

ANALYSING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON LEGAL RESEARCH AND LEGAL EDUCATION

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ABSTRACT

The integration of Artificial Intelligence in the legal industry has revolutionized this age-old practice by providing newer and advanced developments in the field of legal research and education. AI-powered tools have significantly increased the efficiency and accuracy of legal research, assisting legal professionals in provide more precise and timely legal research. This paper aims to explore the influence and future scope of incorporating AI-assisted legal research tools like legal analytics in legal research and the current adoption of these practices in the field of law. The adoption of these AI assisted practices will greatly transform the processes of the legal field and it is thus of utmost importance to not only educate the upcoming lawyers but also the existing practicing lawyers with knowledge of AI tools, since it is essential for the legal field to understand and harness these tools for the betterment of their practices. The paper also understands the relation between legal education and legal research in light of adopting new practices and the necessity of incorporating AI led and assisted education in law school curriculums.

Artificial intelligence is a relatively new development and thus it is essential to understand the benefits and limitations of it before it proliferates into the field, thus the paper also analyses the pros and cons of adopting AI into legal practices and also sheds lights on the ethical issues associated with its adoption. By providing a thorough analysis of the benefits and limitations of AI and the current usage of AI in the legal profession, this paper aims to understand the opportunities and challenges presented by this emerging technology, and to provide insights

into how legal professionals and educators can best utilize AI to enhance their practices and prepare for a brighter and efficient AI assisted future.

EXECUTIVE SUMMARY

The integration of Artificial Intelligence (AI) has revolutionised the legal industry and provided advanced, innovative and efficient development in the field of legal research and education. The incorporation of AI powered tools has been greatly increased the efficiency and accuracy of legal research, aiding legal professionals in providing more precise and timely data. This paper aims to explore the influence of AI on legal research and the current familiarity of those associated with the legal profession to the newly developed AI tools like legal research tools, legal analytics, e-discovery tools, drafting tools and many others.

The use of AI tools can greatly transform the processes of the legal field thus it is of paramount importance to educate both the upcoming legal professionals as well as the current legal professionals and harness them with the tools necessary for betterment of the legal practices. The paper also understands the relationship between legal education and legal research in light of adopting new practices, and the necessity of incorporating AI-led and assisted education in law school curriculums.

AI tools in legal research have magnanimous benefits but since the AI revolution is still on the rise these developments are also subject to various challenges. With the help of AI tools, legal research and drafting tasks have become more accurate and efficient allowing lawyers to focus on more complex tasks and provide better services to the clients. The application of AI has its fair share of challenges such as ethical considerations, job displacement and thus they need to be addressed urgently.

As per the results of the study conducted, the current familiarity of the people is low to average and thus more awareness drives combined with education drives are needed to inform people regarding the effective and efficient uses of AI in the legal field. However, AI tools like Legal research platforms and legal analytics are on the rise amongst legal students and professionals. This indicates the beginning of the AI revolution in the legal field of Ahmedabad.

To harness the best benefits of AI in the legal field, it is necessary to provide optimum Legal education not only for learning AI but also incorporating AI in the learning methods and

curriculum at law schools. This would not only lead to a more efficient workforce but also a more informed workforce.

The research undertaken measured effects of various demographic factors like age, gender, role in the legal profession on their perceptions on an AI assisted future in the legal profession. It was found from the study that there exists no significant difference in the familiarity to AI tools and the gender of the person. It was further found that there may be some barriers or misconceptions that are preventing people from realizing the potential benefits of using AI in legal research. Moreover, the study also found that there was a relation between people who were aware about Legal AI tools and their agreeableness of incorporating AI in legal education. After analysing the findings and conductive extensive research, suggestions and recommendations for the future incorporation and awareness of AI can be increased as well as providing recommendations as to how the ethical implications of AI incorporation can be dealt with.

INTRODUCTION

Artificial intelligence (AI) has been on a magnanimous rise in recent years and given the world new perspectives on doing ordinary tasks. AI is a branch of computer science that deals with creating intelligent machines that can work and think like humans. The goal of AI is to create machines that can perform tasks normally required to be done by human intelligence, these tasks include problem solving, decision making, drafting and many more. AI is now being applied to various industries, including legal research and legal education. This paper analyses the impact of AI on legal research and education and its future scope in the legal profession. Legal research is one of the most integral parts of the legal profession and it involves finding and analysing information related to legal cases, precedents, laws and procedures. Over the years, legal researchers spend significant time conducting research and then analysing the results to help prepare for cases. However, in comparison to AI these methods are time consuming and tedious since the sheer volume of legal information can be overwhelming.

AI can be used in legal research to automate repetitive tasks, analyse the large volumes of data and also assist in the decision-making process. This leads to more accuracy and less time allowing the legal professionals to focus on more complex legal issues. Various software tools have evolved to aid in legal research. One of the most popular AI-based legal research software

is ROSS Intelligence. ROSS Intelligence uses natural language processing (NLP) to understand the language used in legal documents and provides accurate and relevant legal information. Another popular AI-based tool for legal research is LexisNexis, which uses AI to provide insights and analytics on legal data. Additionally, AI-based legal research tools like Casetext and Fastcase provide powerful search capabilities and the ability to filter search results based on various criteria.

The incorp. of AI in legal research has been a game-changer, and its benefits are undeniable. However, the use of AI in legal research is only the tip of the iceberg. There is a need for AI-based and assisted legal education that will lead to more efficient use of AI tools in the legal profession. Legal education is a crucial part of the legal profession, and it involves teaching students the fundamental principles of law and how to apply them in practice. However, traditional legal education methods are often criticized for being outdated and not adequately preparing law students for the challenges of the modern legal profession. In order to bridge this gap, it is necessary to incorporate AI in legal education to prepare a competent and efficient future workforce.

AI-based and assisted legal education can provide law students with a more practical and hands-on approach to learning. With the help of AI, law students can analyse and understand legal documents and cases more efficiently, and in turn, develop more informed legal opinions. Additionally, AI can assist law students in identifying patterns and trends in legal data, which can be invaluable in preparing for legal cases.

The need for AI-based and assisted legal education is apparent, and there are already several initiatives to incorporate AI into legal education. For example, the Legal ED platform provides online courses that teach law students about AI and its applications in the legal profession. Additionally, AI-based and assisted legal education can provide law students with a more practical and hands-on approach to learning, enabling them to develop more informed legal opinions. As the legal profession continues to evolve, the use of AI in legal research and education will become more prevalent, and those who do not embrace it may find themselves at a disadvantage. However, it is important to note that AI should not replace human lawyers or legal researchers, but rather be used to enhance their capabilities.

AI is a powerful tool that can be used to enhance legal research and education. The integration of AI in legal research can make legal research more efficient and accurate, enabling lawyers

and legal researchers to focus on more complex legal issues. Additionally, AI-based and assisted legal education can provide law students with a more practical and hands-on approach to learning, enabling them to develop more informed legal opinions. As the legal profession continues to evolve, it is essential to embrace the potential of AI while also addressing the ethical implications and drawbacks of its usage.

AIMS, OBJECTIVES AND HYPOTHESIS

Our Aims:

As law students we understand the need to stay updated with the latest advancements in technology and how they affect the legal field. We are conducting the following research to delve deeper into the impact of AI on legal research and legal education. We want to explore how AI is changing the way legal professionals work and their familiarities and approaches towards the changes. Moreover, we also aim to understand the current usage of these tools amongst the legal professionals and students and what sectors of the legal professional will get maximum benefit of the AI revolution. We also aim to explore the need of incorporating AI in legal education and the potential benefits and challenges related to its incorporation.

Objectives:

1. Understand the current state of AI-assisted legal analytics in the legal industry
2. Analyse the familiarity of people regarding AI tools and their current usage
3. Identify the potential for further development and growth of AI-assisted legal research in the legal industry

Hypothesis:

Research hypothesis is a statement that introduces a research question and proposes an expected result. It is an integral part of the scientific method that forms the basis of scientific experiments. The hypothesis of this project suggests that the utilization of AI-assisted legal research in legal research can be beneficial for the legal profession.

Research Questions

1. What is the current state of AI-adoption in the legal industry in Ahmedabad?
2. What is the familiarity of legal professionals and students with AI tools?

3. What are the needs and benefits of incorporating artificial intelligence in legal education and people's perception regarding it?

LITERATURE REVIEWS

A survey on research on Data analytics based legal techⁱ

By: So-Hui Park, Dong-Gu Lee, Jin-Sung Park and Jun-Woo Kim

The paper provides key insights on the application of quantitative data analytics algorithms on various legal documents and court procedures. The paper provides a comprehensive survey of the prevalent research on data analytics and the legal profession, mainly Legal research and Predictive analytics and litigation and highlights the significance of legal technology in modern societies, and more specifically the benefits of legal analytics in providing more efficient and accurate solutions for legal professionals. The paper begins with an introduction of legal technology and its applications and explains how data analytics can be used to get meaningful conclusions from large data sets such as court records, legislative judgements, petitions etc. The paper also sheds light on the increase in research on legal technology and its adoption and awareness in various countries. The paper also mentions two effective methods of data analytics- supervised and unsupervised. Furthermore, it provides guidance as to how data analytics can be utilised for different data sources.

Gaps:

The research conducted in the paper is until 2019 only and thus the recent developments in legal technology are overlooked. Moreover, the paper does not provide evaluative analysis as to the benefits and limitations of adopting legal analytics and also has substantive basis since adequate empirical research is lacking.

Is the dawn of robot lawyers upon us? The fourth industrial revolution and the future of lawyersⁱⁱ

by Willem Gravett

The paper provides a thought-provoking analysis on the impacts of legal technology on lawyers. The paper provides a timeline as to developments in legal technology which helps trace the developmental trajectory of legal technology. It moves on to analyse the benefits and

limitations of incorporating AI in the field of law, it will improve efficiency and accuracy but will also lead to job displacements and loss of legal expertise. The paper also provides a balanced perspective on the risk of AI and highlights the need for legal professionals to adopt AI in a way that it can assist them. Moreover, the paper also sheds light on the influence of AI on predictive analysis, document analysis and mundane legal tasks and how the rise of AI will revolutionise them. The paper states that the rise of AI will be the fourth industrial revolution and have pervasive, irreversible and transformational impacts on law. The paper also provides compelling arguments for lawyers to adopt artificial intelligence at the earliest and harness its benefits.

Gaps:

The paper provides a general overview of legal technology and artificial intelligence, but it does not delve into specific technologies or tools that are currently being used in legal practice. Moreover, the paper focuses primarily on the potential impact of legal technology on traditional legal practice, such as document review and contract analysis. Future research should explore the impact of legal technology on different areas of law, such as intellectual property, tax law, and family law. While the paper acknowledges the potential risks and challenges associated with legal technology, it does not provide a detailed analysis of the ethical and regulatory issues that need to be addressed.

The Legal Profession in the Era of Digital Capitalism: Disruption or New Dawn?ⁱⁱⁱ

By Salvatore Caserta and Mikael Rask Madse

The paper discusses the digital transformations of law and society and sheds light on the complex processes which have led to increased reliance on big data, AI and computers. The paper then moves on to discuss the positive and negative effects of digitalisation on law and the legal profession, concluding that this rise of digitalisation will be beneficial in providing better access to legal services for people who cannot afford them, it will also lead to cost reduction and increased transparency in the system. The paper also talks about the increased horizontal outsourcing of legal work and its commodification. The paper provides key insights on the replacement of individuals with machines and AI. The paper also discusses the need for public regulation in light of the rise of digitalisation in the legal profession. The keys for how this digitalisation can be used not only for private enterprises but also for public good have also been discussed in this paper.

Gaps:

The paper focuses mainly on the potential impact of digital capitalism, rather than on empirical research or case studies that demonstrate how legal technology is actually being used in practice. This information would have been useful for readers who are interested in the practical implications of legal technology for the legal profession.

Artificial intelligence and legal analytics^{iv}

By Wolfgang Alschner

The paper begins with an overview of legal analytics and its potential to transform legal practice. The author defines legal analytics as "the application of data mining and machine learning techniques to large collections of legal data to extract patterns, predict outcomes, and gain insights into the behaviour of legal actors." The paper then explores the potential benefits of legal analytics, including improved decision-making, reduced costs, and increased efficiency. The author then discusses the role of AI in legal analytics, highlighting the potential of machine learning algorithms to improve the accuracy and speed of legal research and analysis. The paper provides examples of AI applications in legal practice, such as predictive coding in e-discovery and contract analysis. One of the strengths of this paper is its clear and concise overview of legal analytics and AI in the legal profession. The author provides a detailed analysis of the potential benefits and challenges of these technologies and offers valuable insights into their practical application.

Gaps:

The paper does not provide a detailed analysis of the ethical and regulatory issues associated with legal analytics and AI in the legal profession. While the author briefly acknowledges these issues, a more in-depth exploration would have been valuable for readers interested in the potential risks and challenges associated with these technologies. The paper also lacks empirical research which would help to understand the real-life implications of AI on the legal profession.

The Impacts of Artificial Intelligence on Research in the Legal Profession^v

By Sameul Maireg Biresaw

The paper "The Impacts of Artificial Intelligence on Research in the Legal Profession" explores the use of AI in legal research, highlighting its potential benefits and ethical concerns. The authors provide a brief overview of AI and its applications in the legal field, focusing on its ability to enhance legal research accuracy, speed, and efficiency.

The authors do, however, acknowledge that using AI in legal study raises a number of ethical and legal concerns.

The paper stresses the importance of exercising caution and due diligence when implementing AI systems in legal research. Overall, the paper provides a useful overview of the potential impact of AI on legal research and highlights the importance of ethical considerations in the development and implementation of AI tools in the legal profession.

Gaps:

The paper lacks empirical data and would benefit from a more nuanced understanding of the effect of artificial intelligence on legal research. It also gives a general overview of AI tools without going into detail about particular tools or platforms. Furthermore, the paper ignores the implications of AI for legal education and global views beyond the United States.

Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age^{vi}

by Kevin D. Ashley

The author takes a deep dive into how artificial intelligence and legal analytics can be used in the practice of law. The book starts by introducing the reader to the basics of AI, including machine learning and natural language processing. From there, it explores various ways in which AI can be applied in the legal prof., such as analysing legal documents, predicting legal outcomes, and assisting in legal reasoning.

The book also examines the regulatory issues regarding the use of artificial intelligence in the legal field. It expresses concerns about possible biases, privacy violations, and accountability, highlighting the significance of using this technology responsibly in accordance with legal standards. The book offers practical advice and theoretical analysis to help navigate the complexities of this rapidly evolving field. It offers a hopeful outlook on the promising future of this field.

Gaps:

Firstly, the book may be more focused on the use of AI in large law firms and legal organizations, and may not provide as much guidance for solo practitioners or smaller law firms that may have limited resources to invest in AI technology.

The book also does not address some of the specific legal and regulatory issues that arise in different jurisdictions around the world. The legal implications of AI can vary significantly depending on the country or region, and the book may not fully explore these differences.

***Artificial Intelligence and the Legal Profession: Becoming The AI-Enhanced Lawyer*^{vii}**

By: Michael Legg and Felicity Bell

"Artificial Intelligence and the Legal Profession: Becoming The AI-Enhanced Lawyer" provides a comprehensive analysis of the impact of artificial intelligence (AI) on the legal profession. Legg argues that while AI will not replace lawyers entirely, it will automate certain tasks of lawyering. Therefore, lawyers will need to adapt to the changes brought by AI and learn how to use it effectively to improve productivity and reduce the costs of legal services. They will also need to have a good understanding of AI and be able to communicate and challenge the technology's results. Legal education and training will need to be adapted to incorporate knowledge of AI, and lawyers will need to identify where they add the most value in the legal profession. While some areas of lawyering will be automated, others, such as judgement, empathy, and creativity, will become more valuable.

Gaps:

One potential area for further exploration is the ethical implications of AI in legal practice, particularly around issues of bias, privacy, and accountability. While it briefly touches on these topics, more in-depth analysis and discussion would be beneficial. It also acknowledges the need for changes in legal education and training to incorporate knowledge of A but it does not provide specific recommendations or strategies for achieving this goal. Further research could help fill these gaps and provide a more complete understanding of the impact of AI on the legal profession.

***Study on the Influence of Artificial Intelligence on Legal Profession*^{viii}**

By Teng hu

The paper investigates the potential effect of artificial intelligence on the legal profession. While AI is still in its early stages of development, the author notes that there is increasing concern about the potential for AI to replace human workers in many sectors, including the legal profession. The paper examines several studies that indicate that artificial intelligence (AI) has the potential to automate many tasks presently performed by lawyers. However, the author points out that many academics think AI is not yet capable of completely replacing human judgement in the legal field. Judges, for example, need wisdom and intelligence, and AI may only be able to help with certain parts of decision-making. Furthermore, the article mentions that there are ethical and philosophical concerns surrounding the use of AI in the legal profession, such as whether a robot judge can be considered human, and how the law should define the rights and responsibilities of AI.

Overall, the paper suggests that while the impact of AI on the legal profession remains uncertain, it is important for legal professionals to engage in discussions and research on this topic to better understand the potential risks and benefits of AI.

Gaps:

Firstly, the paper focuses mainly on the potential risks and benefits of AI in the legal profession, but does not provide a detailed analysis of the practical implications of AI on the legal profession. The paper fails to provide an in-depth analysis of the potential legal challenges that may arise as a result of AI integration in the legal profession.

AI strengthens your legal analytics^{ix}

By Lincoln Mead

The idea of replacing lawyers in the field of legal analytics using artificial intelligence (AI) is explored in this paper. It draws attention to a key difference between human analytical thinking and AI's analytical capabilities, particularly in situations that call for abstract thought and imaginative reasoning. Although AI might not completely replace lawyers, it can surely improve their skills in areas where they may not be very strong.

Additionally, it explores the controversial subject of AI-driven analytics in litigation forecasting. It highlights the substantial advantages of AI in this area and makes the case that it might enhance legal practise. In addition, the study points out that AI can assist lawyers in

identifying and managing potential legal issues, giving them useful information that could be difficult to get otherwise.

AI strengthens your legal analytics^x

Gaps:

The primary emphasis of the paper is on the advantages of AI and how it might support the job of actual solicitors. It does not, however, address any potential moral issues raised by the use of AI to the practise of law. Second, the report does not go into detail about the difficulties in applying AI in legal practise. For smaller law firms, the expense of creating AI systems can be prohibitive. Additionally, integrating AI systems with current legal software and workflows may provide difficulties.

Legal Education in the 21st Century and the Artificial Intelligence^{xi}

By: Mateus De Oliveira Fornasier

The paper "Legal Education in the 21st Century and the Artificial Intelligence" by Mateus De Oliveira Fornasier offers an insightful study on the potential impact of AI on legal education. The paper provides an overview of the challenges faced by law schools in the 21st century and discusses the potential of AI to revolutionise legal education by providing new tools and techniques to support teaching and learning. One of the key contributions of the paper is its discussion of the benefits and limitations of incorporating AI into legal education. Fornasier argues that AI can improve the quality of legal education by providing students with new ways to engage with legal concepts and theories. AI can also increase efficiency in legal education by automating certain processes and reducing the burden on faculty members. However, there are concerns about the impact of AI on the traditional role of law professors, and the potential for AI to reinforce existing biases in the legal system. The paper also provides a comprehensive overview of the current state of AI adoption in the legal profession. Fornasier notes that AI is already being used in a range of legal applications, including legal research, contract analysis, and document review. However, the paper highlights the need for law schools to adapt to the changing landscape of the legal profession and incorporate AI into their curricula. Overall, the paper offers valuable insights into the potential of AI in legal education and the legal profession.

Gaps:

While the paper "Legal Education in the 21st Century and the Artificial Intelligence" by Mateus De Oliveira Fornasier offers insightful analysis of the potential impact of AI on legal education, there are some notable gaps in the paper. Firstly, there is a lack of in-depth discussion on the ethical considerations of using AI in the legal profession. Secondly, the paper does not provide a comprehensive analysis of the impact of AI on the job market for legal professionals. Lastly, there is limited discussion on the current state of AI adoption in legal education, which could provide a more nuanced understanding of the opportunities and challenges presented by this emerging tech. Addressing these gaps in future research could further enhance our understanding of the role of AI in legal education and the legal profession.

RESEARCH METHODOLOGY

In order to examine the hypothesis, data has been collected from a self-administered questionnaire which was directed towards people related to the research profession. The respondents were categorised into legal students, legal professionals, legal educators and legal researchers. The scope of this research has been limited to respondents present in Ahmedabad and Gujarat, since these two cities are on the verge of technology led developmental revolution and thus their familiarity and knowledge regarding Artificial intelligence in the field of would assist in conducting the empirical research.

The questionnaire was prepared after an exhaustive lit. review which comprised analysis of papers which studies the current prevalence and analysis of Artificial Intelligence, the tools and future developments in AI research tools as well as the need of incorporating AI in legal education and using legal education as a means of incorporating a more efficient use of AI tools. The questionnaire contained demographic details regarding the gender, age and role in the legal profession and then moved on specific questions related to familiarity, perceptions relating to AI's incorporation in the legal profession and the current level of usage of AI tools.

The gap that the study filled was the lack of research regarding current level of familiarity of AI tools, the prevailing research has analysed the future scope and applicability of AI in law but not conducted research regarding the current level of AI usage. Moreover, the paper also analyses the need of AI led legal education and the views of those related to the legal field

regarding this phenomenon. Though there have been recent studies that understand the need of AI in legal education, this paper analyses people's perception and familiarity to AI in light of its incorporation in the curriculum of legal education.

A pilot study was conducted among a people related to the legal profession based in Ahmedabad with the help of a questionnaire made by Google forms and circulated to amongst the respondents and the feedback received from it was used to further this research. All the ethical and confidentiality guidelines pertaining to the respondents and the response has been followed.

The scope of this study has been limited to 76 respondents from Ahmedabad who were surveyed regarding their views and familiarity pertaining to Artificial Intelligence in the legal profession.

ANALYSIS AND FINDINGS

Descriptive Analysis

There was a total of 76 responses for the questionnaire.

- Demographic Analysis

The demographics of the respondents were analysed based on gender, age group and current role in the legal profession

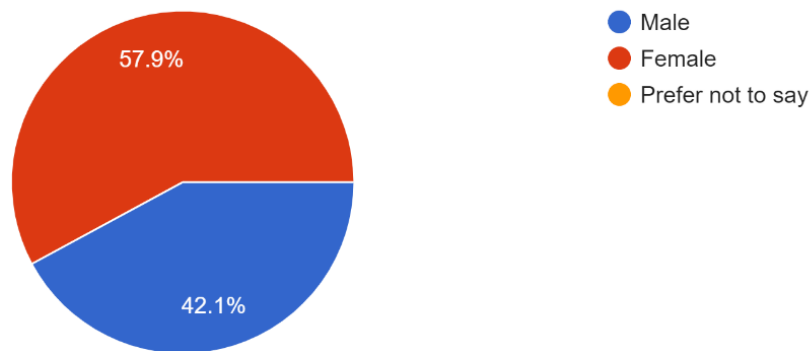
Category	Variable	Frequency	Percentage
Gender	Male	44	57.9%
	Female	32	42.1%
	Prefer not to say	-	
Age group	18-29	60	78.9%
	30-39	3	3.9%
	40-49	8	10.5%
	50 and over	5	6.6%

Current role in the legal profession	Practicing lawyer	19	25%
	Law student	56	73.7%
	Legal researcher	1	1.3%
	Legal educator	-	-

[Table 1.1 Demographic Analysis]

- Gender

Gender
76 responses



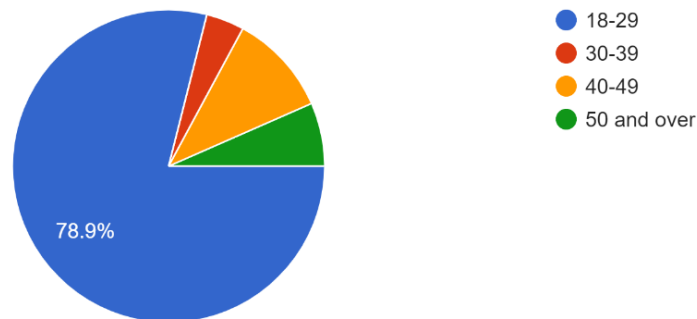
[Figure 1.1.1 Gender wise analysis of respondents]

The total respondents were 76 out of which 42.1% were males and 57.9% were female respondents.

- Age Group

Age Group

76 responses



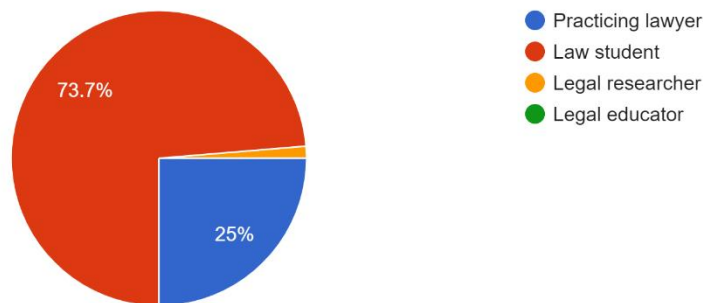
[Figure 1.1.2 Age group of the respondents]

The total respondents are 76 out of which 78.9% of the respondents are in the age group of 18-29. The second highest respondents are those of the age group 40-49 at 10.5%. It can thus be inferred that most of the respondents are young citizens.

- Current Role in the legal profession

What is your current role in the legal field?

76 responses



[Figure 1.1.3 Role in the legal profession of the respondents]

The responses were collected from people related to the legal profession. The maximum responses were received from law students followed by practicing lawyers. The quantum of

respondents who were legal students is 73.7% and those belonging to the legal profession is 25%.

Familiarity Analysis

The respondent's familiarity with AI tools for legal research were analysed by questions which gauged their familiarity and awareness of AI tools developed for the legal profession.

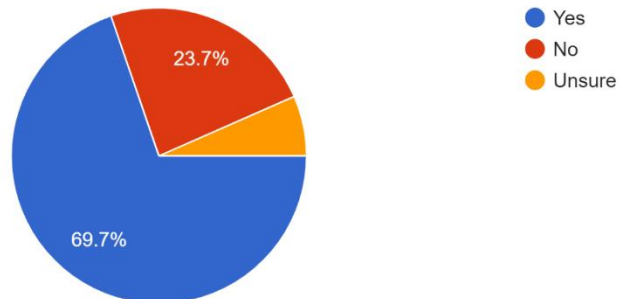
Question	Variable	Frequency	Percentage
Have you used AI tools in your legal research before?	Yes	53	69.7%
	No	18	23.7%
	Unsure	5	6.6%
On a scale of 1 to 5 what is your familiarity with artificial intelligence (AI) in the legal field? (1 being the lowest and 5 being the highest)	1	6	7.9%
	2	16	21.2%
	3	31	40.8%
	4	20	26.3%
	5	3	3.9%
What types of AI tools have you used or are familiar with in legal research? (Multiple responses allowed)	Legal research platforms	32	42.15%
	Legal analytics	22	28.9%
	Contract review tools	12	15.8%
	E-Discovery tools	4	5.26%
	None of the above	6	7.89%

[Table 1.2 Familiarity Analysis]

- Usage of AI tools

1. Have you used AI tools in your legal research before?

76 responses



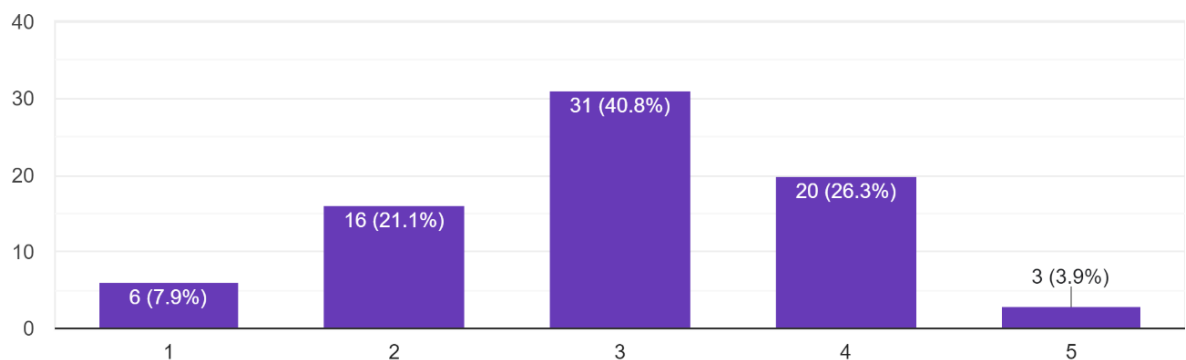
[Figure 1.2.1 Usage of AI tools]

It can be inferred from the above given data that 60.7% people have used AI tools for legal research while 23.7% people have not. Moreover, a section of people is unsure of their AI usage and thus this indicates the need to educate people regarding the prevalent AI tools.

- Familiarity with Artificial Intelligence

2. On a scale of 1 to 5 what is your familiarity with artificial intelligence (AI) in the legal field? (1 being lowest and 5 being highest)

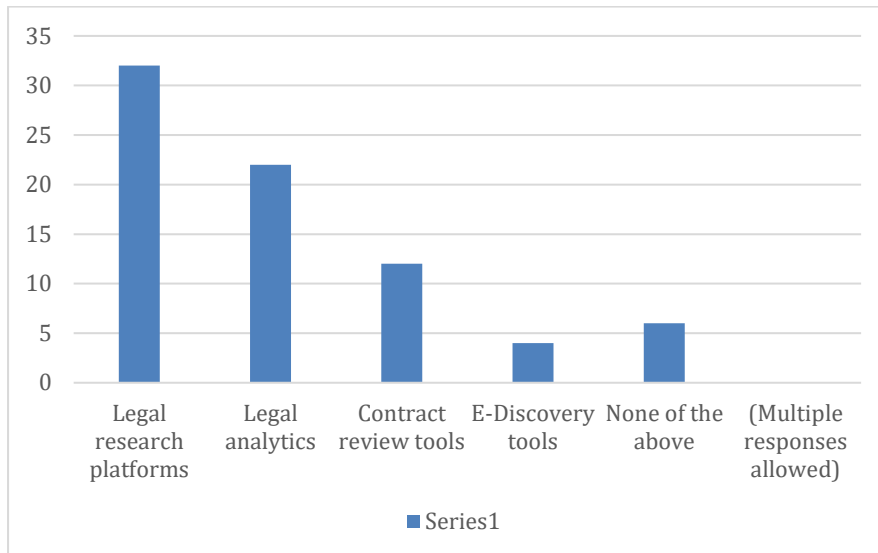
76 responses



[Figure 1.2.2 Familiarity with AI]

From the above given data, it can be inferred that people have average familiarity with Artificial intelligence, this is reflected by 40.8% people choosing the middle indicator of 3 on the 5-point Likert scale.

- Types of tools utilised



[Figure 1.2.3 Types of tools used]

Most of the respondents use Legal research platforms followed by Legal analytics. It can thus be inferred that these AI tools are the leading tools being used by the respondents based in the Ahmedabad.

Usage analysis

Question	Variable	Frequency	Percentage
On the scale of 1-5, how much do you think AI can be used to improve legal research skills?	1	3	3.9%
	2	3	3.9%
	3	21	27.6%
	4	31	40.8%
	5	18	23.7%

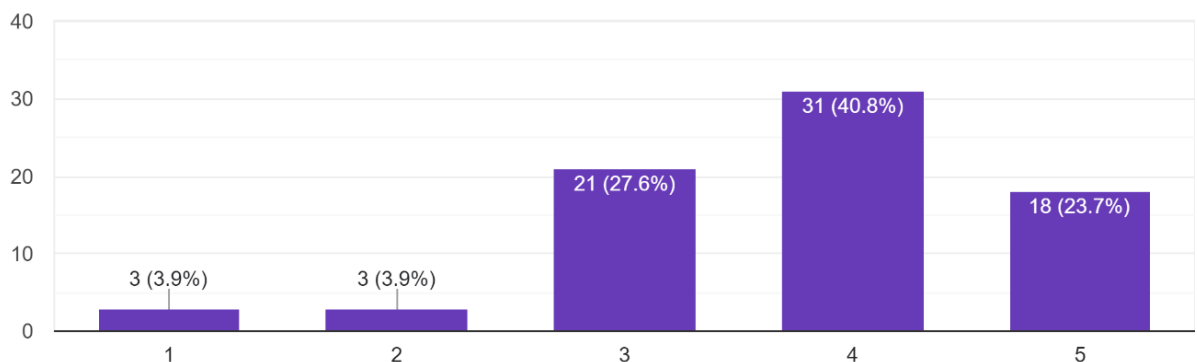
What types of legal research do you think AI is best suited for?	Case law research	24	31.6%
	Legislative research	4	5.3%
	Regulatory research	1	1.3%
	All the above	47	61.8%
Do you think AI can be used to assist in drafting legal documents?	Yes	50	66.7%
	No	3	4%
	Unsure	22	29.3%

[Table 1.3 Usage Analysis]

- Improvement in Legal profession due to AI

3. On the scale of 1-5, how much do you think AI can be used to improve legal research skills?

76 responses



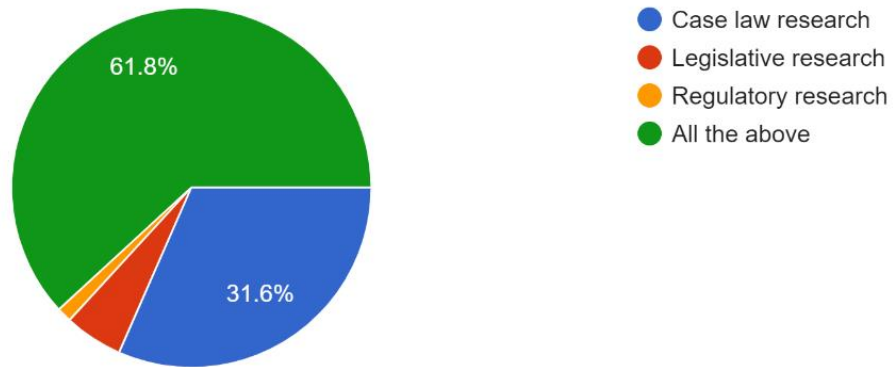
[Figure 1.3.1 Improvement in legal profession due to AI]

The above shown bar graph indicates the responses received regarding AI and its impact on research skills with the help of a Likert scale. It indicates that most people are optimistic regarding the improvements in legal research which will be led by AI.

- Suitability to research type

5. What types of legal research do you think AI is best suited for?

76 responses



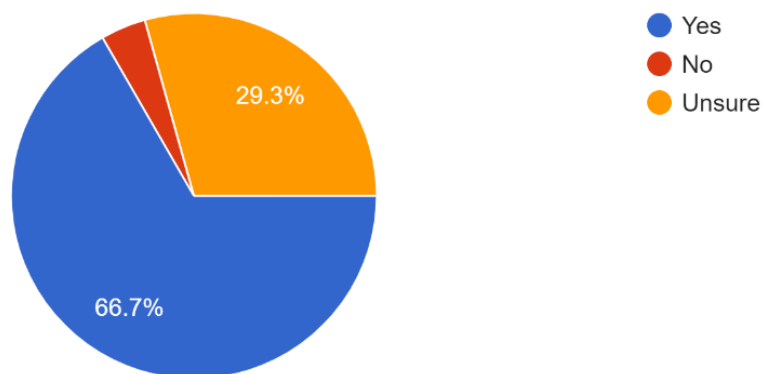
[Figure 1.3.2 Suitability to research type]

Most people feel that AI will have an all-rounded effect on research and its usage will yield effective results for all forms of research. The other observation made is that people also strongly feel that Case law research will be aided with the incorporation of AI tools.

- Assistance in drafting legal documents

9. Do you think AI can be used to assist in drafting legal documents?

75 responses



[Figure 1.3.3 AI assistance in drafting legal documents]

The above shown pie chart indicates that most people believe that AI can be incorporated in legal drafting since the majority of respondents have chosen the answer ‘yes’.

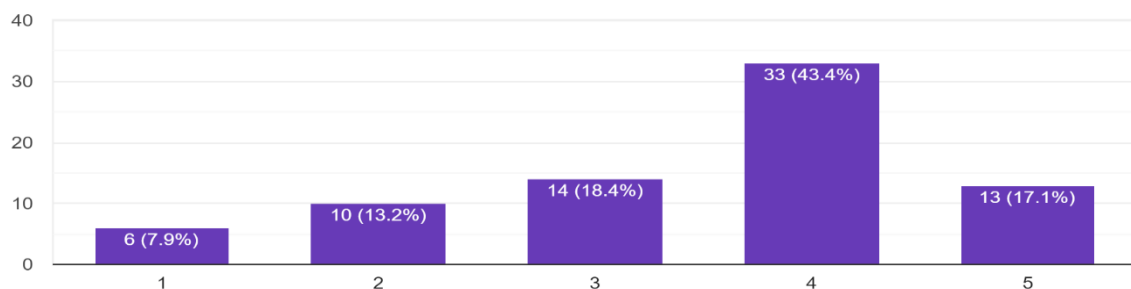
Need of AI in Legal education

Question	Variables	Frequency	Percentage
On a scale of 1 to 5, how strongly do you feel that law schools should incorporate AI into their curriculum?	1	6	7.9%
	2	10	13.2%
	3	14	18.4%
	4	33	43.4%
	5	13	17.1%
What are your thoughts on the current level of AI education and training in law schools?	It is sufficient	7	9.2%
	It needs improvement	39	51.3%
	It's non-existent	22	28.9%
	Unsure	8	10.5%

[Table 1.4 Need of AI assisted Legal education]

- Incorporation in Legal curriculum

11. On a scale of 1 to 5, how strongly do you feel that law schools should incorporate AI into their curriculum?
76 responses



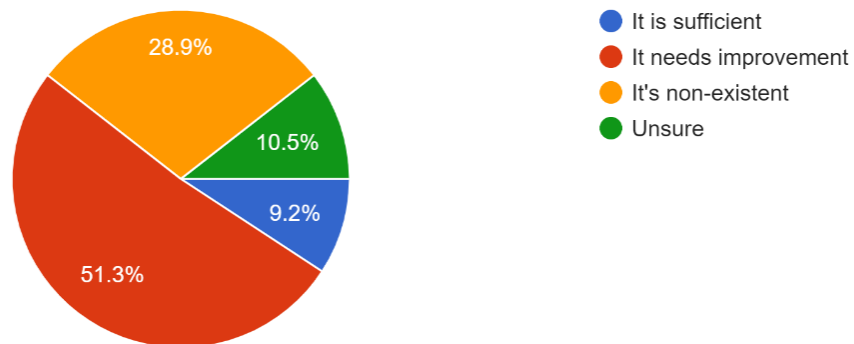
[Figure 1.4.1 Incorporation of AI in legal curriculum]

The data hints that the respondents are more inclined towards incorporating AI in their legal curriculum. This can be inferred from the maximum respondents who have chosen 4 on the 5 point Likert scale.

- Current level of AI incorporation in Legal education

13. What are your thoughts on the current level of AI education and training in law schools?

76 responses



[Figure 1.4.2 Current level of AI in legal education]

The respondents feel that the current level of AI incorporation needs improvement since 51.3% of the respondents have opted for this answer. Very few of the respondents feel that the current AI level in education is sufficient, this is indicated by the meagre 9.2% people who opted for this response.

Benefits and Challenge Analysis (Legal Profession)

Question	Variables	Frequency	Percentage
In your opinion, what are the advantages of incorporating AI in legal research?	Increased accuracy	3	3.9%
	Increased efficiency	20	26.3%
	Reduced costs	5	6.6%
	All of the above	48	63.2%
What are the biggest challenges you have encountered when	Difficulty in understanding the output/results	20	26.3%

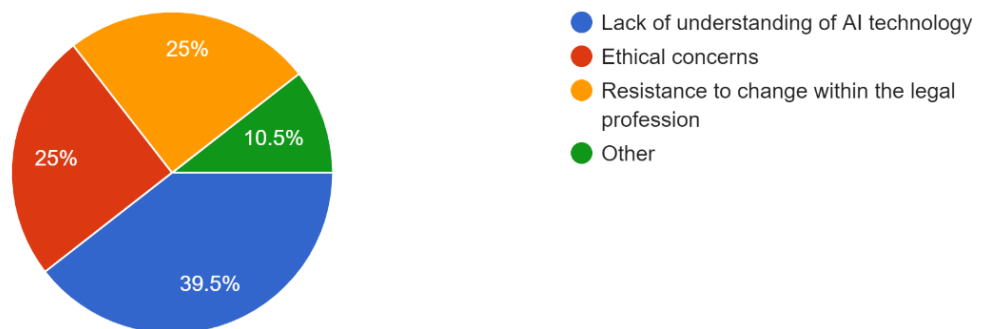
using AI tools in your legal research?	Difficulty in using the tools	34	44.7%
	Limited availability of AI tools	31	40.8%
	Other	15	19.7%

[Table 1.5 Benefit and challenges of AI adoption in Legal profession]

- Advantages of incorporating AI in Legal research

16. What do you think is the biggest challenge facing the incorporation of AI into legal research and education?

76 responses

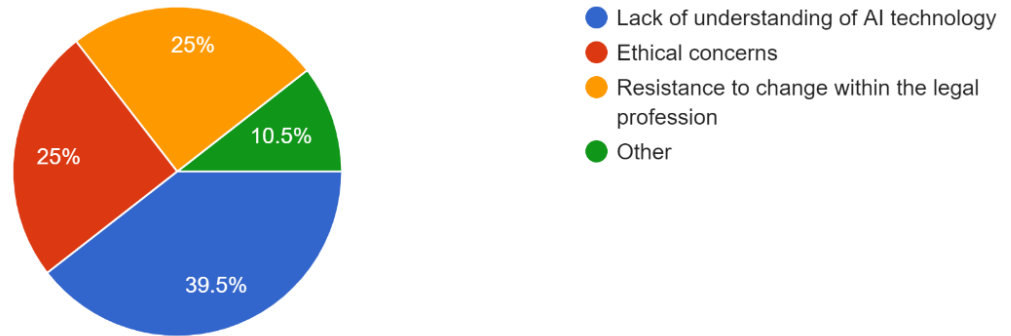


[Figure 1.5.1 Advantages of AI in legal research]

- Challenges encountered in using AI tools

16. What do you think is the biggest challenge facing the incorporation of AI into legal research and education?

76 responses



[Figure 1.5.2 Challenges in using AI tools]

Benefit and Challenge Analysis (Legal Education)

Question	Variables	Frequency	Percentage
How do you think AI can improve legal education?	Enhancing student learning experiences	5	6.6%
	Providing access to vast amounts of legal information	9	11.8%
	Preparing students for the technological advancements in the legal Professional	8	10.5%
	All of the above	54	71.1%
What do you think is the biggest challenge	Lack of understanding of AI technology	30	39.5%

facing the incorporation of AI into legal research and education?	Ethical concerns	19	25%
	Resistance to change within the legal profession	19	25%
	Other	8	10.5%

[Table 1.6 Benefits and challenges of adopting AI in legal education]

STATISTICAL ANALYSIS

Single Sample T- Test

It is a statistical hypothesis test used to determine whether an unknown population mean is different from a specific value.

t-Test: Two-Sample Assuming Unequal Variances		
	3	0
Mean	3.773333	0
Variance	0.988468	0
Observatio	75	2
Hypothesiz	0	
df	74	
t Stat	32.86808	
P(T<=t) on	3.42E-46	
t Critical or	1.665707	
P(T<=t) tw	6.85E-46	
t Critical tv	1.992543	

H_0 : Mean perception of perceived usefulness of AI in improving legal research skills is equal to 5.

H_1 : Mean perception level of perceived usefulness of AI in improve legal research is not 5.

- A one-sample t-test was performed to test the mean perception level of the people using AI to improve legal research
- The null hypothesis is rejected, $p \sim 0.00$ (i.e., < 0.05)

- The rejection of this null hypothesis suggests that the mean perception level is significantly different from what was hypothesized, and it is not high.
- Average perception is 3.773 which is less than 5.
- We can conclude that the mean perception level is significantly different from what was hypothesized and that the perception level is not high, as indicated by the average perception level of 3.773, which is less than 5.
- This implies that there may be some barriers or misconceptions that are preventing people from realizing the potential benefits of using AI in legal research.

Two Sample T-test assuming unequal variances

Two-sample T-Test with unequal variance can be applied when

- (1) the samples are normally distributed
- (2) the standard deviation of both populations are unknown and assume to be unequal
- (3) sample is sufficiently large (over 30).

	<i>Male</i>	<i>Female</i>
Mean	3.03125	2.931818
Variance	1.19254	0.809197
Observations	32	44
Hypothesized	0	
df	59	
t Stat	0.421466	
P(T<=t) one-ta	0.337473	
t Critical one-t	1.671093	
P(T<=t) two-ta	0.674946	
t Critical two-t	2.000995	

One categorical variable (independent variable) - [Male / Female]

One continuous variable (dependent variable) - [Familiarity with AI]

H₀: There is no significant difference in the mean familiarity scores of males and females.

H₁: There is a significant difference in the mean familiarity scores of males and females.

Familiarity scores of males and females is 0.6, this indicates that there is not enough evidence to reject the null hypothesis that there is no significant difference in the mean familiarity scores of males and females.

In other words, the observed difference in mean familiarity scores between males and females could have occurred by chance.

The mean familiarity score for men is 3.03 and the mean familiarity score for women is 2.93. While there is a small difference in means, this difference is not statistically significant with a p-value of 0.6. Therefore, we cannot conclude that there is a true difference in mean familiarity scores between males and females based on this data.

Anova

Analysis of Variance (ANOVA): It is an extension of the two-sample t-test used to determine whether there are differences among more than two group means.

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Contract re	12	50	4.166667	0.515152		
Legal analy	22	79	3.590909	1.11039		
ediscovery	4	16	4	0.666667		
legal resea	32	124	3.875	0.951613		
none of the	6	17	2.833333	0.966667		
ANOVA						
Source of Varia	SS	df	MS	F	P-value	F crit
Between G	8.41866	4	2.104665	2.287743	0.068307	2.50076
Within Grc	65.31818	71	0.919974			
Total	73.73684	75				

The dependent variable - The mean perception of people regarding improvement in legal research.

The independent variable -The type of AI research tools used for legal research.

H₀: There is no significant difference in the mean perception of people regarding improvement in legal research using different types of AI research tools

H₁: There is a significant difference in the mean perception of people regarding improvement in legal research using different types of AI research tools

The null hypothesis was rejected

There was a statistically significant difference at the 0.05 significance level in Mean perception scores for five categories of AI research tools.

Correlation

It is a measure or degree of relationship between two variables.

1 to 5 what is your familiarity with artificial intelligence that law schools should incorporate AI into their curriculum?

2. On a sca	1
11. On a sc	0.093545
	1

H₀: There is no relation between familiarity of AI and its incorporation in law schools.

H₁: : There is relation between familiarity of AI and its incorporation in law schools.

A correlation coefficient of 0.09 indicates a weak positive relationship between familiarity of AI and its incorporation in law schools.

In this case, the square of the correlation of coefficient is 0.008, which is 0.8 percent.

This means that familiarity with AI explains only a small fraction (0.8%) of the variability in the incorporation of AI in law schools, suggesting that other factors beyond familiarity with AI are likely to be more important in determining the extent to which AI is incorporated into legal education.

This shows that there is a slight tendency for individuals who are more familiar with AI to be more likely to advocate for its incorporation in law schools, but the relationship is not very strong.

Regression

Regression is used to explore the relationship between one continuous dependent variable and a number of independent variables or predictors.

Multiple regression is a statistical technique that can be used to analyze the relationship between a single dependent variable and several independent variables. The objective of

multiple regression analysis is to use the independent variables whose values are known to predict the value of the single dependent value.

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.449205				
R Square	0.201785				
Adjusted R	0.190998				
Standard E	1.043702				
Observatio	76				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regression	1	20.37763	20.37763	18.70686	4.69E-05
Residual	74	80.60921	1.089314		
Total	75	100.9868			
<i>Coefficients and Standard Error</i>					
	<i>df</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	1.508565	0.472799	3.190713	0.002083	0.566493
3. On the s	0.525696	0.121544	4.325142	4.69E-05	0.283514

Continuous dependent variable - Respondents rate their level of agreement with statements about the benefits of AI in legal practice, respondents rate of familiarity with AI

Continuous independent variable- - Level of incorporation of AI into law school curriculum

H₀: There is no significant relationship between the incorporation of AI into law school curriculum and the perceived benefits of AI in improving legal practice.

H₁: There is significant relationship between the incorporation of AI into law school curriculum and the perceived benefits of AI in improving legal practice.

- The significance value is (i.e., 0.00) is less than 0.05. It indicates that the model is statistically significant.
- The value of adjusted R Square is 0.0449 (i.e., 4.49%). This means that our independent variable explains a 4.49% variance towards dependent variable.

CONCLUSION

In conclusion, the integration of AI in the legal field has already begun to transform the way legal research is conducted and how legal education is delivered. AI-powered tools like legal research platforms and legal analytics have already started to prove their worth and are helping legal professionals to be more efficient and precise in their work. However, the adoption of AI in the legal field is still in its early stages, and there is a need for greater awareness and education drives to inform legal professionals and students about the benefits and limitations of AI in the legal field.

The research conducted in this paper has shed light on the current state of familiarity with AI in the legal profession in Ahmedabad and has identified some barriers and misconceptions that are preventing people from realizing the potential benefits of using AI in legal research. The results of the study also revealed a positive correlation between the awareness of AI tools and the willingness to incorporate AI in legal education. To harness the full potential of AI in the legal field, it is imperative to provide effective legal education, which not only imparts knowledge of AI but also provides practical training in incorporating AI in legal research and education. There is also a need to address ethical concerns surrounding the use of AI in the legal profession, such as job displacement and data privacy, to ensure that AI is used ethically and responsibly. Overall, the findings of this paper emphasize the importance of understanding the benefits and limitations of AI in the legal field and the need for legal professionals and educators to embrace this emerging technology to enhance their practices and prepare for a more efficient AI-assisted future.

The study, if conducted in other places, may yield different outcomes owing to demographic differences. The present study was conducted among legal professionals and legal students in Ahmedabad and thus may not have widescale applicability owing to different factors such as awareness, resources etc. This study provides opportunities for further research extending the scope to legal professionals in other metro-cities as well as high tech law firms. With the knowledge of the familiarity and current state of AI this study may aid in making more efficient plans for incorporation of AI keeping in mind the challenges.

DIRECTIONS FOR FURTHER RESEARCH

The impact of artificial intelligence (AI) on legal research and education is a rapidly growing field with a variety of avenues for further research. The widespread use of AI-based legal research tools and AI-based legal education, as well as how it is changing the legal profession, are two of the main areas of research in this subject. The development of sophisticated software tools that can automate time-consuming legal research chores, analyse vast amounts of data, and support decision-making processes has been facilitated by the growth of AI. These tools will increase efficiency and accuracy.

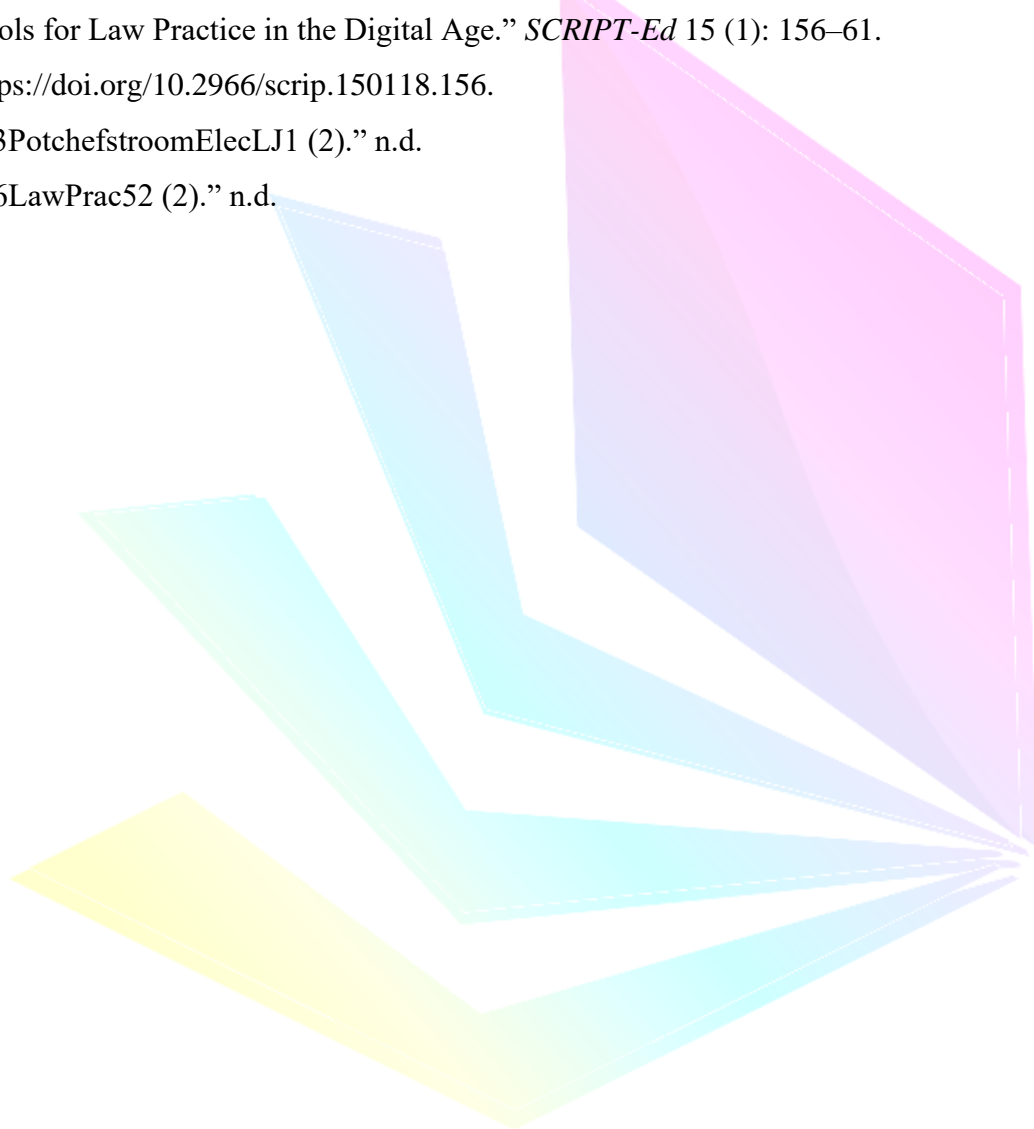
The potential areas where further research could be done are as follows:

1. Examine how AI-based legal research tools stack up against more conventional legal research techniques in terms of efficiency and accuracy. The quality of the outcomes produced by AI-based tools can be assessed in this study along with the outcomes produced by manual research techniques.
2. Investigate how AI might be used in the legal industry to aid in decision-making. This research can concentrate on the use of AI in case outcome prediction, legal precedent discovery, and document analysis to support legal arguments.
3. Examine the ethical implications of implementing AI in legal research and instruction. The potential biases of AI algorithms, the ethical obligations of legal professionals who use AI, and the effect of AI on the need for legal researchers and attorneys as employees can all be the subjects of this study.
4. Evaluate how AI can be included into the current legal curriculum and what effect it will have on legal education. To improve legal education and better prepare law students for the problems of the contemporary legal profession, this research may concentrate on the creation of AI-based legal education tools, such as online courses or interactive simulations.
5. Analyse the effect of AI on the legal employment market. The paper could include how the need for particular legal positions, such as paralegals or legal assistants, may change as a result of the usage of AI in legal research and decision-making. This might make it easier to comprehend the prospective effects of AI on the legal job market.

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ANNEXURE 1

Analysing the impact of AI in Legal research and Education

This is a survey conducted by the students of Gujarat National Law University to gain an understanding about the current prevalence and future scope of Artificial Intelligence in the fields of legal research and education. Please spare a few minutes of your precious time and fill the survey. Thank you for your support!

ANNEXURE: QUESTIONNAIRE

Email*

Name*

Gender*

- Male
- Female
- Prefer not to say

Age Group*

- 18-29
- 30-39
- 40-49
- 50 and over

What is your current role in the legal field? *

- Practicing lawyer
- Law student
- Legal researcher
- Legal educator

Have you used AI tools in your legal research before?*

- Yes

- No
- Unsure

On a scale of 1 to 5 what is your familiarity with artificial intelligence (AI) in the legal field?
(1 being lowest and 5 being highest)*

- 1
- 2
- 3
- 4
- 5

On the scale of 1-5, how much do you think AI can be used to improve legal research skills?*

- 1
- 2
- 3
- 4
- 5

What types of AI tools have you used or are familiar with in legal research?*

- Legal research platforms
- Legal analytics
- Contract review tools
- eDiscovery tools
- None of the above

What types of legal research do you think AI is best suited for?*

- Case law research
- Legislative research
- Regulatory research
- All the above

In your opinion, what are the advantages of incorporating AI in legal research?*

- Increased accuracy
- Increased efficiency
- Reduced costs

- All of the above

What are the biggest challenges you have encountered when using AI tools in your legal research?*

- Difficulty in understanding the output/results
- Difficulty in using the tools
- Limited availability of AI tools
- Other

How do you think AI can benefit legal research?*

- Faster analysis of large amounts of data
- More accurate analysis of data
- More comprehensive analysis of data
- All of the above

Do you think AI can be used to assist in drafting legal documents?

- Yes
- No
- Unsure

How important do you think it is for law students to understand AI and its potential applications in the legal profession?*

- Very important
- Somewhat important
- Not very important
- Not at all important

On a scale of 1 to 5, how strongly do you feel that law schools should incorporate AI into their curriculum?*

- 1
- 2
- 3
- 4
- 5

How do you think AI can improve legal education?*

- Enhancing student learning experiences
- Providing access to vast amounts of legal information
- Preparing students for the technological advancements in the legal profession
- All of the above

What are your thoughts on the current level of AI education and training in law schools?*

- It is sufficient
- It needs improvement
- It's non-existent
- Unsure

How do you think the incorporation of AI into legal education will impact the legal profession?*

- It will create a more technologically advanced workforce
- It will lead to a more efficient and effective legal profession
- It will lead to job displacement for some lawyers
- All of the above

How can law schools prepare students for the future of AI in the legal profession?*

- Providing training on emerging AI technologies
- Emphasizing the importance of technology and innovation in the legal profession
- Offering opportunities for students to work with AI tools and applications
- All of the above

What do you think is the biggest challenge facing the incorporation of AI into legal research and education? *

- Lack of understanding of AI technology
- Ethical concerns
- Resistance to change within the legal profession
- Other

What concerns do you have about the use of AI in legal research and education?*

- Job displacement
- Privacy concerns

- Legal ethics
- Other

ENDNOTES

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