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Interface Between Artificial Intelligence and Information Technology in The Justice System: An Analysis

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ABSTRACT

Artificial Intelligence in Information Technology is an aspect that determines everything that future holds. As the world is in the era of digitization, all industries are expected to be smarter and accelerate innovations combating with the side effects of traditional infrastructures. Recently AI has been gaining a lot of traction in the IT sector across various jurisdictions of the world. In today's ever increasing digital world, AI is seen capable of playing a vital role in the legal domain as well. This has provided various tools for the lawyers in their field and in other governing sectors. Supporting this, policies and charters are framed. However, there is no sign of any legislation which would accommodate AI in its sphere including the present Information Technology Act of 2000 and its amendment in the year 2008 which is limited to electronic data interchange and communication ignoring to recognize Artificial Intelligence in its ambit. The use of AI in the justice systems are being explored across various fields. From holding a trial to giving a final judgment is a lengthy procedure and adopting AI in this process has been an economical method if adopted and coupled with a legal framework. However, the challenges also exist while adopting AI based technology in certain aspects. Upon consideration of swift developments in this domain, the opportunities, challenges and initiatives and their implications on justice delivery system is analysed. The emergence of AI in the worldwide judicial systems are providing great help to the lawyers in analysing large data, identifying precedents and enabling administrations in streamlining judicial processes on certain issues. Linking AI and IT framework in the legal field is a huge evolving point and this precisely assures that the system would be much simpler and benefits of it does not limit to cost effectiveness in the procedure but a lot which are analysed in this paper. The study adopts doctrinal method.

Keywords: AI, Digitization, Algorithms, Predictive justice

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INTRODUCTION

The advent of information technology and artificial intelligence with the objective of universal computerization and general intelligence has made the Department of Justice to consider reshaping the fundamental aspects of the justice delivery system. The information technology in general provides rapid improvements in hardware and processing ability, efficiency and effectiveness of organization's core capabilities. Legal systems are based on formal logic in form of various statutes, precedents or customary practices. AI can be a promising tool to improve procedural and administrative efficiency if introduced in the justice system. The integration of AI in the judicial system raises certain ethical and practical questions such as;

a) Whether algorithms are capable of deciding questions of law?
b) How is the accountability for semi- automated decisions determined?
c) Whether the AI enabled programmes capable of deriving the exact position of law from a mass of precedents?

Disruptive technology can change the way judges work and provides for different forms of justice. That is where processes change and predictive analytics may reshape the adjudicative role. Currently AI has made a lot of inroads within justice systems pertaining to robot judge, real time speech transcription system and strategic subject list across the globe. However, the jump from human powered justice to electronic justice is huge. The whole system involves powerful language models like Generative Pre- trained Transformer (GPT) which is a deep learning model, which generates natural language with a high degree of accuracy and fluency.

AI products such as Natural Language Processing tools, chatbots, automation tools, that detect good code and bad code are broadening the horizons of Artificial Intelligence technology within IT landscape. AI systems are involved in handling crucial private and public functions such as counting of votes, approving loans, online advertising, autonomous transportation, etc. The development and the subsequent commercialization of AI systems raise the question of how liability risks will play out in real life. Since even the best technology is not error-free and as the interaction between humans and robots increases, domestic robots, self-driving cars, and other autonomous systems will inevitably cause harm to people and property[1].

[1] Criminal Justice, Artificial Intelligence Systems and Human Rights by Ales Zavrsnik available at https://doi.org/10.1007/s12027-020-00602-0.

i) ARTIFICIAL INTELLIGENCE

The most relevant definition of AI in the context of justice systems is given by the Commissioner for Human Rights: "An AI system is a machine- based system that makes recommendations, predictions or decisions for a given set of objectives. It does so by-

i) Utilizing machine and/ or human based inputs to perceive real and/or virtual environments.
ii) Abstracting such perceptions into models manually or automatically and
iii) Deriving outcomes from these models, whether by human or automated means, in the form of recommendations, predictions or decisions"

The 116th Congress (2019-2020) in National Artificial Intelligence Initiative (NAII) Act 2020 defines "artificial intelligence" as a machine based system that can, for a given set of human- defined objectives, make predictions, recommendations or decisions influencing real or virtual environments.[2]

ii) ARTIFICIAL INTELLIGENCE AS A TOOL FOR JUSTICE DELIVERY

As stated by the Chief Justice of India D.Y. Chandrachud, "technology is relevant in so far as it fosters efficiency, transparency and objectivity in public government. AI is present to provide a facilitative tool to judges in order to recheck or evaluate the work, the process, and the judgments". An intelligent computer uses AI to think like a human and perform tasks on its own. Machine learning is how a computer system develops its intelligence. One way in which a computer is trained to mimic a human reasoning is to use a neural network, which is a series of algorithms that are modelled after the human brain.[3]

AI can be used in categories like advanced case law search engines, online dispute resolution, assistance in drafting deeds, analysis (predictive), categorization of contracts according to different criteria and detection of divergent or incompetable contractual clauses and chatbots to inform litigants or support them in their legal proceedings.

[2] https://www.congress.gov/bill/116th-congess/house-bill/6216
[3] https://www.mondaq.com/india/new-technology/1263638/assessing-the-intelligence-of-the-artificial-intelligence-in-law-prospects-in-india

Application of AI in various sectors of law like document drafting via legal zoom and LISA, contract review, management and providing standard clauses when drafting through COIN/ Kira Systems/ LawGeeks/ Leverton/ KM Standards and smart contracts via Open Law.

iii) CONCERNS IN ARITIFICIAL INTELLIGENCE DRIVEN PREDICTIVE JUSTICE

As the AI system grows, the legal system has to deal with questions about how AI affects human rights, surveillance and liability, among other things. Also AI is being used in the judicial system to make decisions, which has raised concerns about fairness, accountability and transparency in decisions made by automated or AI enabled systems.

The technology has evolved from obeying pre-designed and pre-configured codes into a more sophisticated end product, imbued with human-like cognition. AI in order to work needs big data. Using the corpus of pertinent precedent and the case facts as inputs, a few AI teams are creating machine learning models to predict the outcomes of pending cases. These predictions will significantly affect legal practice as they are refined. They are being used by law firms to streamline settlement negotiations, decrease the number of cases that must go to trial, and plan out their litigation strategy in advance. Although the result in the legal process will be solely based on the algorithms used in the program of the system, the power of deciding cases will be in the hands of the programmer. If decisions are based on algorithms, the purpose of providing distributive and equitable justice will be defeated and in such cases there are chances of non-acceptance and end up being a controversial issue. However, the AI enabled systems could be proven to be efficient in analysing and summarizing large documents in much less time than humans. By this, solving the issues and reaching to a conclusion could be made quick and effective. Further, not limiting to summarization, since the AI systems use Natural Language Processing technology, it can also translate the documents including scanned, printed or handwritten, accurately in less time.

AI acts as a tool in selecting an appropriate arbitrator for a particular type of dispute after analysing the prior records of the arbitrator which deals with his experiences in such type of disputes. Doing this may reduce the burden of appointing arbitrators for the case and positively, there are chances of equitable justice when a highly experienced arbitrator deals with the case. Also, it could be a combination of human arbitrators and AI enabled system.

Further, to avoid costs and errors by the transcriptionist in a tribunal, a machine might be able to record the hearing via microphone and an immediate transcript can be expected. The award has to be passed appropriately and through AI drafting of an award will be timesaving.[4]

iv) BRIDGING OF ARTIFICIAL INTELLIGENCE WITH INTERNET DATA

A deep learning neural network model called the GPT uses internet data to generate human-like texts. With its ability to quickly process and analyse, it can help with a swift legal research. Especially in a legal system like India's this could be of vital importance as there exists large volume of precedents and statutes. Along with legal research, it helps in drafting legal documents be it contracts, briefs, pleadings and memorandum by providing suggestions pertaining to the arguments and citations. Furthermore, GPT can help lawyers in document classification by quickly sorting or organizing large documents. However, the documents need not be in its digital format but a hard copy of a document could be converted using a technology called Optical Character Recognition (OCR) which basically converts images or scanned documents into a textual form. Hence, GPT can assist lawyers using physical documents to classify them.

However, using this technology expects the lawyers to be more diligent and has to review and verify the information generated by the model before concluding or relying on that aspect. The chatGPT model operates only based on the data on which it is trained and the biases in such data will certainly reflect in its output and it may result in ambiguousness. Hence it is important to note that the model can only be an assistant and not a replacement to human lawyers.[5]

Contextual information about the cases is also important as it could help AI in coming to conclusions faster. But, AI cannot be a quick fix for solutions that legal firms seeks even if the structured data is available.

[4]https://www.mondaq.com/india/arbitration--dispute-resolution/956956/ai--its-effects-on-aritration#:~:text=AI%20can%20aid%20inn%20selecting,%2Dappointment%20of%20the%20arbitrator)
[5]https://www.barandbench.com/law-firms/view-point-how-can-lawyers-leverage-chatgpt-for -their-practice

In respect of accountability, AI has to be treated like a child and trained to talk in a certain way or not talk to someone. When children make mistakes, they learn and the same applies to AI.[6] The law firms should take baby steps in linking AI to increase efficiency and cut costs.

vi) ARTIFICIAL INTELLIGENCE EXPERIENCES IN MULTI-JURISDICTIONS[7]

a) *Estonia:* In the year 2018 developed a legal framework for AI. On taking into account the technology's ethical implications and potential economic incentives a National Artificial Intelligence Action Plan was formulated. Subsequently, a robot judge was designed to adjudicate small claims and disputes.

b) *China:* In 2019, China announced that millions of legal cases would be decided by internet courts where the citizens were not required to appear in person before the court. The "smart court" includes non-human judges, powered by artificial intelligence (AI) and allows participants to register their cases online and resolve their matters via a digital court hearing. In some areas of China AI robots greet visitors to the court, house and guide them to the appropriate location. A practical example, include a robot called Xiao Fa which was put into operation at the law suit centre at Beijing No.1 intermediate people's court which can answer questions verbally or take queries on its screen with a keyboard and the AI enabled robot chatbot Fa Xiaotao using which Wusong technology is working on digitizing the way courts function.

c) *USA*: **Correctional Offender Management Profiling for Alternative Sanctions** (**COMPAS**) is a case management and decision support tool used to access recidivism risk and thus, help in parole and sentencing decisions. US also makes use of e-discovery as an automated investigation of electronic information before the start of court procedure. In this regard, the judgment of the case called Loomis v Wisconsin (2016) can be referred. The algorithm identified Loomis as an individual who presented a high risk to society and the first instance, court decided to refuse his request to be released on parole. In the appeal, the supreme court of Wisconsin decided that recommendation from the COMPAS algorithm was not the

[6] https://www.nishithdesai.com

[7] Dr. Raju Narayana Swamy, (IAS), 'From Robot Judges to Transcribers of Court Hearings in Real Time: Arificial Intelligence as a tool to aid the delivery of Justice', 2023 (1) KLT, Journal Section, pg 1-10.

sole ground for refusing his request to be released on parole nd hence the decision of the court did not violate Loomis due process right. The court was in fact neglecting the strength of the automation by us. By claiming that, the lower court had the possibility to depart from the proposed algorithmic risk assessment, the court ignored the social psychology and human –computer interaction research on the biases involved in all algorithmic decision making systems which shows that once a high tech tool offers a recommendation, it becomes extremely burdensome for a human decision maker to refuse such a recommendation.

d) *United Kingdom*: The AI based technology, Harm Assessment Risk Tool called HART algorithm was used in classifying individuals based on low, medium or high risk of committing future offences in a two years period. UK police are using AI to inform custodial decisions while it uses data from 34 different categories covering a person's age, gender and offending history to rate people against risk.

e) *Brazil*: Victor robot demands a methodological combination of the reasoning of the areas of software engineering, computer science and Law. This Brazilian AI is suitable to conduct preliminary case analysis and point out cases dealing with issues of general repercussions and it recognises the image it receives, splitting the legal reasoning and highlighting the most important of them.[8]

f) *Singapore*: The AI based technology model, the Real Time Speech Transcription system which assisted in replacing the traditionally labour- intensive process with automation, to increase productivity of court staff.

g) *Chicago*: Strategic Subject List (S.S.L) was introduced to predict individuals who are likely to be involved in gun violence crimes.

h) *European Union*: "European Ethical Charter on the use of AI in the judicial systems and their environment" was developed by the European Union through the European Commission for the Efficiency of Justice (CEPEJ). The Charter came up with five principles on use of AI in judicial systems and their environment.[9]

[8] https://sifocc.org/app/uploads/2020/06/Victor-Beauty-or-the-Beast.pdf

[9] https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699

a) Principle of respect for fundamental rights: ensure that the design and implementation of artificial intelligence tools and services are compatible with fundamental rights.
b) Principle of non-discrimination: specifically prevent the development or intensification of any discrimination between individuals or groups of individuals.
c) Principle of quality and security: with regard to the processing of judicial decisions and data, use certified sources and intangible data with models elaborated in a multi-disciplinary manner, in a secure technological environment.
d) Principle of transparency, impartiality and fairness: make data processing methods accessible and understandable, authorise external audits.
e) Principle "under user control": preclude a prescriptive approach and ensure that users are informed actors and in control of the choices made.

vii) ARTIFICIAL INTELLIGENCE IN INDIAN JUDICIAL SYSTEM

The idea of digitalization of courts in India can be traced back to the year 2005 which was based on the "National Policy and action plan for Implementation of Information and Communication Technology in the Indian Judiciary, 2005". Upon the constitution of E-Committee by the Government of India formulated the policy and one of the highlighted element in this was "…uniformity in the use of software at various court complexes shall render the functioning of the judicial system more coherent and in synchronization."

Phase II of the action plan considered the following:[10]

1) Video- conferencing for all courts and legal aid offices
2) Scanning/digitalisation of case record, document management system for digital archiving/ storage/ retrieval
3) Use of computers by all important sections of the Registry for day to day processes and service delivery
4) Unified Case Information System (CIS) for all courts.

In April 2021, the Hon'ble Supreme Court of India for the very first time launched its first AI driven research portal called the *Supreme Court Portal for Assistance in Courts Efficiency (SUPACE)* and the then Chief Justice of India Shri Sharad Bobde launched the

[10] https://www.barandbench.com/columns/need-for-an-ict-uniformly-enabled-indian-judiciary

same and clarified that it will be a blend of human and artificial intelligence and will not be used in decision making and described it as a hybrid system.[11]

Prior to this, a software called SCI-Interact (Sensitive Compartmented Information) was developed and other initiatives like LIMBS and E-courts were also developed. Further, to retain the autonomy of the judge, the Hon'ble Supreme Court would not be using AI unless all the information was meticulously analysed.

The committee also has said that, given the geography, topography, complex customary laws, local special laws, and the high number of cases, it is necessary to investigate the advantages that machine learning and artificial intelligence can bring to the administration of justice. Integration of AI and judicial system can be categorised on the basis of the form of AI such as i) Narrow application of AI : use of machine learning or simple decision making algorithm that can be used to aid the judges. ii) Advanced form of AI : use of AAJI (Advance Artificial Judicial Intelligence) having the potential to shift power from human legal acumen to advanced algorithms.[12]

viii) ADVENT OF AI IN OTHER SPHERES

- Security Exchange Board of India (SEBI) based on AI developed a system that scans various stock market shows and builds a database of recommendations made, with direct knowledge of the matter. It is named as "Picture-based Information News Accumulator and Key Information Analyser (PINAKA)"
- Reserve Bank of India (RBI) with the objective to enhance the data driven surveillance capabilities of the reserve bank is planning to extensively use advanced analytics, ai and ml to analyse its use and database and improve regulatory supervision of banks.[13]

ix) AI TOOLS FOR LAWYERS

[11]https://www.jagranjosh.com/general-knowledge/supace-portal-use-of-artificial-intelligence-ai-in-indian-judiciary-1618316032-1

[12] Artificial Intelligence and Law – Challenges Demystified by Rodney D. Ryder, Nikhil Naren, Law & Justice Publishing Co, New Delhi, 2022, pg. 158.

[13]https://singhania.in/blog/assessing-te-intelligence-of-the-artificial-intelligence-in-law-prospect-in-india-#:~:text=currently%2C%20there%20are%20no%20specific,a%20policy%20framework%20for%20AI

Legal research is a crucial aspect of a lawyer's assignment. It being the retrieving necessary information to support the making of a legal decision by finding answer to questions arising out of facts of the case by studying various sources. India based legal tech venture named LegitQuest run by a versatile team also equips the AI model for legal research.[14]

1) *Smith.ai* – it uses virtual receptionist to answer calls for lawyers and law firms. However, Smith.ai uses AI with its chatbot features and when deciding how to log and route calls.
2) *Gideon* – an AI-powered chatbot tool that can completely replace long and heavy intake forms with a simple conversation that learns how to answer prospect questions and qualify leads effectively.
3) *Casetext* – an AI-powered legal tool which is a legal research platform that helps lawyers find cases quickly and easily.
4) *Diligen* – using machine learning, it helps lawyers to conduct due diligence to review contracts and quickly outputs -convenient summary.

According to the data by the National Judicial data grid on pending cases, a total of 30,398,119 cases have been pending before the Apex court out of which 71.45% cases are more than a year old. It is fortunate that the Indian Judiciary has realized the role of AI to improve the efficiency of administration and expedite the process of justice.[15]

In the year 2019 the beginning of the AI in Indian courts was commenced through the launch of a neutral translation tool called the *Supreme Court Vidhik Anuvaad Software (SUVAS)* which can translate legal papers from English into Vernacular languages and vice versa. Besides, the software also had a search tool to browse through all files and a text and voice enabled chatbot to give a swift summary in minutes and questions could be factual or contextual.[16]

CONCLUDING REMARKS

AI in the justice system is showing promising results in reinventing the legal industry be it optimizing legal research or providing access to justice for all. Enormous cutting edge

[14] https://www.clio.com/blog/lawyer-ai/
[15] https://njdg.ecourts.gov.in

[16] https://analyticsindiamag.com/the-supreme-court-of-iniad-gets-a-new-ai-portal-suvas

developments in the productivity of the lawyers as it gives AI based software which also improves accuracy in the study. However, the following areas raises concern with regard to technological and legislative framework:

- AI can be biased, there could be serious implications on data security when the model fails to point out any malicious activity.
- AI software has the capacity to learn over time yet they could fail to think out of the box.
- Once programmed, AI matrix cannot be re- programmed when it is in service.
- Section 16 of the Information Technology Act, 2000 contains provision relating to Security Procedure for commercial circumstances, however, security procedure for other e-Governance related matters are not adequately addressed.
- The IT Act, 2000 contains provisions for Right to Legal Representation where it authorises only human beings for appeals before the Cyber Appellate Tribunal and AI representation is not currently address.
- Moreover, there is no proper legislative framework for AI and hence, legislators while framing laws pertaining to AI will have to consider the AI with IT laws for its smooth transition and application.
- Predictive justice and other judicial policies linking AI and IT with judicial process shall have to be carefully addressed.

Technology is currently booming in India and is leading the way in adopting new innovations. To anticipate risks across the sector of IT industry, knowledge, experience and common sense will not suffice any longer. Recently, the Ministry of Electronics and Information Technology (MEITY) has constituted four committees to bring in policy framework for AI, which is a welcome step.

It is high time we encourage to inculcate AI enabled systems in the justice system. However, there is a need of some regulations to avoid threats. Irrespective of people liking it or not, AI shall play an imminent role in the legal world. To have an alien form of intelligence, there requires to create and extend laws in this aspect. The output from the AI models may be sophisticated and hence requires in depth scientific studies.