

# **Evolving Role of Artificial Intelligence In Legal Practice**

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**Abstract:** *Artificial Intelligence is a branch of computer science that lays stress on creating intelligent machines which work and react like humans. Artificial Intelligence is said of being capable of replacing humans in some fields. One of the purpose of this paper is to find out whether the replacement of legal professionals by AI will lead to unemployment in the longer run. Legal research is an indispensable skill for lawyers. It is always necessary for lawyers to engage in legal research in due course to solve various legal problems. Although the purpose and methodology of the research may vary from lawyer to lawyer, doing research is a common activity. The quest to assess the impacts of artificial intelligence (hereafter, 'AI') on legal research allows one to measure the influence of AI on the legal profession in general. With the advent of Legal AI, it is evident that the legal profession is not immune from disruption. This article assesses the impacts of AI on research in the legal profession in general in accomplishing various lawyerly tasks by different legal professionals. The study underlines that the positive impacts of AI are far more significant than its negative externalities, which are usually temporary and related to the disruptive effects of technology on the legal profession. In the future, with the advent of Strong AI, the impact of AI on legal research will be far greater than mere automation.*

**Keywords:** Artificial intelligence, Legal research, Disruption, Legal AI tools

## **I. INTRODUCTION**

Artificial Intelligence, i.e. intelligent machines that can respond and interact as human beings, is a technological development that although came into being in the 1950s, is resurfacing in recent years due to advancement in technology. Legal AI means machine learning, use of algorithms, speech recognition, mapping, analysis of parameters, cognitive computing with respect to the legal field. It has gained so much of importance lately due to its ability to handle a large amount of data. Legal AI uses machine learning and deep learning and natural language processing. Deep learning is another part of legal AI. In this case, the developer instructs the system to identify the characteristic feature of an object. These things, however, need a large amount of data to be directed in the system. Legal AI also includes the usage of Natural language processing, NLP is heavily based on machine learning and deep learning. This is the way of interaction of machine with a human being in a language that is known to humans. For example, Google Assistant, Siri, Grammarly, etc, use this method of NLP.

### **How AI helps?**

AI in legal research involves various technologies aimed at improving and simplifying the analysis and interpretation of legal information. By leveraging advanced AI algorithms and machine learning techniques, AI can handle large amounts of legal data—such as case law, statutes, regulations, and legal commentary—more effectively and efficiently than traditional approaches.

Research conducted by the National Legal Research Group found that AI tools enabled expert legal researchers to complete their work 24.5% faster than attorneys using traditional research methods. These tools are estimated to save the average attorney between 132 and 210 hours annually.



One key component of AI in legal research is natural language processing (NLP), a technology that enables AI systems to understand and interpret complex legal language. Using NLP, AI tools can swiftly analyze legal documents, extracting relevant information and identifying key concepts with high precision. This capability allows legal professionals to find pertinent precedents and insights more quickly and accurately than manual searches.

Machine learning plays a vital role in AI for legal research. These algorithms learn from vast datasets and continuously improve their performance over time. By detecting patterns and trends in legal documents, AI systems can offer insightful recommendations and reveal connections that might not be apparent through conventional research techniques

## OBJECTIVES

1. To outline the problems that legal professionals will face for using AI in the near future.
2. To study whether AI will be used to automate or augment legal professionals.
3. To highlight the extensive use of legal AI and the aid it provides in researching..

## Traditional legal research vs AI-driven legal research

This table outlines the key differences between traditional and AI-driven legal research, highlighting the advancements and efficiencies brought by AI technology in the field of legal research.

Aspect	Traditional legal research	AI-driven legal research
Method	Manual search in law libraries, using print resources like case reporters, legal encyclopedias.	Automated search using AI algorithms, accessing digital databases and online resources.
Time efficiency	Time-consuming due to manual searching and cross-referencing.	Significantly faster as AI algorithms can process vast amounts of data quickly.
Accessibility	Limited to the availability of physical resources and the researcher's ability to access law libraries.	Widely accessible from any location with internet connectivity.
Data handling	Limited to the researcher's ability to find and interpret relevant information.	Can handle and analyze large datasets, identifying patterns and relevant information quickly.
Accuracy	Dependent on the researcher's expertise and diligence. Prone to human error.	High accuracy in finding relevant cases and materials, with reduced risk of human error.
Up-to-date information	The timeliness of printed resources may potentially limit their usefulness.	Continuously updated with the latest cases and legal information.
Cost	Associated with purchasing and maintaining physical law books and resources.	Cost of software subscription or access, but overall reduction in man- hours spent on research.
Ease of use	Requires expertise in legal research methods and familiarity with legal terminology.	User-friendly interfaces, with less need for specialized training in legal research.
Analytical depth	Dependent on the individual researcher's ability to analyze and interpret legal texts.	AI can provide deep analysis, predictive insights, and connections between cases and legal principles.
Customization	Limited to the resources and materials available in the library or collection.	AI systems can be tailored to specific legal queries and jurisdictions, offering more personalized results.
	Typically an individual or small team effort.	Enables collaboration among larger teams



Collaboration		and can integrate insights from various legal experts.
Scope of research	Limited to the scope of available physical resources.	Able to encompass a broader range of sources and jurisdictions, including international law.

### How does AI work for legal research?

Integrating AI into legal research processes involves leveraging various components to efficiently sift through vast volumes of legal documents, extract relevant information, and generate comprehensive insights to support legal strategies and decision-making. This transcends traditional methods by harnessing the power of Large Language Models (LLMs) and integrating them with an organization's unique knowledge base. This method streamlines research processes, enhances insight generation and enables legal professionals to provide more informed advice, thereby improving client service and satisfaction. The architecture combines multiple elements to optimize the legal research process effectively. Here's a detailed breakdown of the process:

1. Data sources: The initial step involves collecting data from various pertinent sources essential for legal research. This data may encompass:

- Case law: Judicial opinions and decisions provide crucial interpretations of laws and legal principles.
- Statutory law: Statutes enacted by legislative bodies at the federal, state, and local levels establish legal rules and regulations to understand applicable laws and analyze their implications.
- Court filings and briefs: Court filings, pleadings, briefs, and other litigation documents provide firsthand information about ongoing legal proceedings, case strategies, and legal arguments presented by the parties involved.
- Legal databases and research tools: Online legal databases and research platforms aggregate and organize various legal materials, offering advanced search capabilities, citation analysis, and cross-referencing features to facilitate efficient legal research.
- Historical legal documents: Historical legal documents, including landmark court cases, constitutional amendments, and historical statutes, offer insights into the evolution of legal principles and doctrines over time.
- Legal treatises and secondary sources: Legal treatises, law review articles, and legal encyclopedias offer scholarly analysis, commentary, and explanations of legal concepts, helping to deepen understanding and provide context.

2. Data pipelines: The information collected from the above-listed sources is then directed through data pipelines. These pipelines manage various tasks, including data ingestion, cleansing, processing (such as filtering, masking, and aggregations), and organizing, thus readying it for further examination and analysis.

3. Embedding model: The processed data is segmented into chunks and fed into an embedding model. This model transforms text-based data into numerical representations called vectors, allowing AI models to interpret it accurately. Established models from entities like OpenAI, Google, and Cohere are commonly utilized for this task.

4. Vector database: The generated vectors are stored in a vector database, streamlining querying and retrieval tasks. This database effectively handles the storage, comparison, and retrieval of potentially billions of embeddings (i.e., vectors). Notable examples of such vector databases include Pinecone, Weaviate, and PGvector.

5. APIs and plugins: APIs and plugins such as Serp, Zapier, and Wolfram are crucial in linking various components and facilitating additional functionalities, such as accessing additional data or executing specific tasks seamlessly.

6. Orchestration layer: The orchestration layer is vital in managing the workflow. ZBrain is an example of this layer, streamlining prompt chaining, handling interactions with external APIs by determining when API calls are needed, fetching contextual data from vector databases, and maintaining memory across multiple LLM calls. This layer produces a prompt or series of prompts that are sent to a language model for processing. Its role is to coordinate the flow of data and tasks, ensuring smooth operation across all architecture components.



7. Query execution: The process of data retrieval and generation starts when the user submits a query to the legal research app. This query can cover various aspects relevant to the legal investigation, including case law analysis, statute interpretation, regulatory compliance assessment, contract review, or legal precedent examination.
8. LLM processing: Upon receiving the query, the application forwards it to the orchestration layer. This layer then retrieves pertinent data from the vector database and LLM cache before sending it to the suitable LLM for processing. The apt LLM is selected based on the query's nature.
9. Output: The LLM produces output in response to the query and the received data. These outputs may take various formats, such as summaries of case law, identification of legal precedents, analysis of potential liabilities, or drafting legal documents.
10. Legal research app: The verified output is subsequently displayed to the user via the legal research application. Serving as the central platform where all data, analysis, and insights converge, it presents the findings in a user-friendly format tailored for legal practitioners and decision-makers.

### **Efficiency And Accuracy**

The use of AI for research, document reviewing or any other purpose as such will increase the efficiency of an individual, thus a smaller number of people will be recruited by any company because a person with the aid of AI will be able work faster than he/she would if the situation was otherwise. Also, AI will create more accurate results in case of document reviewing or finding out glitches. The AI aided research as well has increased efficiency and accuracy, nowadays one can access judgments, bare acts and other legal documents at their finger-tips other than going over hundreds and thousands of pages of books, even word search is allowed where one word can fetch thousands of relevant results.

## **II. CONCLUSION AND RECOMMENDATIONS**

In the summary, the effect that artificial intelligence has or will have in the legal field is examined in the paper. The first chapter gives an overview of the research paper, the hypothesis, the objectives of the paper and the questions that are to be addressed in the paper. The second part deals with impact that artificial intelligence will have on the field of law. The first part of the paper deals with the efficiency and accuracy that artificial intelligence has over human lawyers. In a recent study by LawGeex with twenty US lawyers for contract reviewing, it was found that AI was more efficient and accurate than the lawyers. This is can lead to unemployment in the long run as one human lawyer aided with AI can do a task equivalent to quite a few human lawyers.

The conclusion and recommendations can be summarised as:

1. The extensive use of AI in legal field though will improve the accuracy and efficiency but will cause unemployment in the longer run.
2. The AI should be used for augmentation and not automation in the law field because the cases need human interpretation.
3. Legal research has become a lot easier and more reliable with the introduction of the AI.
4. The developing and under developing countries need to be developed to an extent that it is capable of using AI with utmost efficiency

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