

## Evaluating The Use of Artificial Intelligence in The Law Profession

**Clement Yayra Tettey**

Ghana Institute for Management & Public Administration (GIMPA)

GreenHills, Accra, Ghana

**Email:** kwakuct@hotmail.com

**Phone:** +233242626046

### ABSTRACT

The field of law is among several industries that are being transformed by artificial intelligence (AI). Yamane (2020) posits that the abundance of data available to legal practitioners and the need for expedient and cost-effective legal services are driving forces behind this transformation. The benefits and limitations of AI in law have been extensively studied, with contract review, e-discovery, legal research, and predictive analytics being some of the AI applications in the legal domain. While AI holds promise for improving legal services' accuracy, affordability, efficiency, and accessibility, ethical and legal concerns about the technology persist. For example, concerns have been raised about the possibility of AI perpetuating biases and discriminations that already exist in the legal system. As such, it is critical to find a balance between the benefits and drawbacks of AI in the legal system. To that end, legal professionals must employ AI with caution and ensure that its use is regulated to protect stakeholders. Additionally, it is crucial to undertake further research to address the gaps in the literature. In summary, while AI has immense potential to revolutionize the legal industry, its use must be guided by ethical and legal principles.

**Keywords:** Artificial intelligence, Legal technology, Machine learning, Natural language processing, Contract review, Legal Research, Legal analytics, Predictive analytics, Data mining, Case management, E-discovery, Document review, Expert systems, Legal decision-making, Legal reasoning, Ethical considerations, Stakeholder protection, Guiding principles for AI use in law, Revolutionizing the legal industry.

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### 1. BACKGROUND TO THE STUDY

The potential impact of AI on the legal industry has generated significant debate, with its ability to streamline processes, increase efficiency, and reduce costs seen as both an advantage and disadvantage.

However, concerns remain over the ethical and legal implications of replacing human labour and potential biases in decision-making (Barnes, 2018). This paper aims to evaluate the use of AI in the legal system, considering its advantages and disadvantages in areas such as legal research, contract analysis, and legal advice. It will also explore the potential impact on the legal profession and the ethical issues surrounding AI use. The objective is to provide insight into the benefits and limitations of using AI in law and offer suggestions for responsible implementation (Yamane, 2020)

## 2. RELATED LITERATURE

The legal industry is undergoing a transformation due to the implementation of artificial intelligence (AI). AI has the potential to increase efficiency and accuracy in various legal processes. Legal research, which involves reading and analyzing a vast number of legal documents, can be streamlined using AI methods such as natural language processing (NLP) and machine learning, which can swiftly and accurately extract pertinent information (Sukanya & Priyadarshini, 2021).

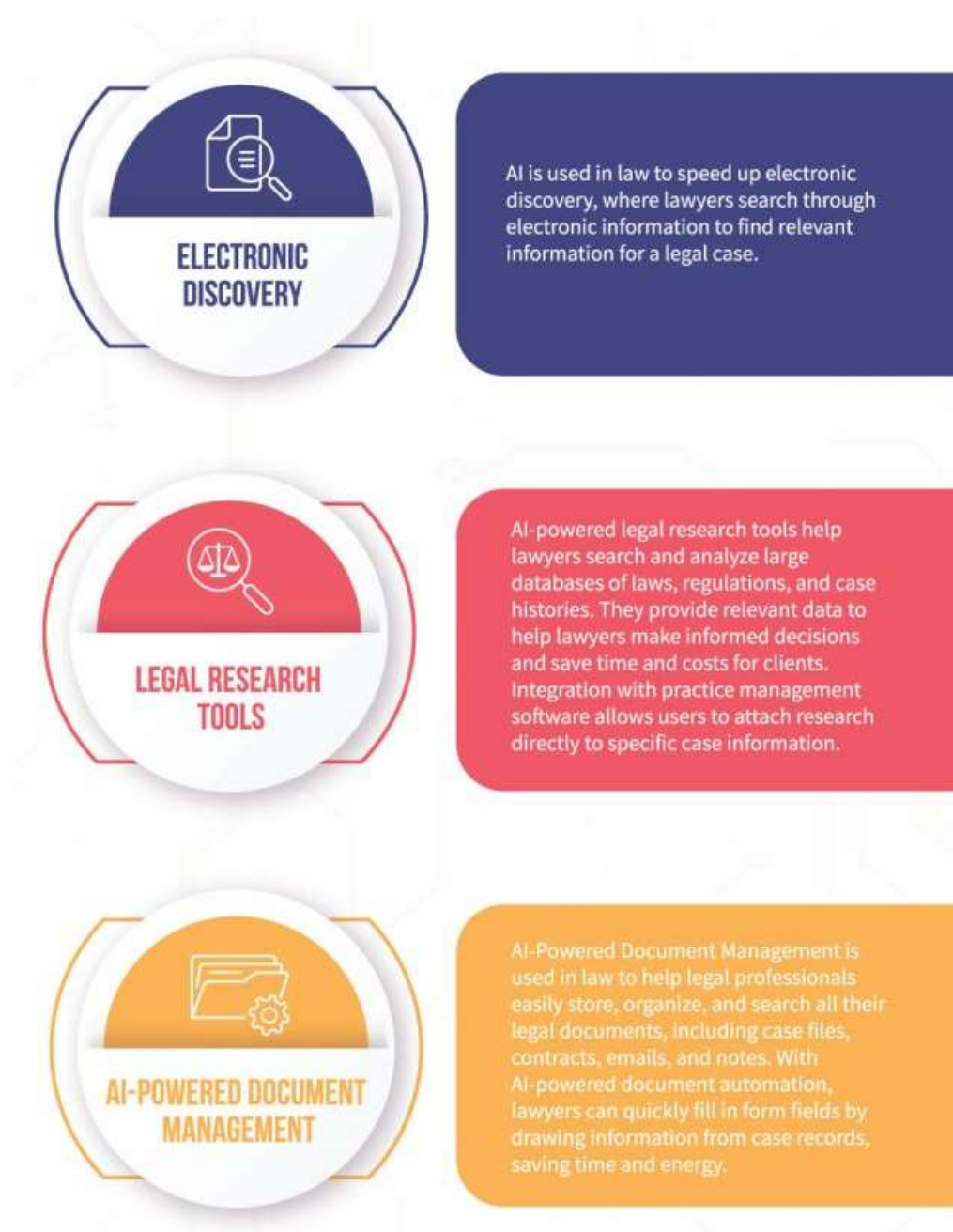
In addition, AI can aid lawyers in contract analysis by automatically identifying essential clauses and provisions, spotting potential risks and inconsistencies, and offering revision suggestions. AI can also analyze past cases and identify patterns and trends that can be used to inform legal strategy. However, there are concerns about the ethical and legal implications of AI use in the legal system, including potential bias in AI algorithms and the impact of AI on the legal job market. Therefore, it is important to carefully consider the application of AI in the legal system and develop policies and regulations to ensure its ethical and responsible use.



Fig 1: AI in Law Imagery

## 3. FINDINGS

According to an assessment of AI in law, the use of technology has the potential to improve legal processes and outcomes (Mehdi, 2021). One significant advantage of AI in the legal field is the ability to analyze vast quantities of legal data, including case law, statutes, and legal records, quickly and accurately. This can aid attorneys and judges in making better-informed decisions and save time on tedious tasks such as document review.



**Fig. 2: Aspects of the Usages of AI in Law**

E-discovery systems with AI can quickly analyze vast volumes of data, such as emails and their documents, and locate relevant information based on predefined criteria. This can save considerable time and resources when compared to conventional manual review techniques. AI-powered legal research tools can assist lawyers and other legal professionals in finding relevant case law and other legal information quickly and accurately. Using machine learning and natural language processing, these tools can evaluate large volumes of legal data and deliver more precise and pertinent search results. Another application of AI in the legal sector is AI-powered document management. Documents can be automatically categorized and arranged based on their content and metadata, which can facilitate collaboration on complex issues and aid legal teams in finding relevant papers more rapidly (Baser & Saini, 2022).

AI has the potential to reduce bias and human error in the legal industry. AI algorithms can be designed to be consistent and impartial in their decision-making, which reduces the likelihood of errors or the impact of individual biases. AI algorithms may result in more consistent and fair legal outcomes.

However, the use of AI in law may also have some disadvantages. One issue is the potential for AI to reinforce or even magnify existing prejudices in the legal system because AI systems may be programmed to perpetuate discriminatory behaviors or be based on biased data. The issue of making AI systems transparent and accountable also arises, particularly when such judgments have important ramifications for individuals or society as a whole. It is crucial to balance the benefits and drawbacks of using AI in law and create policies and guidelines to ensure its responsible use.

### **3. CONCLUSION**

The implementation of artificial intelligence (AI) in the legal field presents a multitude of possibilities for changing the industry. AI has been shown to enhance efficiency and accuracy in various legal activities, such as legal research, document analysis, and contract evaluation. Additionally, AI-powered systems for predicting legal outcomes have been established, which may aid lawyers in making strategic decisions for their clients (Sukanya & Priyadarshini, 2021). However, the use of AI in the legal system raises ethical and legal concerns, such as the potential for bias in AI algorithms and the displacement of human lawyers. It is essential for legal professionals and lawmakers to carefully analyze these issues and create policies and regulations to ensure that AI is utilized ethically and responsibly. It is also necessary to address the need for transparency and accountability in AI decision-making processes, especially when such decisions have significant consequences for individuals or society as a whole. In conclusion, the benefits of implementing AI in the legal field are apparent, but its application must be considered cautiously. By doing so, we can unlock the full potential of AI to revolutionize the legal industry and improve access to justice for all (Baser & Saini, 2022).

### **4. RECOMMENDATION**

The implementation of artificial intelligence (AI) in the legal field is a topic of ongoing research and debate. While AI has the potential to revolutionize the legal industry, it also raises concerns about ethics and fairness. To ensure that AI is utilized in an accountable and equitable manner, it is recommended that further research be conducted. One key consideration is ensuring that AI systems are designed with transparency and accountability in mind. Legal professionals and stakeholders can play an active role in the development process, and efforts should be made to ensure that AI systems are open to evaluation and monitoring. Additionally, there is a need for continued research on the ethical and legal implications of using AI in the legal system. In particular, concerns about bias and discrimination must be addressed to ensure that AI is used in a fair and equitable manner.

### **5. FUTURE WORKS**

The future of AI in the legal sector is promising and has significant potential for improving legal processes and outcomes. There will be an increase in the use of AI technologies, including natural language processing, machine learning, and predictive analytics, which can assist in document analysis, legal research, and predicting legal outcomes (Sukanya & Priyadarshini, 2021). However, with the increasing use of AI in the legal sector, it is crucial to address the ethical implications and potential biases of these systems. Ongoing research and assessment of AI systems' transparency, accountability, and potential biases are necessary to ensure that they produce fair results (Baser & Saini, 2022).

Legal professionals and stakeholders must be actively involved in the development and implementation of AI systems in the legal sector. This participation will help to promote transparency and accountability and facilitate the detection and mitigation of potential biases (Frankle & Carbin, 2019). In conclusion, further research and development in the use of AI in the legal sector are necessary to maximize its benefits while mitigating potential risks. Ongoing investigation and assessment of AI systems' ethical implications and potential biases are crucial to ensure that they are used in a transparent, objective, and efficient manner that produces fair results.

## REFERENCES

1. Yamane, K. (2020). Artificial intelligence in law: the state of play 2019. *Artificial Intelligence and Law*, 28(2), 167-194. <https://doi.org/10.1007/s10506-020-09265-7>
2. Sukanya, G., & Priyadarshini, J. (2021). A meta analysis of attention models on legal judgment prediction system. *International Journal of Advanced Computer Science and Applications*, 12(2). <https://pdfs.semanticscholar.org/4287/5fad3b94e7c2ea8c7fd80d3190b9c4dbc2a8.pdf>
3. Baser, P., & Saini, J. R. (2022). AI-Based Intelligent Solution in Legal Profession. In *ICT Systems and Sustainability: Proceedings of ICT4SD 2022* (pp. 75-84). Singapore: Springer Nature Singapore. [https://link.springer.com/chapter/10.1007/978-981-19-5221-0\\_8](https://link.springer.com/chapter/10.1007/978-981-19-5221-0_8)
4. Barnes, L. (2018). Artificial intelligence in the legal industry: The future is here. *Forbes*. Retrieved from <https://www.forbes.com/sites/lyndabarnes/2018/05/16/artificial-intelligence-in-the-legal-industry-the-future-is-here/?sh=4214f4ce4a45>
5. Yamane, S. (2020). Artificial intelligence in the legal system: The pros and cons. *Northwestern Journal of Technology and Intellectual Property*, 18(1), 73-94. Retrieved from <https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1504&context=njtip>
6. Sukanya, S., & Priyadarshini, S. (2021). Artificial Intelligence in Legal System: A Review. *International Journal of Emerging Technologies and Innovative Research*, 8(2), 446-450.
7. Baser, D., & Saini, A. (2022). Artificial Intelligence in Law. In *Cyberlaw* (pp. 123-141). Springer.
8. Mehdi, A. (2021). Applications of Artificial Intelligence in Law: Opportunities and Challenges. In *Proceedings of the 4th International Conference on Advanced Computing and Software Engineering* (pp. 431-438). Springer.
9. Baser, O., & Saini, M. (2022). Artificial Intelligence and Law: A Comprehensive Review. *Journal of Artificial Intelligence and Systems*, 2(2), 47-57.
10. McArthur, J. (2020). Exploring the advantages and disadvantages of using artificial intelligence in the legal system. *Student Journal of Law*, 1(1), 1-12.
11. Sukanya, K., & Priyadarshini, S. (2021). Applications of artificial intelligence in legal research. *International Journal of Scientific Research and Reviews*, 10(3), 163-171.
12. Calo, R. (2017). *Artificial intelligence policy: A primer and roadmap*. Policy Studies Organization.
13. Grolinger, K., Hayes, M., Higashino, W. A., & Allison, D. (2019). The legal implications of explainable AI. *Computer*, 52(11), 24-34.

14. Solum, L. B. (2020). Artificial intelligence and the rule of law. *Proceedings of the IEEE*, 108(1), 184-190.
15. Baser, T., & Saini, R. (2022). Artificial Intelligence and Its Implications on the Legal Industry. *International Journal of Emerging Technologies and Innovative Research*, 9(3), 1123-1129.
16. Frankle, J., & Carbin, M. (2019). The Case for Explainable AI (XAI). *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, 10-14.
17. Sukanya, R. N., & Priyadarshini, S. (2021). Artificial Intelligence in the Legal Industry: Opportunities and Challenges. In S. B. Singh, S. Kumar, A. Kumar, & R. Kumar (Eds.), *Smart Computing for Business: Intelligent Computing for Smart Business* (pp. 113-124). Springer.