

IMPLICATIONS OF ARTIFICIAL INTELLIGENCE ON LEGAL SECTOR: AN ANALYSIS

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Abstract:

Expansion of technology and further upgradations made many new technologies to develop like Artificial Intelligence, machine learning, etc. Artificial Intelligence is one of the most advanced, powerful and transformative technology that has been developed and being developed in the past few decades but gained more prominence post-COVID-19 period. Many sectors have utilised the Artificial Intelligence and integrated it into them to perform better. Legal sector is not an exception to it but has been cautiously using them into their day-to-day activities. This paper primarily focusses on the integration of Artificial Intelligence and its potential implications and also encompasses developments in various countries like USA, UK, China, India, etc.

Keywords: *Artificial Intelligence, Legal Sector, Judiciary, Technology*

1. Introduction

The legal profession is considered to be the noble one involving interactions between various personalities like the judges, advocates, clients, victims, police enforcement, judicial administration authorities, etc., to name a few. It has been in existence for many centuries in various forms, formal and informal. But the journey of legal profession has transformed with the changing circumstances in the society and the approach of the legal professionals have always been evolving. The existence of various natures of disputes, the resolution of the disputes, accessibility to justice, and judicial administration, have made the legal sector the sought after sector in various dimensions, and the effective and transparent judicial system has been the goal of many countries as it is not only impacting the justice delivery but also creates a safer space for the stakeholders like individuals, organizations, companies, multinational corporations, etc., to carry on their activities peacefully with the hope that the judicial system would take care of their lawful interests if there is any violation of their rights. The onset of technology has modified and transformed the legal profession. Where many of the document processing, consultation, filing of the suits, appearance before the courts, etc., used to happen in physical mode, the introduction of information technology, computing systems, etc.,

gradually transformed the legal and judicial process. The Covid-19 which caused the world to halt its activities in many sectors, though rattled the judicial foundations, but the legal profession quickly adapted to the situation and many states adopted technological inclusion into justice deliver system.¹ Many countries have adopted state of art technologies to process the cases and ensure that the case management and appearance of the parties to litigate and mitigate carries on seamlessly with proper fairness and transparency.

The focus on developing the e-court management system has been crucial for the growth of legal sector due to ease of access, where the stakeholders can file the cases online, adduce relevant copies for the process digitally through the specific platforms. They can also get notified about the dates and time of the case listed before the specific Bench and the Court through uploading of cause lists, etc. It has also facilitated the online appearance of the advocates and parties where it is not feasible for the physical appearance. Such kind of progressive measures have enabled faster delivery of justice and more essentially access to justice. These kind of activities have now been catalysed through the introduction of Artificial Intelligence into legal sector. The inclusion of Artificial Intelligence would automate various activities which require human involvement like reviewing of documents, legislative and judicial research, vetting and analysis of documents like wills, contracts, etc. It can be utilised for finding relevant legal materials such as laws, judgments of various courts and providing a systematic method of analysing and processing outcome which can be cost efficient and time saving. Further, the Artificial Intelligence becomes instrumental in efficient legal research where databases like SCC Online, Westlaw, LexisNexis, or any other such databases can deploy the algorithmic constellations in the form of Natural Language Processing to assess the legal query and provide for relevant outcomes which can prove successful for immediate access to information pertaining to cases, judicial decisions, legislations, rules, orders, etc.

2. Integration of Artificial Intelligence into Legal Sector

The predictive nature of Artificial Intelligence is more suitable for its integration into legal sector as it can predictive the outcome of the cases which can facilitate the stakeholders to move towards litigation or settle the cases outside the scope of the conventional litigation mechanisms by resorting to Alternative Dispute Resolutions like arbitration, negotiation, mediation, conciliation, etc. These technologies can assist legal as well as non-legal users to predict the outcomes of the cases with in-depth analysis of the trends in similar cases, the approaches to be taken, judicial behaviour. These all methods can be achieved by powering the Artificial Intelligence with algorithms in identification and machine learning through the available past data pertaining to the relevant case and circumstances.² The primary utilisation and relevance can also be found in document review and analysis, contract formation, etc., where with minimal human interference, the Artificial Intelligence can formulate contractual

¹ Diego Peralta, Ignacio Tornero, et.al., 'Covid-19: a catalyst for tech advances in the legal sector' (*International Bar Association*, 2024) <<https://www.ibanet.org/article/AEDAD5F7-140E-4A86-B9DF-1BA53EE08C79>> accessed 7 December 2024

² Dr.K. Sita Manikyam, L. Ashish Kumar, et.al., 'Systematic Method of Analysing the Process of Legal Outcome by Using Artificial Intelligence' (PA No: 202441023042) (*Intellectual Property India*, 3 March 2024)

terms and condition keeping in view the commercial and business interests. Proper usage can mitigate the risks and save costs for unsupervised contract formations with clerical and legal errors. Pre-determined rules and regulations, terms and conditions, or inclusion of special provisions, ruling out errors in the documents, overview and analysing the document that it is in consonance with the law of the land can be the fundamental role of Artificial Intelligence when it is performing document reviews. It would ensure proper compliance with the laws and regulations.

Access to justice has always been a challenge where the victims, indigents, underprivileged, etc., classes of people are unable to secure efficient legal advice for their violation of rights. Though there are governmental and judicial interferences in this regard with the introduction of legal aid services and authorities, the inclusion of the Artificial Intelligence can provide a better service to the needy with the help of technological interventions in various procedural matters. Virtual Legal Assistants can be enabled to interact with the needy for initial directions towards rendering legal advices. These can direct and guide the concerned in approaching the relevant legal authorities and directly connect them to persons in charge of providing legal support. It can provide for customized legal advices as per the requestors preferences. Artificial Intelligence can empower the persons in providing access to legal information by simplifying the understanding of legislations, authorities, judgments, rights and liabilities, etc. This would not only lessen the burden on the existing legal services authorities but also provide timely redressal of disputes. Inclusion of these technologies would make the legal services authorities to become the frontline warriors in providing justice. Advanced Artificial Intelligence mechanisms with high powered algorithms can itself play a major role in handling the case from filing to judgment. These kind of systems can be integrated into basic cases where not much of legal analysis is required such as insurance claims, consumer complaints, motor vehicle disputes where compensation can be figured basing on the prevailing circumstances. The involvement of Artificial Intelligence in legal aid processes would greatly democratize the legal sector.³

Artificial Intelligence can also be best suited for integration into legal and regulatory compliance where registration procedures, renewals, revivals, revocations, granting licenses, etc., procedures are involved. For example, if a company is to be registered, Artificial Intelligence can be deployed to manage the application procedure and can review it and send remarks if there any lapses of missing information. Similarly, for vehicle registrations, the procedure can be initiated at the time of buying the vehicle with the basic details, like name of the purchaser, chassis number of the vehicle, type of vehicle, model, variants, etc., details can be fed into the system where it will enable the generation of the registration details. It can also be involved during the tender and bidding procedures to decide the best bidder which would help the Government to opt for tendering the contracts. This would not only lessen the burden on the humans but also increase the transparency and accountability in the above procedures.

³ Yatharth Garg, 'Enhancing Access to Justice: How Artificial Intelligence is Democratizing Legal Services' (*Indiai*, 17 November 2024) <<https://indiaai.gov.in/article/enhancing-access-to-justice-how-artificial-intelligence-is-democratizing-legal-services>> accessed 2 January 2025

It can also aid the companies, organizations, etc., to keep a check with the regulatory changes that are happening and to immediately comply with them. For this to take place, both the regulatory agencies and the stakeholders have to be equipped with Artificial Intelligence processing mechanisms.

The Artificial Intelligence can also be incorporated into legal education. As the process of legal education is a dynamic one requiring up to date analysis of evolving paradigms of law, Artificial Intelligence can act as a beneficiary tool for the academicians, students, and other stakeholders involved in the teaching learning process by integrating into learning management systems.⁴ Already there are various Generative Artificial Intelligence tools like ChatGPT, Copilot, Canvas, Gamma, etc., which are widely being used by the students and teachers for enhancing their learning skills. Thus Artificial Intelligence can equip the academicians, researchers, students to upskill their abilities. More importantly, when learning about the jurisprudential aspects of law, legislations, judgments, and parallel research, Artificial Intelligence can act as a catalyst for achieving the learning and research outcomes. Integration of Artificial Intelligence to deal with vast amounts of data and by the use of audio and video visuals, it becomes easy for understanding complex legal topics which can be achieved by algorithms and machine learning procedures involved in training the Artificial Intelligence which would pose further questions to the user of the Artificial Intelligence and refine its approach on the basis of complexity of the questions and finally provide the outcome which can be best utilised for understanding and analysis the cases, legislations, and other relevant legal material.⁵ Though there are apprehensions that Artificial Intelligence can impact the creative aspects of the humans, the judicious use of Artificial Intelligence can actually enhance the creativity of the persons in understanding the laws and its supplemental procedure, judicial analysis and applicability of laws.

The role of judges in utilising Artificial Intelligence is also increasing as it can assist the decision making process much easier to the availability of legislative analysis and analysing past cases. It can help the judges for more formal interpretation which can be used for application to the given facts and circumstances. As traditional modes of interpretation of the laws is based on the existing legislation, their specific application to the facts and circumstances, relevancy and admissibility of evidence and further applicability of judicial precedents, all these processes can be made easier by the Artificial Intelligence where the judges can predict the outcomes of the cases. This would definitely mitigate the delay in the judicial procedures as more time is taken conventionally for deciding the cases. Except for cases dealing with fundamental rights violations, or any other important cases where human emotions and involvement is necessary, other cases like consumer disputes, motor vehicle disputes, insurance claims, etc., areas can be interfaced with Artificial Intelligence decision making for satisfying the rights, duties of the parties and provide for enforceable decisions. The interface of technology in taking decisions would enhance the interpretation of law with

⁴ Mateusde Oliveira Fornasier, 'Legal Education in The 21st Century and The Artificial Intelligence' (2021) 19(31) ROJ 1, 20

⁵ Dr.K. Sita Manikyam, L. Ashish Kumar, et.al., 'AI-Powered Innovative and Exponential Learning in Legal Education' (Application no: 202441051413) (*Intellectual Property India*, 12 July 2024)

human cognition and enable the public to have more justice oriented approach and would help the general the public to enhance the trust on judiciary. Artificial Intelligence can also be integrated into Alternative Dispute Resolution mechanisms. ADR mechanisms have emerged as one of the key players in resolving commercial disputes especially intellectual property disputes, which is regarded as cost efficient as well time saving mechanism for arriving at settlements. Artificial Intelligence can be utilised to pre-process the documents, scrutinize data and information, assess the outcome of the dispute and suggest possible measures through recommendations that can help the parties arrive at settlement in disputes. Various Machine Learning and Natural Language Processing techniques can be used to provide useful analysis comprising of a user interface and comprehensive legal database. These can be effectively utilised by the parties for compliance measures as well as risk evaluations. The integration of Artificial Intelligence into ADR mechanisms can help legal professionals as well as the parties through effective streamlining of legal procedures and dispute resolution.⁶

3. Integration of Artificial Intelligence in Legal Sector in various Countries

The integration of Artificial Intelligence into legal sector which was a theoretical assumption has become a reality and many countries are practically applying these technologies in terms of case analysis, decision making, legal research, Artificial Intelligence Robots, case filing, evidence analysis, translation, case management, legal documentation, predictive analysis of legal outcomes, virtual legal assistants, etc. These integrations are widely being used as a tool based mechanism to assist the judicial procedures. Countries like United Kingdom, United States of America, Estonia, China, India, etc., have been prominent in using Artificial Intelligence in the legal sector.

At the Global level, UNESCO has issued draft guidelines for the utilisation of Artificial Intelligence technologies in judicial authorities like courts and tribunals. It mainly focussed on adoption of Artificial Intelligence with certain careful considerations like access, protection of data and privacy, usage of algorithm and machine learning programmes for case analysis and predictions. It also encompasses about the training and literacy programmes to be conducted for the stakeholders involved in using the Artificial Intelligence mechanisms. It aimed for bringing out transparency and accountability with the usage of Artificial Intelligence in courts and tribunals. The draft guidelines focussed on assessing the risks in using the Artificial Intelligence in judicial procedure and also voiced for verification and assessment of Artificial Intelligence based outputs. The initial apprehensions of over reliance was also discussed so as to avoid completely basing the decision making in sensitive cases like human rights violations where human interference is mandatory. Thus the global movement on adoption of Artificial Intelligence has begun in the Twenty first century and many countries have started to adopt the same into their legal systems.⁷

⁶ Dr.K. Sita Manikyam, L. Ashish Kumar, et.al., ‘AI-Driven Method for Analyzing Legal Outcomes in Alternative Dispute Resolution Process’ (Application no: 202541023048) (*Intellectual Property India*, 28 March 2025)

⁷ UNESCO, ‘Draft UNESCO Guidelines for the Use of AI Systems in Courts and Tribunals’ (*UNESCO*, November 2024) <<https://unesdoc.unesco.org/ark:/48223/pf0000390781/PDF/390781eng.pdf.multi>> accessed 9 January 2025

United States of America is widely acclaimed for utilisation of Artificial Intelligence with the adoption of ROSS Intelligence. It was used for legal research purposes with regard to identifying cases, and doing analysis which save the users time. It used Natural Language Processing methods for the analysis. But the ROSS Intelligence was shut down as a lawsuit was filed by Thomson Reuters for allegedly using the content in Westlaw for the cases databases.⁸ This again showcases the implications of the usage of Artificial Intelligence with the help of content used for training the Artificial Intelligence and usage of data and datasets. There are various guidelines issued by United States Patent and Trademark Office regarding the usage of Artificial Intelligence which would enhance the innovation ecosystem and be cost efficient for the practitioners before it and parties utilising Artificial Intelligence. The eDiscovery process involves an autonomous discovery platform for identification of information which commences before the court procedure starts. It involves various natural language process mechanisms and machine learning algorithms through which the judges can get information about various documents. Various governmental agencies have invoked Artificial Intelligence based technological systems for processing of information and assisting them.

When it comes to United Kingdom, Courts have utilised the Artificial Intelligence mechanism for the case management and document reviews. It uses Technology Assisted Review mechanisms in Ediscovery which are used for predicting documents by labelling it with codes. These mechanisms can work better than human review systems. Law firms in United Kingdom have rapidly adopted, with most of them using for drafting of documents, reviewing and analysing contracts, Ediscovery support and researching legislations, judgments and other legal materials.⁹ For example, usage of Artificial Intelligence like Luminance is enabling the legal professionals to conduct due diligence and take decisions in the matters of mergers and acquisitions of companies. It adopts machine learning methodologies which can be used of analysing the holding of the companies, liability aspects, etc.¹⁰ Thus these tools can enable the legal professionals to efficiently take decisions by robust legal review mechanisms.

Singapore is instrumental in adoption of Artificial Intelligence into Alternative Dispute Resolution mechanism like arbitration, mediation, etc. The Silicon Valley Arbitration and Mediation Centre has taken the steps to introduce Artificial Intelligence by publishing guidelines on the utilisation of Artificial Intelligence in Arbitration.¹¹ Ministry of law also effectuated the Co-pilot for SG Law Firms which has collaborated with Lupl, Microsoft which now enables the legal professionals in Singapore to undertake the Generative Artificial

⁸ *Thomson Reuters Enterprise Centre GMBH and West Publishing Corp., v Ross Intelligence Inc.*, 2025 WL 458520

⁹ Gregory Campbell, 'The Use of AI to Underpin Technology Assisted Review in the UK' (*Everlaw*, 30 June 2022) <<https://www.everlaw.com/blog/legal-technology/technology-assisted-review-uk/>> accessed 9 January 2025

¹⁰ Press, 'Dutch Law Firm uses Luminance's AI to streamline M&A due diligence' (*Luminance*, 26 January 2017) <https://www.luminance.com/news/press/houthoff_260117.html> accessed 10 January 2025

¹¹ Silicon Valley Arbitration & Mediation Center, 'Guidelines on the Use of Artificial Intelligence in Arbitration' (*Silicon Valley Arbitration & Mediation Center*, 30 April 2024) <<https://svamc.org/wp-content/uploads/SVAMC-AI-Guidelines-First-Edition.pdf>> accessed 10 January 2025

Intelligence for their cases. This was envisioned to save time, bring more value to the work and enhance the efficiency thereby providing better services to the stakeholders.¹²

China known for its robust and disruptive technological growth has also made advancements in the deploying Artificial Intelligence into legal system. They have used Artificial Intelligence for assisting the judges by using Artificial Intelligences like Xiao Zhi 3.0 which is primarily utilised for providing solutions for financial litigation. It is also deployed for solving traffic disputes where it can generate the judgment based on the facts and circumstances. In matters of crimes, Xiao Baogong Intelligent Sentencing Prediction system is used by the court authorities like judges, prosecutors which enables them to predict the punishment that can be afforded to the convict basing on the large data sets and big data comprising of earlier cases and judgments which are of similar nature. This shows that countries are advancing in the usage of Artificial Intelligence in legal sector.¹³

Estonia took a pilot project for developing the Robot Judge which can decide on cases and the decision of the robot judge can be appealed to human judge. But it is still in progressing stage as the Estonian government have clarified about its development to integrate Artificial Intelligence into its legal system for clearance of long pending backlogs and provide speedy justice.¹⁴ Canada also has been instrumental in bringing out an Artificial Intelligence mediator which settled the financial dispute.¹⁵

India is also pioneering the fields of Artificial Intelligence and envisioning the usage of Artificial Intelligence in solving cases. As of now, India has developed certain Artificial Intelligence based programmes which can assist the judges in case management. The development of E-courts project laid down the foundations for technological integration into India's old legal system and colonial traditions. It has come long way in providing better services and case management where all courts have certain basic E-infrastructure enabled facilities. Live streaming of many courts especially High Courts and Supreme Court have been instrumental in bringing out transparency. An important transition or Artificial Intelligence adoption was seen through the onset of linguistic technologies such as SUVAS (Supreme Court Vidhik Anuvaad Software). This software mainly aims for translation of judgements into regional languages thereby granting access to the people who cannot understand English. Similarly, SUPACE (Supreme Court Portal for Assistance in Court Efficiency) is also developed to assist the judges in legal research, finding out case laws through data mining procedures, provide for case projection. These kind of Artificial Intelligence technologies can

¹² Ministry of Law, 'Enhanced Productivity for Law Firms in Singapore with the Integration of Microsoft Copilot into the Legal Technology Platform' (*Ministry of Law, Singapore*, 11 September 2024) <<https://www.mlaw.gov.sg/enhanced-productivity-for-law-firms-in-singapore-with-the-legal-technology-platform/>> accessed 11 January 2025

¹³ Alena Zhabina, 'How China's AI is automating the legal system' (*DW Global Media Forum*, 1 October 2023) <<https://www.dw.com/en/how-chinas-ai-is-automating-the-legal-system/a-64465988>> accessed 15 January 2025

¹⁴ Victor Tangermann, 'Estonia is building a 'robot judge' to help clear a legal backlog' (*World Economic Forum*, 26 March 2019) <<https://www.weforum.org/stories/2019/03/estonia-is-building-a-robot-judge-to-help-clear-legal-backlog/>> accessed 16 January 2025

¹⁵ Nick Hilborne, 'Robot mediator settles first ever court case' (*ADR Institute of Canada*, 2 June 2021) <<https://adric.ca/robot-mediator-settles-first-ever-court-case/>> accessed 16 January 2025

heavily ease the burden on the judges who are already toiling with pending cases. In addition to these technologies, India is also working towards involvement of Artificial Intelligence in automating the administrative processes, addressing complex legal issues involving personal laws, special legislations, geographical barriers, etc.¹⁶ Artificial Intelligence has now been introduced into Indian legal and judicial system with the main objective of ruling out delays with time saving procedures, save costs for the parties and provide speedy and effective justice. Thus Artificial Intelligence, if adopted properly can revolutionize and revitalize the legal processes and legal sector.

4. Conclusion & Suggestions

The potentiality of the technology has progressed over the centuries showcasing the ability to transform the way humans live. Such a technological progression was revitalized with the advent of Artificial Intelligence. The Artificial Intelligence has developed from being a mere technical assistant based on computing mechanisms to the advanced nature where they are functioning on par and above compared with human abilities. Artificial Intelligence is a technology that can perform acts, take decisions, solve problems, understand and comprehend the surrounding activities taking place in the environment, just like how humans do and perceive and in additional circumstances, it can also create new outcomes with no or minimal human involvement with the help of processing data and information, data mining, machine learning processes and other technical procedures. The journey of Artificial Intelligence has been inspirational where it was conceived initially to be a mere technological tool but later envisioned to be ground breaking invention and creation in the field of technological advancements with the gradual development of data mechanisms, algorithms, neural networks, computational powers, machine learning etc., which formed the core constituents deciding the strength of the Artificial Intelligence systems. As there are various types of advanced Artificial Intelligence systems like General Artificial Intelligence, Super Intelligent Artificial Intelligence systems, which are comparably strong systems in the parameters of learning and understanding data and information as well as the cognitive abilities, the legal landscape needs to evolve as these advanced systems can have the ability to independently and autonomously create art works or inventions or collaboratively develop them. These critical developments need a more enhanced understanding and positive approach from the legislators and judiciary which would benefit the society where traditional notions of creativity and inventiveness need to be evaluated. Although there have been considerable developments in the integration of Artificial Intelligence into legal sector in various countries, they need to catalyse the process and become more equipped and relevant as legal and judicial sector cannot be too slow to adopt these technological revolutions. As many other sectors are growing at a rapid pace in development of Artificial Intelligence and legal issues related to it are going to surge, the legal

¹⁶ Ministry of Law and Justice, 'Use of Artificial Intelligence Tools in Judicial System' (*Ministry of Law and Justice, Government of India*, 16 December 2022) <<https://sansad.in/getFile/loksabhaquestions/annex/1710/AS147.pdf?source=pqals#:~:text=tools%20like%20Supreme%20Court%20VidhikAnuvaad,has%20collaborated/proposes%20to%20collaborate>> accessed 18 January 2025

sector needs to ensure development and regulation of Artificial Intelligence keeping in view the ethico-legal issues, responsible use of AI, etc.

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