

Employing Artificial Intelligence in the Interpretation of Contracts: A Legal Analysis¹

Dr. Ravindra Kumar Singh²

Abstract

The interpretation of contracts — as a subject — has been gaining more and more prominence and advancing at a very fast pace, as both in domestic and cross-border transactions, the main issue which the court or the tribunal, in a contractual dispute, normally addresses is in relation to the contract interpretation. Parties generally express their contract through a human language. Being an organic discipline, the language does not have a mathematical preciseness, for the meaning of the words and phrases keeps growing, evolving and expanding. Consequently, a contract is always to be construed against its context and background. These amazing facts about the language make the phenomenon of contract interpretation all the more fascinating as well as challenging. As artificial intelligence (AI) has been increasingly making inroads into different walks of life and functioning, therefore, the judicial system, judicial processes and dispute resolution systems cannot distance away from AI. Specifically, with regard to the interpretation of contract and AI, two legal questions arise: (a) what assistance, if any, can technology provide in the process of contract interpretation? (b) Whether the process of contract interpretation, with the help of appropriate technology or AI, be automated? These questions indeed unwrap a new area of legal research with the aim of examining whether or not the process of interpretation of contract can be automated. The first section of this paper introduces the subject and opens up the discussion. The second section explores the possibility of using technology for either interpreting a contract or providing aid in the process of interpretation. The third section critically reconnoitres the extent to which automation is possible

¹ This research paper is the revised and upgraded version of a paper which the author submitted to and presented at the 'International Conference on Artificial Intelligence and Law', held on 11-12 November 2022 and organised by the Centre for Business Laws and Taxation at Rajiv Gandhi National University of Law, Patiala, Punjab.

² Professor of Law, Gujarat National Law University, Gandhinagar, Gujarat, India.

in the process of interpretation of contracts. The fourth section highlights the limitations of the court in using AI for the contract interpretation. Finally, the last section concludes the discussion.

Key words: Artificial intelligence (AI), Automation, Contract interpretation, Machine learning (ML) and Technology.

I. Introduction

Technology has been playing an important role in all walks of life, including the law and the legal system. An important area where technology figures prominently and still there is a huge room for technology to play in that area is the ‘justice delivery system’. The use of technology in the Supreme Court and various High Courts in India has already speeded up the functioning of the Court. If India really wants to address the issue of massive pendency of cases, then, it is technology which will be of a great aid. Around four decades ago, the focus of Artificial Intelligence (AI) was on machine learning (ML) enabling business intelligence capabilities to optimise operations and maximize profit—for instance, data analysis enabled decision support systems for managers; robots performing repetitive tasks, and so on; and now, with more cutting-edge technology, AI has stretched its service area to several other disciplines including contracts and contracting.³ Laws, regulations, rules, court judgments, contracts, and all that can be translated from analog into digital data, from natural language to computer codes; and the conjunction between digitisation of colossal volume of data, algorithmic techniques and development of computer power is producing fascinating effects in the legal world, including the field of contract law.⁴

Artificial intelligence (AI) — a term coined by John McCarthy — is that branch of computer science which is concerned with designing intelligent computer systems that exhibit the characteristics which are associated with intelligence in

³ Fatmah Baothman, *Artificial Intelligence Effects on Contracts and Contracting*, IN INNOVATIVE AND AGILE CONTRACTING FOR DIGITAL TRANSFORMATION AND INDUSTRY 4.0 150 (Mohammad Shalan and Mohammed Ayedh Algarni eds. IGI Global 2020).

⁴ Michel Cannarsa, *Contract Interpretation*, IN THE CAMBRIDGE HANDBOOK OF SMART CONTRACTS, BLOCKCHAIN TECHNOLOGY AND DIGITAL PLATFORMS 102-103 (Larry A. Dimatteo, Michel Cannarsa & Cristina Poncibo eds. Cambridge University Press 2020).

human behaviour.⁵ AI can be broadly classified into the following three groups:⁶ (i) Artificial Narrow Intelligence (ANI), which equips the machine with the capability to copy human capabilities in specific domains or specific tasks; (ii) Artificial General Intelligence (AGI), which equips the machine with the capability to copy human capabilities across several domains, bringing it closer to human intelligence; and (iii) Artificial Super Intelligence (ASI), which equips the machine with the capability to copy human capabilities in all domains in terms of general wisdom, scientific creativity and social skills.

AI generates and processes information through algorithms, without affecting the environment physically; however, once AI is integrated into a machine (it results in a robot, i.e. robot = AI + machine), it affects change in its environment by sensing, thinking and acting.⁷ Three of the subsets of AI are Machine Learning (ML), Deep Learning (DL) and Natural Language Processing (NLP). ML's main object is to build computer systems which can adapt and learn from experience,⁸ whereas DL is a subfield of ML and allows for processing huge amount of data to find relationships and patterns that humans are often unable to detect.⁹ The various ML algorithms can be broadly classified into four main categories: (a) supervised learning (it uses labelled data); (b) unsupervised learning (it uses unlabelled data, and in consequence, deep learning algorithms are used to detect patterns); (c) reinforcement learning; and (d) semi-supervised learning (it is a mix of supervised and unsupervised learnings).¹⁰ Accordingly, in supervised learning, an algorithm (rules plus data) is trained on human-labelled data; in unsupervised learning, an algorithm is fed with unlabelled data and the algorithm finds the pattern on its own; and in reinforcement learning (which is the most advanced model of learning), the algorithm is fed with a set of rules and constraints, and it learns how to achieve its goals by trying out varied arrangements of permitted

⁵ RAJENDRA AKERKAR, INTRODUCTION TO ARTIFICIAL INTELLIGENCE 2 (PHI Learning Private Limited 2021).

⁶ RODNEY D. RYDER & NIKHIL NAREN, ARTIFICIAL INTELLIGENCE AND LAW 1-3 (Law & Justice Publishing Co 2022).

⁷ *Id.* at 3.

⁸ AKERKAR, *supra* note 5 at 307.

⁹ TOM TAULLI, ARTIFICIAL INTELLIGENCE BASICS: A NON-TECHNICAL INTRODUCTION 71 (Apress 2020).

¹⁰ *Id.* at 50-54.

actions.¹¹ In DL, which is actually a special sub-set of ML, algorithms are arranged in layers creating a network having structure and functionality like the human brain.¹² Facial recognition, driverless cars, real-time transcription, voice-recognition, and the like are the results of DL algorithms.¹³ NLP is that form of AI which involves understanding conversations, and consequently, allows computers to understand people.¹⁴

Given that AI has been progressively making advances into myriad processes and functioning in various disciplines, judicial processes and dispute resolution systems cannot remain unaffected by AI. From the standpoint of contract law, the legal landscape has been favouring and recognising the use of technology in the formation of contracts¹⁵ and also in other aspects of contracts. As AI is also a technology, therefore, it (AI) could be validly used for facilitating several aspects of the contract. Can AI help in the contract interpretation, which is one of the intricate aspects of resolving a contractual dispute? There is a dearth of legal writings addressing the issue of contract interpretation with the assistance of AI (whether AI can be used or not; if yes, to what extent). There is, thus, a need for legal examination to evaluate whether or not the process of interpretation of contract can be automated. A legal investigation to find answers to these questions will be very useful to the legal professionals, including judges and advocates. This

¹¹ RYDER, *supra* note 6 at 10.

¹² *Id.* at 14.

¹³ *Id.*

¹⁴ TAULLI, *supra* note 9 at 124.

¹⁵ Section 10A of the Information Technology Act, 2000 states: “Where in a contract formation, the communication of proposals, the acceptance of proposals, the revocation of proposals and acceptances, as the case may be, are expressed in electronic form or by means of an electronic record, such contract shall not be deemed to be unenforceable solely on the ground that such electronic form or means was used for that purpose”. Further, section 3 of the Indian Contract Act reads as follows: “The communication of proposals, the acceptance of proposals, and the revocation of proposals and acceptances, respectively, are deemed to be made by any act or omission of the party proposing, accepting or revoking by which he intends to communicate such proposal, acceptance or revocation, or which has the effect of communicating it”. Here, “any act” very well includes electronic or automated mode of communication. The foregoing statutory provisions accord explicit legislative recognition to contract formation in electronic form or by using electronic means.

paper delineates the possibility, if any, of employing AI in the process of interpreting the contract for the purpose of resolving a contractual dispute.

II. Technology and Contract Interpretation

This section of the paper explores the possibility of using technology for either interpreting a contract or providing some aid in the process of interpreting a contract. Technology has impacted and also eased various processes in the judicial system, particularly concerning administration of the justice dispensation mechanism. Now, the use of technology has to go beyond the administrative side of the judicial system (such as, e-filing, docket management, and the like). AI is enormously useful in performing tasks which form the major chunk of legal practice, for example, data analysis, review, due diligence, pattern recognition, logical functions, legal research, compliance, and so on.¹⁶ In the field of legal research, there are some common research portals. A few popular examples of such research portals are: LexisNexis, SCC Online, Manupatra, etc. AI based legal research portals/platforms have also come into existence. Some common examples of AI based legal research portals are: Pensieve, CaseIQ by Casemine, mLeAP¹⁷, ROSS¹⁸, and so forth. Of the different branches of law, the 'law of contracts' is one of the areas wherein AI finds a vast role to play. With reference to contracts, the law has recognised the use of technology for making, implementing as well as managing the different aspects of contract.

A. Assistance Rendered by a Suitable AI Application in Contract Management and Administration

In addition to assisting in legal research, some of the ways by which a suitable AI application (software or tools) can assist in the contract management and administration, in terms of cost-saving, time-saving and risk mitigation are:

- (a) *Analysing a contract*: In an efficient and accurate manner, a suitable AI application can read, understand and analyse a contract. This saves considerable time and energy, as reading,

¹⁶ RYDER, *supra* note 6 at 161.

¹⁷ It provides solution from legal research to information and case management.

¹⁸ ROSS, powered by IBM's Watson technology, is a robot lawyer providing assistance in legal research.

understanding and analysing a lengthy contract consumes a lot of time.

- (b) *Drafting a contract*: An appropriate AI application can also help in suggesting sample clauses for a particular clause that is to be drafted. Such applications can also help improvise the clause already drafted by, for example, pointing out the inconsistencies therein or suggesting change of terms taking into consideration the legal implications thereof.
- (c) *Reviewing and due diligence*: Contract review is a tedious and time-consuming process. The reviewers have to ensure that the contract contains all the clauses as agreed between, and as per the mutual understanding of, the parties. Due diligence ensures that the agreement/transaction to be entered into is in compliance with the law of the land as also the policies of the organisation. Its aim is to minimise the risk by protecting the organisation against any possible future litigation. In these aspects of contract administration, a worthwhile assistance can be drawn from AI. A suitable AI application can be very useful in reviewing and effectuating due diligence, which can ultimately maximise profits, ensure compliance with the law, and identify and mitigate risks.
- (d) *Monitoring the implementation of the contract*: After a contract is entered into, a significant aspect of contract management is monitoring and implementation of the contract. A suitable AI application can monitor whether all the obligations of the contracting parties are being discharged as per the schedule stipulated in the contract or not. Similarly, it will also observe and determine the accruing of rights at different stages during the currency of the contract. AI finds a good place in monitoring and tracking the contract because parties to the contract concurrently perform various contracts with different parties and it is quite possible that they might miss out a few aspects (for instance, rights or obligations in relation to invocation or extension of bank guarantees, letters of credit, foreign exchanges, advance/stage

payments, levy of liquidated damages, so on and so forth) in some of those contracts.

- (e) *Post-completion of contract review*: A very crucial, but less discoursed, aspect of contract management is post-completion of contract review. Post-completion of contract review is an appraisal conducted after the completion (or discharge) of the contract in order to assess whether the purpose for which the contract was entered into was achieved or not. It also reveals the things which went right and things which went wrong during the currency of the contract. Post-completion of contract review puts the organisation on the learning curve, so that the mistakes can be avoided in the future. An appropriate AI application can be developed to carry on post-completion of contract assessment which will fetch enormous benefits.

The thesis of the researcher is not that the court or the lawyer is to fully depend on the AI application for discharging the above functions, or that they are to simply go by the output delivered by the AI software or tool. AI, nonetheless, provides a first-hand handy solution. In review and analysis of simple standard contracts (for e.g. loan agreements, credit contracts, and the like), AI powered solution proves to be efficient, accurate and time-saving. The result delivered by the AI software or tool should be examined by the judge/lawyer. Further, complex and unique contracts require human analysis and review, to a greater extent.

B. AI Tools/Software used in Contract Management and Administration

Organisations which are enthusiastic to employ AI for contract administration and management have two options: (i) to develop home-grown contract analysis AI, which is a time-consuming and expensive venture requiring the necessary expertise on top; or (ii) to embed or integrate contract analysis AI, developed by another entity, into its own applications or product workflows. A few leading ‘integratable contract analysis AI’ providers are: ContraxSuite¹⁹, which is an open-source contract analytics and legal document platform by LexPredict;

¹⁹ See, <https://contraxsuite.com/contraxsuite/> (last visited December 13, 2022).

DocAI²⁰ by Zuva; Contract DocAI²¹ by Google, which fast-tracks contract life cycle management by mining precise data from contracts ‘via specialized models for processing contracts that are built on advanced decision tree learning, OCR, and Natural Language Processing’. Additionally, there are several ‘workflow contract analysis tools’ that incorporate contracts AI (as opposed to integratable contracts AI offerings), for instance: ContractPodAI²², Della AI²³, eBrevia²⁴, Eigen® platform²⁵, Evisort’s cloud-based AI-powered Contract Intelligence Platform²⁶, Heretik Analysis²⁷, Kira²⁸, Combined Intelligence by LegalSifter (this tool is called Combined Intelligence because it combines artificial intelligence and human intelligence by following a ‘human-in-the-loop’ principle.)²⁹, LinkSquares AI³⁰, Luminance Corporate³¹, SealNow by Seal Software, so on and so forth.³²

It would be worthwhile to hereinafter state some important examples of the AI powered software and tools used in contract administration and management:

- (a) KIRA: It is a patented machine learning software that identifies, extracts, and analyses content in contracts and documents with accuracy and efficiency.³³
- (b) Contract Intelligence (COiN): In the year 2017, JPMorgan Chase & Co — one of the world’s oldest, largest and best-known financial institutions

²⁰ <https://zuva.ai/about/> (last visited December 13, 2022).

²¹ <https://cloud.google.com/solutions/contract-doc-ai> (last visited December 13, 2022).

²² <https://contractpodai.com/> (last visited December 13, 2022).

²³ <https://dellalegal.com/> (last visited December 13, 2022).

²⁴ <https://www.dfinsolutions.com/products/ebrevia> (last visited December 13, 2022).

²⁵ <https://eigentech.com/solutions/industries/law> (last visited December 13, 2022).

²⁶ <https://www.evisort.com/platform/platform-overview> (last visited December 13, 2022).

²⁷ <https://www.heretik.com/features/heretik-analysis/> (last visited December 13, 2022).

²⁸ <https://kirasystems.com/> (last visited December 13, 2022).

²⁹ <https://www.legalsifter.com/faq> (last visited December 13, 2022).

³⁰ <https://linksquares.com/products/analyze/features/ai/> (last visited December 13, 2022).

³¹ <https://www.luminance.com/product/corporate.html> (last visited December 13, 2022).

³² Noah Waisberg and Adam Roegiest, *A Guide to Evaluating Contract Analysis AI Solutions* <https://www.artificiallawyer.com/2021/12/15/a-guide-to-evaluating-contract-analysis-ai-solutions/> (last visited December 13, 2022).

³³ <https://kirasystems.com/how-kira-works/> (last visited November 03, 2022).

— developed and deployed an unsupervised learning software called COiN (Contract Intelligence) that automates document analysis and review for a certain categories of contracts, by using image recognition to identify patterns in these agreements.³⁴ This software, which operates on machine learning system, can take note of certain patterns based on wording or location of clauses in the agreement.³⁵

- (c) SpotDraft: It is a contract lifecycle management (CLM) software used for making, executing and reviewing contracts faster, thereby reducing time and saving cost.³⁶ A few prominent businesses across the globe employing this AI-driven solution for managing contracts proficiently include: OnDeck, Chargebee, Razor Group, Kaleyra, Whatfix, People 2.0, DarwinBox, EndowUS, and so on.³⁷
- (d) HighQ Contract Analysis: This AI powered contract review and analysis tool has been introduced by Thomson Reuters. It employs ML and pre-trained models and assist legal professionals in augmenting efficiency, fast-tracking contract-review process for transaction due diligence, besides accelerating analysis and compliance assessment.³⁸
- (e) Evisort’s cloud-based AI-powered Contract Intelligence Platform: It instantly tracks key information, dates, and clauses from contracts without any manual review or data entry; answers any question regarding existing contracts of the organisations concerned, and increases negotiation and execution.³⁹
- (f) Contract Review Automation Solution by Lawgeex: Lawgeex has brought out a contract review automation (CRA) solution which uses AI technology for the purpose of reviewing legal documents consistent with the predefined policies of the user/client, and also helps in contract

³⁴<https://d3.harvard.edu/platform-rctom/submission/jp-morgan-coin-a-banks-side-project-spells-disruption-for-the-legal-industry/> (last visited November 05, 2022).

³⁵ *Id.*

³⁶ <https://www.spotdraft.com/techgc-global-summit-2022> 05 November 2022.

³⁷ *Id.*

³⁸<https://www.thomsonreuters.com/en/press-releases/2021/june/thomson-reuters-launches-ai-powered-highq-contract-analysis.html> (last visited December 13, 2022).

³⁹ <https://www.evisort.com/platform/platform-overview> (last visited December 13, 2022).

negotiation with the counter-party like a proficient counsel (by diagnosing and fixing contractual issues all through negotiation while reducing risk), in speedier and more accurate manner.⁴⁰ This AI powered solution is very useful in automating the contract review process during the pre-signature phase for routine, low-to-medium complexity agreements (such as, NDAs, supply agreements, framework agreements, etc).⁴¹ The CRA solution has the following three levels of functionality — Level I (report card):⁴² At this stage the solution assigns risk level to various clauses letting the client know which ones to focus on; Level II (suggested changes): At this stage, the solution provides replacement language suggestions and highlights which sections should be deleted; and Level III (surgical redlining): At this stage, it reviews and redlines contracts, and consequent iterations required to get the contract ready for signature.

- (g) Luminance Corporate: Integrated with Microsoft Word, Luminance Corporate employs AI to augment and accelerate the whole contract lifecycle process, and also helps clients/organisations see all of their contracts in one platform, displaying both ‘the status and workflow of contracts currently under negotiation’ and ‘executed contracts’.⁴³

C. ROSS

ROSS Intelligence (‘ROSS’) builds AI-driven products to enhance cognitive abilities of lawyers.⁴⁴ ROSS, which is powered by IBM’s Watson technology, is a robot lawyer providing assistance in legal research. For example, ROSS helps lawyers and judges find the relevant cases on a particular point. This AI product has an amalgamation of four competencies to offer the best search results every time: (i) machine learning (ii) grammatical structure (iii) word embeddings and

⁴⁰ <https://www.lawgeex.com/> (last visited December 13, 2022).

⁴¹ <https://www.lawgeex.com/cra/> (last visited December 13, 2022).

⁴² *Id.*

⁴³ <https://www.luminance.com/product/corporate.html> (last visited December 13, 2022).

⁴⁴ <https://rossintelligence.com/about-us> (last visited November 08, 2022).

(iv) facts and motions.⁴⁵ The ROSS AI search process can be broken down into three main categories⁴⁶:

- (i) *Understanding*: Upon a query being submitted, ROSS analyses the words using its own proprietary Natural Language Processing algorithms, which automatically apply filters/parameters to focus on search results of the query, for instance ‘jurisdiction’ and ‘time-period’;
- (ii) *Retrieval*: After identifying the search results (e.g. appropriate ‘jurisdiction’ and ‘time-period’) in the query, it will retrieve the passages from the comprehensive corpus of the case laws that are most similar to the meaning of the query submitted, by using a combination of industry standard search functions and proprietary algorithms; and
- (iii) *Ranking*: Having retrieved relevant passages and cases that contain an answer to the query submitted, it uses the AI algorithms to rank them so that the researcher can see the most relevant and appropriate cases first.

D. LegitQuest

It is an Indian Legal-Tech venture. By the use of AI, this platform helps the legal fraternity to research efficiently by providing access to the vast and comprehensive legal database to the users in the most reliable, accurate and speedy manner.⁴⁷ It offers some useful AI based products to the legal fraternity, such as: (i) ZAIAN, which is a real time analyser of case laws; (ii) IDRAF (issue, facts, arguments, reasoning and decision), which helps the user in finding out relevant parts of the judgment; and (iii) Litigation Management Tool, which is used to manage pre and post litigation workflows.

E. Contract Interpretation

The core issue to be addressed is what assistance, if any, AI can render to the court/judge while interpreting a contract. A contract may be either express or

⁴⁵ See <https://rossintelligence.com/what-is-ai> (last visited November 08, 2022).

⁴⁶ See <https://rossintelligence.com/about-us> (last visited November 08, 2022).

⁴⁷ <https://www.legitquest.com/about> (last visited December 12, 2022).

implied. When the existence of a contract is established from the conduct of the parties, it is said to be implied. On the other hand, when the existence of a contract is established from the words used (spoken or written) by the parties, it is said to be express. Language does not have a mathematical precision, consequently, a contract is always to be construed against its context and background, making the phenomenon of contract interpretation all the more fascinating as well as challenging. The principal objective of interpreting the contract, in all the cases, is to ascertain the 'intention of the parties'. The court pursues four main goals of contract law while interpreting a contract:⁴⁸ (i) Effectuating the freedom of contract (upholding the freedom of parties to make contracts) and freedom from contract (safeguarding parties from being bound by a contract unreasonably owing to presence of vitiating factors) by ascertaining and implementing the intention of the parties; (ii) Protecting and enhancing the security of the transaction, by enforcing reasonable expectations arising from the contract (making promisors bound by their promises and enforcing the reasonable reliance placed by the promisees on such promises); (iii) Resolving contractual disputes as per the law; and (iv) Achieving the administrability of the rules and principles.

The court pursues the afore-stated four main goals of contract law while interpreting a contract by performing three tasks:⁴⁹ (i) Identification of the contract/terms whose meaning is to be ascertained. This task is performed by identifying the clause(s) of the contract to be interpreted taking into consideration the disputes in question. (ii) Determination as to whether the terms of the contract are ambiguous and capable of multiple meanings. (iii) Resolution of the ambiguity, if any, by ascertaining 'the meaning' of the terms/contract.

⁴⁸ STEVEN J BURTON, *ELEMENTS OF CONTRACT INTERPRETATION* 1-2 (Oxford University Press 2008).

⁴⁹ *Id.* See also, RYAN CATTERWELL, *A UNIFIED APPROACH TO CONTRACT INTERPRETATION* 1 (Hart Publishing 2020). Catterwell has divided the interpretive process into four steps: (i) defining the question of interpretation; (ii) identifying potential or competing answers/interpretations (each being a potential interpretation); (iii) formulating arguments in support of each interpretation from the admissible materials (the background, the purpose of the contract, the consequences of the competing interpretations, normative factors, such as, business common sense, etc); and (iv) choosing the correct interpretation by weighing and balancing the rival considerations.

In view of the foregoing three tasks performed by the court, the contract interpretation process can be neatly divided into the following four stages, with each stage performing some specific tasks:

- (a) *Stage 1*: Identification of the contract (or the terms/clauses thereof) whose meaning is to be ascertained. In the first stage, the court ascertains whether or not there exists a contract between the parties. If the answer is in affirmative, then, it determines the whole of the contract between the parties, for a contract is always to be interpreted as a whole. In this stage, the court also determines the clause(s) of the contract to be interpreted in view of the disputes in question.
- (b) *Stage 2*: Determination of the nature of dispute. After having determined the whole of the contract between the parties, the court determines the nature of dispute between them. The dispute, for instance, may be regarding the ‘payment clause’, ‘termination clause’, ‘warranty clause’, and so forth.
- (c) *Stage 3*: Determination as to whether the terms or clauses of the contract are ambiguous or not. If the terms are plain, the task of the court becomes patently simple. However, in case of any ambiguity, the court will have to resolve the same. This stage also includes the identification of competing or potential answers to the question of interpretation and arguments in support of each interpretation from the admissible materials, which include the contract as a whole, object of the contract, business common sense, the background to or the context of the transaction (which includes course of dealing, circumstance when the contract was made, trade usages and customs, etc), and so on. The court cannot decline to interpret the contract on account of its terms being ambiguous. Nor will the court straightaway declare the agreement to be void on account of it being uncertain, for one of the duties of the court is to make all possible efforts to save the agreement between the parties by resorting to several expedients and eventually finding the meaning of the agreement. The court will declare an agreement to be void on account of it being uncertain

only if, in spite of resorting to all expedients and making all efforts, the meaning of the agreement cannot be ascertained.⁵⁰

- (d) *Stage 4*: Resolution of the ambiguity, if any, by ascertaining ‘the meaning’ of the contract. This stage involves the evaluation of the potential meanings and competing arguments advanced in support, so as to resolve the dispute. It is in this stage that the court ascertains and states the intention of the parties (i.e. the meaning of the contract or clauses in question) and decides the dispute accordingly.

Theoretically and practically, there are three theories which guide the court for performing the task of contract interpretation (in other words, for performing the foregoing three tasks which the court performs while pursuing the afore-stated four main goals of contract law while interpreting a contract): ‘literal theory’ or literalism (which necessitates contract interpretation consistent with the literal meaning of the directly applicable words used in a contract, without making an allowance for their context), ‘subjective theory’ or subjectivism (which favours to construe a contract in line with the shared meaning the parties attached to the text of the contract) and ‘objective theory’ or objectivism (which takes into consideration a limited context to find the meanings of the parties’ expression as used in the context).⁵¹ The main difference between the aforesaid three theories of contract interpretation is the extent to which the court relies upon the resources or admissible materials. These resources or admissible materials are referred to as ‘elements of contract interpretation’.⁵² This extent is maximum in ‘subjective theory’ or subjectivism and minimum in ‘literal theory’ or literalism, whereas ‘objective theory’ or objectivism occupies the intermediate position. Steven Burton, in his scholarly written book titled, *Elements of Contract Interpretation*, has suggested that a moderate version of objectivism (to be called ‘objective contextual interpretation’) should be the preferred theory of contract interpretation, for it allows the court to consider enough context to avoid criticisms of literalism.⁵³

⁵⁰ Section 29 of the Indian Contract Act, 1872 reads: ‘Agreements, the meaning of which is not certain, or capable of being made certain, are void’.

⁵¹ BURTON, *supra* note 48 at 17-34.

⁵² *Id.* at xiii.

⁵³ *Id.* at 193-226.

As stated above, the contract interpretation is broadly a four-stage process; of which, it is the third and the fourth stages ('determination as to whether the terms or clauses of the contract are ambiguous or not' and 'resolution of the ambiguity, if any, by ascertaining the meaning of the contract') which are perhaps the most time-consuming or the most intensive. These stages, *in alia*, include the identification and assessment of competing or potential answers to the question of interpretation and arguments advanced in support of each interpretation from the admissible materials, in order to resolve the dispute. Technology or AI can play an important role in the second stage. Both the judges and the lawyers can take benefits of the AI driven software for preparation of or comparative assessment of arguments, as also for superior precedents. It is difficult if not impossible to completely rely upon AI in the third and the fourth stages, for these stages deal with issues unique to the contract in question, its parties and the evaluation of the competing arguments, so as to resolve the dispute and ascertain the intention of the parties — and these aspects could be well performed by a human judge rather than AI. AI may be helpful, to some extent, even in the third stage. However, the judge should remain the 'master' and use AI as his 'technical assistant' only — in the different stages of contract interpretation.

III. Automation of Contract Interpretation: Is it Possible

This section critically reconnoiters the extent to which automation is possible in the process of interpretation of contracts. AI has already entered the domain of the Indian judicial system in the form of AI powered software tools, such as, SUPACE and SUVAS. SUPACE stands for the Supreme Court Portal for Assistance in Court's Efficiency and is designed to collect and process relevant facts and laws and makes them available to judges looking for an input for a decision. It aims at assisting judges and judicial officers, so that they understand the case faster and better. The ultimate task of deciding the case, however, is to be performed by the judge only. SUVAS stands for 'Supreme Court Vidhik Anuvaad Software', and is a machine assisted translation tool trained by AI which has the ability of translating English Judicial documents, orders or judgments

into vernacular languages scripts and vice versa.⁵⁴After having indigenously designed and developed an e-Filing Software, which allows advocates and litigants to file their cases online 24x7, the Supreme Court of India, in the year 2020, invited ‘Expression of Interest for engaging a firm for developing Artificial Intelligence Solution for automation of scrutiny of cases in the Supreme Court of India’, for the purpose of understanding and analysing the contents of legal documents (petitions, judgments, and so on) and for automatically classifying them in the relevant categories.⁵⁵

With reference to the interpretation of contracts, AI driven software can meaningfully assist legal professionals for formulating and assessing legal arguments, besides providing with faster and improved inputs on applicable laws and precedents. While identifying competing or potential answers to the question of interpretation and arguments in support of each interpretation from the admissible materials, lawyers and judges can be profoundly aided by technology. Automation in the interpretation of contract can be done in the following possible ways: (i) automation of legal reasoning by logically coding the steps in the chain of reasoning based on algorithm design so that the machine is manually programmed to mimic a legal thought-process or by training a machine with data (ML) so that it can classify and extract new data or make predictions; (ii) automation in formulating interpretive arguments, which depend on the material relied upon to construct the argument; and (iii) automation in the resolution of interpretive disputes, i.e. whether a machine can be trained to assist the judge in assessing arguments in order to arrive at the correct interpretation.⁵⁶

An AI powered software can be very helpful in the second stage of contract interpretation, as the software can evidently present the questions in dispute by skimming through the litigation files. By logically coding the steps in the process or by training a machine with data (i.e. ML) so that it extracts relevant information or predicts outcomes, technology can assist in the formulation of (a limited

⁵⁴ See,

<https://main.sci.gov.in/pdf/Press/press%20release%20for%20law%20day%20celebration.pdf> (last visited November 08, 2022).

⁵⁵ EOI Ref. No.: AI-Scrutiny of Cases/2020/SCI-AM, Date: 24/12/2020. See, https://main.sci.gov.in/pdf/TN/24122020_044510.pdf (last visited December 14, 2022).

⁵⁶ Ryan Catterwell, *Automation in Contract Interpretation*, 12 LAW, INNOVATION AND TECHNOLOGY 81 (2020), <https://ssrn.com/abstract=3542549>

number of) arguments in favour of each possible interpretation and in the assessment of competing considerations to reach the most probable interpretation; nevertheless, there are many arguments that cannot be robotically identified, either through manual coding, ML or a combined approach.⁵⁷ AI powered legal predictive models can undeniably assist the legal counsel in formulating improved arguments for the case, and is equally helpful to the litigants in deciding whether or not to go ahead with litigating the case before the court or arbitration. It could also entice the litigating parties to resolve their dispute through alternative dispute resolution mechanisms.

As regards the last stage of interpretation (resolution of the ambiguity, if any, by ascertaining ‘the meaning’ of the terms/contract), the AI powered software (through ML or otherwise) may assist the judge in predicting outcomes in interpretive disputes; or by means of data analytics, the judge may also profit from some sort of discernment as to how the interpretive dispute should be decided by examining arguments and reasoning in prior judgments on interpretation — nevertheless, there are limits on the extent to which exploration of pattern of arguments in preceding judgments can be relied upon to assist in, or predict, the resolution of an interpretive dispute because each contract dispute is to be resolved in view of its unique facts and circumstances.⁵⁸ The final resolution of an interpretive case can be best done by a human judge on the basis of the appreciation of evidence against the assessment of unique facts and circumstances of the case, given also the fact that a contract is not an isolated act, rather it is a link in the chain of human or business relation. A contract manifests a legal relationship between the two parties. As they get into this relationship for the purpose of achieving some object, therefore, it is not possible to decide their contract dispute without knowing the full context from a human’s perspective. Thus, as a general rule, a perfect generalisation or universalisation with the help of technology is not possible in resolving a contract dispute in its entirety. More so, different cases have diverse degrees of complexity and multifariousness, which encounter the efficiency of the predictive tools and software. The intention of the parties and their expectations provide the central justification for interpretive outcomes; and as the interpretation is a matter of law, therefore, the

⁵⁷ *Id.*

⁵⁸ *Id.*

court may look behind the nomenclature given by the parties to their contract.⁵⁹ Contextual interpretation is inevitable and there is an array of materials that can appropriately form part of the context.⁶⁰ Sometimes the court has to resort to rectifying the contract clause in question if the same was faultily drafted, and because of such drafting ambiguity arises. In such a case, the court does not rewrite the contract. It only rectifies the mistake in order to ascertain the intention of the parties. The court may also resort to other expedients (such as, 'supplying words', 'disregarding or ignoring words' or 'transposing words') to ascertain the actual intention of the parties. These functions which the court performs in exceptional cases possibly cannot be done by any AI powered solution. In appropriate cases, it is also essential for the court to identify and imply any terms or provisions which are implied in the parties' bargain.⁶¹ It is further not necessary that the court will imply terms or provisions only in case of oral contracts or partly written contracts. Courts have resorted to implied terms in the case of considerably detailed contracts in writing as well.⁶² Without human involvement, it will be perchance impossible for any AI powered solution to imply terms where such implication is the demand of justice.

Nonetheless, the assistance (whether in terms of speeding up the resolution process or shortening the period required for disposal) by such predictive tools to the judges/arbitrators cannot be ruled out. It may be helpful in preventing the judgments going incorrect. AI powered software will assist by presenting before the judge relevant (similar or near similar) cases involving same or similar questions of law. In their paper titled, 'Predicting Indian Supreme Court Judgments, Decisions, or Appeals: eLegalls Court Decision Predictor (eLegPredict)', Sugam Sharma, Ritu Shandilya and Swadesh Sharma introduced their ML-enabled legal prediction model and its operational prototype, 'eLegPredict', which predicts the judgments of the Supreme Court of India, by reading the content of the case-document and generating prediction.⁶³ Their paper

⁵⁹ CATHERINE MITCHELL, *INTERPRETATION OF CONTRACTS* 156 (Routledge 2019).

⁶⁰ *Id.*

⁶¹ GERARD MCMEELE, *CONSTRUCTION OF CONTRACTS* 327-328 (Oxford University Press 2017).

⁶² *Id.* at 328.

⁶³ Sugam K. Sharma, Ritu Shandilya and Swadesh Sharma, *Predicting Indian Supreme Court Judgments, Decisions, or Appeals: eLegalls Court Decision Predictor*

claims that the prototype (eLegPredict) was tested over 3072 Supreme Court cases and it was successful in attaining the accuracy level of 76%. On the question whether the process of contract interpretation can be automated applying current technology, the following erudite views of Ryan Catterwell are worth-reproducing:⁶⁴

‘A process of legal reasoning is automated by logically coding the steps in the process or through machine learning (ML), that is, by training a machine with data to extract information or predict outcomes. The challenging aspects of contract interpretation are ... identifying interpretive arguments ... and ... weighing and balancing arguments to arrive at the most probable interpretation... Neither of these ... can be automated entirely, either by logical design or through ML. We can manually program a machine to identify a few forms of interpretive argument. Likewise, data analytics can be applied to extract some relevant interpretive information from prior cases and from the contract itself; that is to say, through ML, we can extract information that forms the basis for at least a few types of interpretive argument. However, contract interpretation involves a wide range of arguments, many of which cannot be automatically identified using current technology. The scope to apply technology in the final stage of contract interpretation is similarly limited, although the best prospects of automation rest in ML. *This is because we cannot design a machine capable of weighing and balancing competing considerations to arrive at the most probable interpretation.* That said, through ML, a machine can provide insight regarding the appropriate resolution to a dispute by analysing argument patterns in prior judgments on contract interpretation. A machine may even be able to predict outcomes in interpretive disputes through quantitative analysis.’

(Emphasis supplied)

Smart Contracts

(*eLegPredict*), XX STATUTE LAW REVIEW 1 (2022). See, <https://arxiv.org/ftp/arxiv/papers/2110/2110.09251.pdf>

⁶⁴ Catterwell, *Automation in Contract Interpretation*, *supra* note 56.

Smart contract is another advancement integrating human behaviour and technology. It is a type of standard form contract wherein the agreement is coded by automators (technocrats), and the coded agreement is self-executing in nature.⁶⁵ The rise of blockchain technology has given stimulus to smart contracts. These contracts are in essence (automated or self-executing) programs that execute contractual obligations and may contain and implement contractual stipulations, as well as invoke physical remedies.⁶⁶ The protagonists of smart contracts believe in the limited role of the court in transactions and consider that all the aspects of contract can be automated. If correctly coded, a smart contract can exclude or reduce the gap-filing role played by the court, making the interpretation easier and more systematic.⁶⁷ However, the proposition — that in smart contracts, the interpretation can be fully automated without any role of the court — is difficult to accept. It is because though certain aspects in smart contracts can be automated; nonetheless, in case the dispute arises between the parties, it is the judge or the arbitrator who will resolve the dispute by resorting to the techniques, mechanisms and principles which are followed in deciding any other contract dispute. With the assistance of automated tools, it is possible to transplant the ‘traditional contracts’ by fixing interpretive rules, and the automated rules can eliminate the default rules of contract law.⁶⁸ Proper computer coding of contracts may, thus, help in reducing ambiguity and, in turn, prove supportive in reducing interpretive disputes. In addition to the prospective impact of smart contracts on the conventional interpretive tasks performed by courts, new tools of decentralised dispute resolution (based on block chain technology), aiming at replacing current dispute resolution systems, are also evolving, in an attempt to become more efficient, more transparent and cheaper than the conventional litigation or arbitration.⁶⁹

⁶⁵ The aim of this paper is not to discuss “smart contracts” and their “types”, or their “formation”, or their “legality”. The reference is being made for the purpose of discussing the interpretive aspects in such coded contracts.

⁶⁶ Eric Tjong Tjin Tai, *Challenges of Smart Contracts*, IN THE CAMBRIDGE HANDBOOK OF SMART CONTRACTS, BLOCKCHAIN TECHNOLOGY AND DIGITAL PLATFORMS 82 (Larry A. Dimatteo, Michel Cannarsa & Cristina Poncibo eds. Cambridge University Press 2020).

⁶⁷ Cannarsa, *supra* note 4 at 113.

⁶⁸ *Id.*

⁶⁹ *Id.* at 114.

IV. Limitations of the Court in using AI for Contract Interpretation

This section highlights the limitations of the court in using AI for the contract interpretation. As contracts are based on a human language, there are limitations on judges and lawyers while relying upon technology (in particular AI) for the purpose of interpretation of contracts owing to the following features of the human language:⁷⁰

- (a) It is not uncommon that language may be ambiguous, for human beings use language against a particular context. AI may not be able to comprehend and recognise the context of the situation.
- (b) Language (meaning of words) changes with time.
- (c) Language has dialects and accents.
- (d) Many words predominantly have the same meaning, but involve degree of nuances.
- (e) Oral conversations could very well be non-linear and have interruptions.

Although a complete automation of contract interpretation is not possible; however, AI can definitely help judges and lawyers in framing/assessing arguments, quickly accessing and finding out relevant or similar cases for precedents, and so on. In other words, AI can be used in the formulation of some interpretive arguments through manual design; ML can be useful in mining relevant interpretive information and in drawing attention to similar cases; and through data analytics, the outcomes in interpretive disputes may be predicted.⁷¹ Further, the assistance, of whatever sort, to be drawn from AI in any of the aspects of contract (including interpretation) has to be employed under the supervision of human beings, who in case of contract administration and management are the contracting parties and in case of contract interpretation while resolving the dispute are judges and arbitrators. That is to say, contract administration and management (including interpretation) cannot be left solely to the AI application (software or tools). As a result, the role of lawyers and judges will remain at all

⁷⁰ TAULLI, *supra* note 9 at 105.

⁷¹ Catterwell, *Automation in Contract Interpretation*, *supra* note 55.

times; yet, with the help of AI, their functioning will get expedited and become more refined, and the chances of errors can also be minimised.

A. Challenges while Employing AI Powered Solutions and Tools for Administration and Management of Contracts

Before concluding the discussion, four important challenges⁷² — while employing AI powered solutions and tools for administration and management of contracts (including interpretation) — ought to be highlighted. *Firstly*, the challenge of logistics. In order to develop algorithms for getting accurate, faster and efficient result, a large amount of data (which may be in the form of statutes, rules, regulations, court judgments, etc) is necessarily to be fed into the AI systems providing for legal solutions.⁷³ Further, it has to be constantly updated, as an AI powered system with obsolete data will give inaccurate results.

Secondly, there is a challenge pertaining to the law and legal system. A probability of something going wrong while employing AI powered solutions and tools for the administration and management of contract, cannot be dismissed. And, as a result of which, the court or the legal professional using such tools and software arrives at a wrong conclusion and the litigant or the client, as the case may be, suffers loss in terms of time, energy and money. Who should be held liable for such loss? Could the AI powered tool/software manufacturing company be made liable for the inaccurate result/conclusion on account of deficiency in manufacturing? The answer to this question should be in affirmative, for the manufacturing company's liability is based on the deficiency of service or malfunctioning of the AI powered tool/software system. Further, could the legal professional not be made liable for employing the AI powered tool/software without following the necessary instructions or protocols, which consequently led to the wrong result/output? The answer to this question should also be in affirmative, for it is the legal professional who employed the tool/software in violation of the necessary instructions or protocols, and thus, the manufacturing company can very well defend itself on this ground.

⁷² Other relevant issues like ethical issue, privacy related issue, criminal liability related issue, national and international security related issue, and so on — are not within the scope of this research paper.

⁷³ RYDER, *supra* note 6 at 164.

Thirdly, challenge with regard to the prediction of court judgments using predictive tools and software. Prediction of the court judgment is a dearly-discussed subject in the present era of AI. Significant emphasis is given to the use of ML and NLP for predicting a court judgment, thereby, helping the judicial system. Nonetheless, the ethical issue of bias is not so much debated. Would excessive reliance on AI for the sake of attaining uniformity or augmenting efficiency not affect the final judgment to be delivered by the judge (by creating bias because of the prediction)? Therefore, a controlled and measured use of AI could be permitted, and the final decision has to be always taken by the human judge.

Fourthly, the infrastructure and human resources related challenge. The biggest impediment in the use of AI in the judicial system (including resolution of contract dispute involving the question of interpretation) is the lack of proficient human resources and adequate infrastructure needed for the same at all the levels. It is predominantly true of a vast country like India. In order to successfully adopt AI in the contract dispute resolution, the legal professional and judges must be well versed with the technology. Further, reasonably adequate information technology based infrastructure should be set up in all the courts at all the levels. Furthermore, there is a need for change in the perception and mind-set, for the approach of professionals of different generations regarding the use of these technologies varies. Therefore, the government has to focus on the capacity and skill building of judges and lawyers in this regard, as also developing AI powered systems in courts with comprehensive data for ensuring accuracy and enhancement.

V. Conclusion

The contract interpretation, essentially a cognitive process, is progressively becoming ever more contentious. By way of employing AI in contract administration and management, businesses can get aid in evaluating risks and opportunities of enterprises, and they may select the best AI techniques and methodology (for example ML, DL or NLP) which will assist contract managers in making contracts and analysing different aspects of contracts; and sooner or later, the world may witness AI innovating even ground-breaking types of

intelligence for systems, humans and machines.⁷⁴ Employment of AI in the field of contracts has started stimulating challenges to legal professionals who have to ensure that these technological developments comply with the founding principles of law.⁷⁵ Concluding the discussion, it can be patently stated that AI cannot replace a judge from the judicial process, for certain functions in the judicial process characteristically require a human judge with human intelligence, human approaches, and human frame of mind. Nevertheless, AI can indisputably assist a judge in the judicial process in multifarious ways. This conclusion is squarely applicable to contracting and resolving a contract dispute. The dominant purpose while interpreting the contract is to ascertain the intention of the parties, which is the meaning of their contract. Even in the process of interpreting a contract, AI can assist the judge to some reasonable extent (be it shortening the time required for deciding a case, or presenting the relevant laws and precedents, or in any other manner). Nonetheless, the process of contract interpretation, even with the help of appropriate technology or AI, cannot be fully automated,⁷⁶ as the human judge will always be needed to finally resolve contract disputes because a contract is a legal relationship between the parties entered into in a context. A human judge with human approach is needed to comprehend the contract taking into account the matrix of facts and the context in which it was entered into. This paper has outlined certain limitations of the AI powered solutions in the process of interpreting contracts, primarily owing to the uniqueness of contracts and their contextual aspects. Further, the government has to work on upgrading the infrastructure of the courts and also on the skill and capacity building of legal professionals, if the judicial system is intending to make greater use of technology in the administration of judicial process. With the further advancement in the field of AI and all its subsets (ML, DL or NLP), the legal community will witness greater applicability and enhanced reliance on these technologies in resolution of disputes (including contract disputes). However, the golden rule is that this scientific advancement is to be used as a well-trained retainer for certain aspects of the judicial process; but, it should never be permitted to become the real master pronouncing judgments in court cases. In times to come, legal scholars will

⁷⁴ Baothman, *supra* note 3 at 149-150.

⁷⁵ Cannarsa, *supra* note 4 at 103.

⁷⁶ This conclusion is in sync with the conclusion arrived at by Ryan Caterwell in his paper titled, *Automation in Contract Interpretation*. See Catterwell, *Automation in Contract Interpretation*, *supra* note 55.

witness many more deep and meticulous researches on the area of employing AI powered solutions for resolving contract law disputes involving the issue of interpretation.