representation, particularly for underserved populations and individuals with limited resources or geographic barriers.
 - AI systems can help mitigate human biases and disparities in legal outcomes by standardising decision-making criteria, promoting fairness, and ensuring equitable treatment under the law.
 - Enhance efficiency and productivity.
 - Improve accuracy and consistency.
 - Potential cost savings and resource optimisation for legal practitioners, law firms, and judicial institutions.
 - The incorporation of AI can complement the process of legal research and drafting. It can aid the lawyers in the research as well as the judges to some extent, but as far as the decision-making is concerned, especially in the Pakistani context, there are still many measures which are needed to ensure an efficient legal system/Judicial system before the Incorporation of AI for decision making.
 - Accurate interpretation of vague statute.
2. Impact of incorporation of AI in legal decision-making:
 - AI integration may lead to the displacement or redefinition of certain traditional roles and reskilling within the legal profession.

- The use of AI in legal decision-making raises ethical and regulatory considerations, including concerns about algorithmic transparency, accountability, bias mitigation, and data privacy.
- Increased reliance on AI technologies may create dependency issues, with potential implications for human oversight, control, and accountability in legal processes.
- Impact on legal education and professional development, including the need for training in AI technologies.

The Potential Effect of AI Judges on Society and Ethics

It is important to consider the effects of implementing advanced technology, such as artificial intelligence, within the justice system of Pakistan. A few effects of them are discussed below:

- a. **Trust of Parties:** The justice system is based on the trust and faith of people in decision-makers. If the aggrieved person thinks that the justice provider or judge is a robot, then it is not possible that people will trust a robot that is working on input data. If an AI judge gives a sentence against an innocent person due to a technical fault, then who will be responsible?
- b. **Objectivity vs. Empathy:** Through the use of information and past experiences, AI can rapidly and accurately make decisions. The requirement for decision-making is not only precedents, but also the emotions and circumstances of the case matter for unbiased judgment.
- c. **Personal data and information issues:** AI will make judgments by using personal data and information of the parties. What if someone hacks or retrieves private data from AI and leaks or uses it for illegal or harmful purposes? Who will be responsible for that?
- d. **Who will be responsible:** Who will be responsible if AI makes a mistake or error, and an innocent party suffers from that? Is the person who made the robot responsible for the legislation?

- e. **Culture and religious factor:** Pakistan has a diverse and rich culture and religion. Then AI has the potential to deal with and respect every religion and culture, and make judgments without any discrimination.

A Way Forward

I believe that integrating AI into the legal system of Pakistan can make efficient judgments and promote fairness. Before its implementation, it is important to understand the complications and ethical considerations. For effective implementation, we should create new frameworks and strategies by the constitution of Pakistan. Here are some recommendations that I think will become effective and helpful in the implementation of AI in the legal system of Pakistan:

- a) **Public opinion:** Before integrating AI into the legal system, the government should consult with the public and take their views and perspective on AI efficiency.
- b) **AI training:** It is also important that, whether AI is used for assistant purposes or replacing a judge, all individuals and staff, including judges, lawyers and other staff, are properly trained and have knowledge of AI.
- c) **Framework:** The legislation should make new rules, regulations, guidelines and legal frameworks for better implementation and use of AI.
- d) **Respect rights of parties:** While implementing AI services and tools, it is necessary to consider the rights of parties, such as the right to privacy, fair trial, and access to a fair trial
- e) **Appeal Mechanism:** Establish a mechanism and rule for the person who is aggrieved by AI-made decisions.
- f) **Respect diverse cultures and values:** The AI should know all the cultures in Pakistan and decide by the customs and beliefs of that particular culture.

By considering these factors, the integration of AI in the legal system of Pakistan can be more effective and efficient.

Conclusion

The primary goal of this research is to examine the influence of AI technologies on the legal profession and decision-making, and to discuss the role of AI in decision-making from multiple perspectives. Furthermore, the paper discusses the pros and cons of AI in the legal profession and explains the situations and extents under which AI can be more effective and efficient. In this research, the researchers compare the ratio of fairness and biases between human decisions and AI-based decisions.

This research addresses the identified issues by analysing how AI affects lawyers' jobs. Surveys and experts say AI could make things faster, but also raise issues like bias and privacy. The results show that AI can help make decisions, but you still need human judges for feelings and ethics. To deal with these challenges, it suggests ways to reduce bias, keep privacy safe, and use AI correctly in the law, especially in Pakistan.

The survey was conducted on the role of AI in legal decision-making and to pursue the valuable insight of legal experts and students on this topic. From the survey, I received two views: one view thinks that AI has the potential to replace human judges in Pakistan and bring modern techniques in decision-making, and the second view thinks AI has the potential to decide cases fairly and efficiently, but it cannot fully replace the judges. Because the essence of justice not only depends on the data input in AI and laws, but also on the interpretation, emotions, moral and ethical considerations. Recently, AI advancements have led to many changes in every aspect of life, and these changes are necessary to improve society and keep up with the world. We should learn from these technologies and implement them not only in law but in every field and department. By keeping this point in mind, I have put some recommendations through which we can implement the AI in the legal system of Pakistan.

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