ROLE OF ARTIFICIAL INTELLIGENCE IN REVOLUTIONISING ARBITRATION

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Introduction:

Conflicts are a universal aspect of human interaction, highlighting the urgent need for effective processes to minimise, manage, and ideally resolve disputes. The best dispute resolution process leaves both parties in a better position than they were at the outset. However, this outcome is not always achievable. We believe that high-tech solutions, particularly Artificial Intelligence (AI), can significantly enhance dispute resolution practices. Imagine a scenario where parties involved in a dispute can initiate the resolution process without formal filings; instead, they engage with their AI assistant; be it through a smartphone or an augmented reality (AR) device, to articulate their issues. This innovative approach could streamline communication and facilitate a more efficient resolution process, ultimately leading to better outcomes for all involved.[1]

Regional Trends

Europe

On December 8, 2023, a political agreement was reached among the European Parliament, Commission, and Council regarding the Artificial Intelligence Act of the European Union. This agreement received unanimous endorsement from 27 EU States on 2nd February 2024. The Act introduces a comprehensive regulatory framework that adopts an approach based on risk to manage potential risks associated with AI technologies, aiming to build public trust in these systems. Given the rapid advancements in AI, this legislation is groundbreaking and is representative of a considerable step ahead in the governance of AI across various industries. Additionally, the EU is working on an AI Liability Directive and updating the EU Product Liability Directive to further address issues related to AI.

In parallel, on February 1, 2024, Germany's Federal Ministry of Justice unveiled a draft bill aimed at modernizing its arbitration laws. This draft seeks to enhance Germany's appeal as a prime location for international arbitration by aligning its legal framework with global standards. It incorporates updates reflecting international developments, such as revisions to the UNCITRAL Model Law on International Commercial Arbitration from 2006, and seeks to promote transparency and digitalization within procedural law. Key features include new rules that allow greater flexibility in forming arbitration agreements in commercial transactions.

Now in 2022, UNCITRAL addresses the use of AI and contract automation, aiming to refine the legal framework surrounding these technologies. It stems from a previous proposal emphasizing the need for structured discussions informed by legal experts and businesses utilizing automation in contracts. The document outlines key concepts such as "automated contracting," defined as using automated systems to negotiate, form, and execute contracts with minimal human intervention, and differentiates between "AI in trade" and "AI to trade." It highlights practical applications of automated contracting in areas like high-frequency trading and online transactions, while also noting that these systems often involve third-party vendors. The note advocates building on existing UNCITRAL texts related to electronic transactions to develop new legislative provisions that recognize automated systems in commercial contracting, ensuring clarity and legal recognition of data messages and contracts formed through automation. Overall, it seeks to address emerging legal challenges faced by AI intervention and

1 ESO, You Won't Believe How ChatGPT AI Changed Skyrim Forever!, YOUTUBE, (19 August, 2023), https://www.youtube.com/watch?v=0wCjosz1vOA

automation with respect to international trade.[2]

Alternative Dispute Resolution (ADR) emphasizes procedural justice and fairness, principles that align with the guidelines of the European Commission for developing AI in the EU (European Commission, 2020). As AI technology rapidly evolves, it is crucial to maintain a human-centered approach that prioritizes well-being, transparency, and accountability to foster trust and ensure secure AI usage. This commitment is reflected in existing regulations, such as Article 14 of the General Data Protection Regulation, which elucidates the importance of trustworthy AI systems. Trust in AI is significantly influenced by individuals' understanding of the way their personal data is utilised in decision-making processes.[3]

USA

As per to the Wolters Kluwer Future Ready Lawyer Survey of 2023, 73% of approximately 700 lawyers from the EU and the United States of America anticipate assimilation of generative AI into fields of legal practices in 2024.[4]

The utility of AI in dispute resolution, especially in America, is extensive, exemplified by the American Arbitration Association's tool, "ClauseBuilder." This tool aids individuals and organisations in crafting effective arbitration agreements upon taking into account the specific details of their disputes and their preferences regarding the agreement's components. [5]

The American Arbitration Association-International Centre for Dispute Resolution (AAA-ICDR) offers a variety of tools, including "AI-Powered Transcription" and the "AAAi Lab." The AAAi Lab serves as a resource hub for legal professionals, providing educational materials and guidance on the involvement of AI in alternative dispute resolution.[6][7]

Institutions are using AI to enhance the process of selecting arbitrators by providing a curated list of suitable candidates for each specific dispute. The AI system evaluates various factors, such as the specifics of the case, the number of arbitrations the candidates have successfully completed or currently have pending, their overall experience, the average time they take to issue awards, and potential conflicts of interest. This approach helps ensure that the most qualified arbitrators are chosen for each situation.[8][9]

The White House Office of Science and Technology Policy, on 4th October, 2022, released a *Blueprint for an AI Bill of Rights*, aimed at regulating the set-up, use, and implementation of automated systems. This framework serves as a non-binding guideline rather than a legally enforceable law, meaning it does not alter existing laws or agreements. Despite its non-binding nature, the principles outlined in the AI Bill of Rights can inform the ethical integration of AI in legal proceedings, ensuring a balance between technological progress and the protection of civil rights.

Key principles include the necessity for AI systems to be designed to minimize bias, thereby ensuring equal treatment for all individuals. The framework also stresses the importance of transparency, allowing stakeholders to understand how AI systems reach their conclusions. Additionally, accountability is emphasized, ensuring that both developers and users of AI are responsible for any adverse effects that may arise. Data privacy is another critical principle, particularly given the sensitive nature of legal information involved in these

2 UN Commission on International Trade Law, The Use of Artificial Intelligence and Automation in Contracting, A/CN.9/WG.IV/WP.173 (4-8th April 2022)

3 Shamaise Peters, The Evolution of Alternative Dispute Resolution and Online Dispute Resolution in the European Union, CES Derecho (2021)

4 Wolters Kluwer, Future Ready Lawyer Report (Issued in November 2023)

5 Sean Shih & Eric Chin-Ru Chang, The Application of A.I. in Arbitration: How Far Away Are We from A.I. Arbitrators? 17(1) CONTEMP. ASIA ARB. J. 69, 74 (2024)

6 Kendal Enz, AI-Powered Transcription Revolutionizes AAA-ICDR Arbitration, Enhancing Efficiency and Cost-Effectiveness, AAA ICDR BLOG & NEWS (May 15, 2024), https://www.adr.org/blog/AI-powered%20Transcription%20Revolutionizes%20AAA-ICDR%20Arbitration

7 Steve Errick, AAA Launches New AAAi Lab Offering Products, Education, Guidance & News Resources, AAA ICDR BLOG & NEWS (December 6, 2023), https://www.prnewswire.com/news-releases/aaa-launches-new-aaai-lab-offering-products-education-guidance--news-resources-302004655.html

8 Maria Joao Mimoso, Artificial Intelligence in International Commercial and Investment Arbitration, 3(2) INT'L INV. L.J. 156, 163 (2023)

9 Mel Andrew Schwing, Don't Rage Against the Machine: Why A.I. May Be the Cure for the 'Moral Hazard' of Party Appointments, 36(4) ARB.INT'L 491, 505 (2020)

processes.[10]

Even the Silicon Valley Arbitration and Mediation Center (SVAMC) has established itself as a leader in regulating the utility of AI in arbitration through its *AI Task Force Guidelines on the Use of Artificial Intelligence in Arbitration*[11], released on April 30, 2024. Said Guidelines are designed in three parts; Part I addresses all parties involved in arbitration, Part II focuses on the parties and their representatives, and Part III is dedicated to arbitrators.

The SVAMC Guidelines emphasise the importance of confidentiality, warning all participants—parties, counsel, witnesses, and arbitrators—about the potential risks associated with AI systems that capture and retain user data. Instead of mandating blanket disclosure of AI usage, the guidelines allow arbitral tribunals to decide when specific applications of AI need to be reported.

Additionally, the guidelines recognize that AI tools can sometimes produce misleading outputs known as "hallucinations,"[12] placing a responsibility on lawyers to exercise diligence when using AI.[13] Importantly, arbitrators are prohibited from delegating their decision-making authority to AI systems. While the SVAMC Guidelines provide clear recommendations, they remain general and institution-specific, highlighting the need for further research and training to address confidentiality risks and inherent biases, specifically in international arbitration contexts.[14]

The AAA-ICDR has established *Principles Supporting the Use of AI in Alternative Dispute Resolution* to guide the integration of AI into dispute frameworks . While not all-encompassing, these principles emphasize key values such as confidentiality. independence, equity, and technological competence. They advise law practitioners using AI softwares to ensure expedience, and transparency while aligning AI applications with the best interests of clients and the integrity of the justice system. Furthermore, the Principles encourage stakeholders to view AI as a means to enhance the efficiency, accessibility, and fairness of alternative dispute resolution.

While these Principles represent a positive step toward regulating AI in arbitration, their general nature challenges their effectiveness to best practices rather than providing absolute rules. This lack of specificity may reduce their persuasive power in guiding actual implementation within ADR processes.[15]

Asia

AI, as discussed, has significant scope of involvement in the process of dispute resolution. In recent times, considerable developments have taken place in the Asian region as well. The Hong Kong International Arbitration Centre introduced its *Administered Arbitration Rules*[16] in the end of 2018, requiring arbitral tribunals to utilise technology in implementing suitable procedures. China has developed its AI regulations, striving to balance the scope of development of AI with the extent of legislative control over AI. In addition to that, the *Ethical Norms of New Generation Artificial Intelligence*[17], whose objective is to integrate ethics into all the steps of development and use of AI tools.

Other measures were subsequently brought into effect in to deal with issues related to AI. In the same year, the *Cyberspace Administration of China, the State Administration for Market Regulation* and *the Ministry of Public Security, the Ministry of Industry and Information Technology*[18] in collaboration promulgated the *Provisions on Administration of Algorithmic Recommendation in the Internet Information Service* with the objective of regulating algorithmic discrimination. In 2022, these institutions also developed the *Administrative Provisions on*

10 THE WHITE HOUSE, Blueprint for an A.I. Bill of Rights: Making Automated Systems Work for the American People, (Issued on Nov 4 2024)

11 SVAMC Guidelines on the Use of Artificial Intelligence in Arbitration, SILICON VALLEY ARB. & MEDIATION CTR. (Issued on April 30, 2024)

12 Markus Altenkirch & Raika Hossbach, The New Guidelines on the Use of Artificial Intelligence in Arbitration: Background and Essential Aspects, GLOB. ARB. NEWS (15 May, 2024)

13 SVAMC Guidelines on the Use of Artificial Intelligence in Arbitration, SILICON VALLEY ARB. & MEDIATION CTR. (Issued on April 30, 2024)

14 Sara Migliorini, Automation & Augmentation: Artificial Intelligence in International Arbitration, 1(1) JUS MUNDI ARB. REV. 119, 127 (2024)

15 American Arbitration Association, Principles Supporting the Use of AI in Alternative Dispute Resolution, AM. ARB. ASS'N (Issued on Nov. 2023)

16 HKIAC Administered Arbitration Rules, H.K. INT'L ARB. CTR., art. 13.1 (2018)

17 Ethical Norms for New Generation Artificial Intelligence (2021)

18 AI and Arbitration: China's Efforts, Clyde & Co., (8 February 2024)

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Deep Synthesis in Internet-based Information Services to curb the use of deepfakes. *Opinions on Regulating and Strengthening the Applications of Artificial Intelligence in the Judicial Fields* was also brought into the limelight by China, which puts forth certain principles to be taken into consideration while using AI in dispute resolution. The Opinions, in its entirety, maintained a positive and welcoming approach towards the incorporation of AI in ADR and encouraged the ethical use of the same, limiting any potential involvement to supportive roles only.

In China, AI is being integrated into arbitration in innovative ways beyond traditional uses akin to legal research and case analysis. Arbitration commissions have embraced digitisation, especially during the pandemic, moving case management and hearings online. The updated *CIETAC Arbitration Rules*[19], effective January 2024, promote electronic filing, e-signatures and digital document handling as preferred practices. AI is now used to verify party identities during hearings, provide simultaneous interpretation with automated transcript generation and even review draft awards for errors or inconsistencies, improving efficiency and reducing costs. Looking ahead, there's growing interest in AI tools that predict arbitration outcomes, helping parties assess their positions before committing to a costly process. While some worry about obsolete data or potential biases in predictions, China's policies signal strong support for AI as a tool to enhance dispute resolution, a trend likely to grow throughout the current decade.

In 2023, Taiwan's Judicial Yuan announced plans to introduce AI tools to assist judges in drafting criminal judgments, starting with simpler cases such as drunk driving and account lending. The AI tool, trained on past precedents, would allow judges to input key factors such as the defendant's plea, applicable laws, and whether to reference the indictment as background.[20] Based on these inputs, the AI would generate a draft judgment for the judge ro review and refine. However, due to public concerns about its implementation, the Judicial Yuan decided to postpone the rollout of the tool.

India has also made considerable strides in incorporating technology and AI into dispute resolution. The Supreme Court has recognised the utilisation of technology in several landmark cases, such as *Shakti Bhog Foods Ltd. v. Kola Shipping Ltd*[21]. and *Trimex International FZE Ltd. v. Vedanta Aluminium Ltd.*[22], where the validity of arbitration agreements through email was upheld. Similarly, in *Grid Corpn. Of Orissa Ltd. v. AES Corpn*[23]., the Court allowed electronic communication, such as emails, for appointing arbitrators, and amended Section 7(4)(b) of the Indian Arbitration and Conciliation Act, 1996, to include agreements formed through "electronic means". Tools such as Ravel Law and predictive coding software have already showcased their capability to sort and analyse voluminous data, as seen in *Pyrrho Investments Ltd. v. MWB Property Ltd*[24]., where AI significantly reduced the burden of reviewing voluminous documents.

In 2021, the NITI Aayog published a report by the title *'Designing the Future of Dispute Resolution (The ODR Policy Plan for India), 2021*[25]*'* which recognised the opportunities presented by AI and its potential involvement in the industry of arbitration. The report also identified the need for the Indian legal framework to develop a system integrated said technology, and the need to strengthen its online dispute resolution framework.

The following year saw the Supreme Court's role in the promotion of use of AI, by way of its use of the *Supreme Court Vidhik Anuvaada Software (SUVAS)* which provides its users with AI based translation of legal documents from English to regional languages. The field also saw the introduction of the *Supreme Court Portal for Assistance in Courts Efficiency (SUPACE)*, which helps the digitisation of court processes and procedural aspects.

The India International Arbitration Centre has also, as of recent, partnered with Bhasha Interface for India, to provide language translation and linguistic services, enabling access to arbitration in any

19 CIETAC Arbitration Rules, 2024

20 Courts to Trial AI to Draft Rulings, Taipei Times (27 August 2023)

21 Shakti Bhog Foods Ltd. v. Kola Shipping Ltd (2009) 2 SCC 134

22 Trimex International FZE Ltd. v. Vedanta Aluminium Ltd. (2010) 3 SCC 1

23 Grid Corpn. Of Orissa Ltd. v. AES Corpn 2005 SCC On-Line Ori 78

24 Pyrrho Investments Ltd. v. MWB Property Ltd 2016 EWHC 256

25 NITI Aayog, Designing the Future of Dispute Resolution: The ODR Policy Plan for India (2021)

preferred language. Indian-developed transcription software has also reduced hearing durations, cutting a Supreme Court hearing from 10 days to 3, lowering costs and carbon footprints. [26]

Transforming Arbitration Through Artificial Intelligence

Computers are widely used in many fields, including law, but their potential is often underutilized, mainly relegated to basic tasks like text processing and billing. However, this is changing as AI technologies continue to evolve. The exploration of AI in the legal domain began in 1970 with Bruce Buchanan and Thomas Headrick's influential paper on AI and legal reasoning. Since then, interest in this area has grown significantly, resulting in the establishment of international conferences, associations, and journals dedicated to the interaction of AI and law.[27]

Decision Support System

The increasing complexity of decision-making processes necessitates the development of decision support systems (DSS), particularly in the legal arena, where they can enhance efficiency and accuracy.[28] These systems, often rule-based, assist legal professionals by analysing vast amounts of information, thereby streamlining the decision-making process and mitigating the inefficiencies associated with manual analysis[29]. For instance, systems like Split Up aid in predicting outcomes in family law cases by combining rule-based reasoning with neural networks[30]. As these tools evolve, they hold the potential to significantly improve legal outcomes while remaining under human supervision to ensure accountability.

Expert System

Expert Systems are sophisticated computer programmes designed to replicate human expertise in specific fields, functioning at or above the level of human experts[31]. These systems rely on a heavy knowledge base and an inference engine to analyse information and provide solutions to complex problems, often utilizing past cases for training[32]. In the legal field, Expert Systems can help manage the overwhelming volume of information and automate simpler tasks, thereby improving efficiency in judicial processes[33]. While many existing legal expert systems are relatively simple and focus on tasks like document drafting, there is a growing consensus that combining rule-based and case-based approaches will yield better results in legal applications[34].

Knowledge based System

Knowledge encompasses facts, procedures, and judgment conventions acquired from sources like experts, sensors, or historical data. In AI and law, Knowledge Representation (KR) formalizes this information using logic, ontology, and computation to enable reasoning and inference[35]. Knowledge-based systems are vital in law for managing diverse information—such as norms, cases, and facts—allowing efficient storage, retrieval, and automated analysis to support legal practitioners in handling complex disputes[36]. These systems include key components like a user interface, database, inference engine, and knowledge acquisition module.

Rule based System

Rule-based Systems (RbS) represent a fundamental approach to implementing intelligent

26 Arbitration in the Era of AI: What the Future Holds, SCC Times (8 January 2025)

27 Davide Careneiro., Paulo Novais, Francisco Andrade, John Zeleznikow, José Neves, Online Dispute Resoltuion: AN Artificial Intelligence Perspective, 41:211-240 Artif Intell Rev (2014)

28 Turban, E. Decision support and expert systems: management support systems, Prentice Hall PTR Upper Saddle River, NJ, US (1993)

29 Bonczek, R. H., Holsapple, C. W., & Whinston, A. B., Foundations of decision support systems, Academic Press (1981)

30 Zeleznikow J. & Stranieri A., The split-up system: integrating neural networks and rulebased reasoning in the legal domain, Proceedings of the 5th international conference on Artificial intelligence and law. pp. 185—194 (1995)

31 Susskind, R., Expert Systems in Law: A Jurisprudential Inquiry, Clarendon Press: Oxford (1987)

32 Hayes-Roth, F., Waterman, D. A., & Lenat, D. B., Building expert systems, AddisonWesley Longman Publishing Co., Inc. Boston, MA, USA (1983)

33 Forsyth, R., The Anatomy of Expert Systems, In: Yazdani, M. (ed.) Artificial Intelligence: Principles and Applications, ch. 8, pp. 186-187. Chapman & Hall: London (1986)

34 Popple, J., Legal expert systems: The inadequacy of a rule-based approach, 23(1) Australian Computer Journal, (1991)

35 Sowa, J. F., Knowledge representation: logical, philosophical, and computational foundations, MIT Press (2000)

36 Brachman, R., & Levesque, H, Knowledge Representation and Reasoning, Morgan Kaufmann (2004)

behaviour in artificial intelligence. They encode expert knowledge in the form of IF-THEN rules, where the left side specifies conditions and the right side outlines actions to be taken when those conditions are met. The execution model involves evaluating all rules to create an agenda of applicable actions, which are then executed without a predetermined order.

In the legal domain, RbS can effectively capture and disseminate expert knowledge, making it accessible for various applications. However, challenges arise when attempting to encode extensive legal knowledge into a single system, potentially leading to inefficiencies and difficulties in accurately modelling expert reasoning. Despite these limitations, RbS are widely used in sectors such as banking, insurance, and law due to their simplicity and alignment with rule-based legal reasoning. They provide a structured method for representing knowledge and can be particularly beneficial in legal contexts where practitioners are accustomed to working with rules.

Opportunities Presented by AI

An AI arbitrator is defined as a three-tier concept, wherein different potential phases of AI involvement are discussed. The first phase includes the role of AI as an advisory resort, where the human arbitrators are responsible for granting an award, while AI arbitrators present aid to the former by double-checking their conclusions and resolutions. The second phase presents a situation where human arbitrators and their AI counterparts play an equal role by working in a joint tribunal, where the final decision is reached by way of a joint decree. Human arbitrators fulfil the task of preventing any potentially inhumane outcomes, while AI arbitrators check for potential human errors. The third phase involves complete replacement of human arbitrators with AI, where awards are constructed and passed without any human intervention or control.[37]

Considering the fast-evolving nature of AI, the onset of the first phase is highly likely. However, since arbitration is a complex legal process, involving various aspects to be taken into consideration, such as comprehensive legal knowledge, empathy, human judgment, and experience, the task poses great obstacles to the sustainable growth of an AI arbitrator. Therefore, the discernible scope of AI pertaining to current standards are limited to assistance at various steps of an arbitration proceeding, making complete replacement highly unlikely any time soon.[38]

Step-Wise Involvement of AI

The first step of arbitration, being appointment of an arbitrator, could potentially be aided by AI. From a database, it can analyse past decisions, identify possible biases and assess other relevant factors which play a role in the selection of a suitable arbitrator, making the process highly transparent and judicious. This not only minimises unconscious biases but also ensures fair and impartial selection.[39] AI could also potentially play an instrumental role in bridging differences in legal traditions, which is especially helpful in cases involving parties from diverse legal or cultural backgrounds. By neutralising jurisdictional differences, AI could enable a comprehensive understanding of legal biases and cases, ultimately making the whole process smoother and more efficient, satisfying the very spirit of arbitration.

AI proves to be a gamer-changer in the next steps of arbitration, especially automating processes such as indexing, identifying discrepancies and summarising documents, AI offers significant procedural efficiency, while minimising the risk of human error. Its ability to perform concept-based searches also allows it to quickly locate and extract relevant information, simplifying the otherwise tedious process of document analysis.[40] AI is also capable of creating timeline summaries in a clear and concise manner, both visual and textual, depending upon the preferences of arbitrators, in order to help them, as well as the parties and attorneys to better understand complex facts of cases, making argument

37 Sean Shih and Eric Chin-Ru Chang, The Application of AI in Arbitration: How Far Away are we from AI Arbitrators?, 17(1) Contemporary Asia Arbitration Journal, pp. 69-90 (2024)

38 Ibid.

39 David L. Evans, Stacy Guillon, Ralph Losey, Valdemar Washingon, and Laurel G. Yancey, Dispute Resolution Enhanced: How Arbitrators and Mediators Can Harness Generative AI, 75 Dispute Resolution Journal (2020)

40 Layan Al Fatayri, AI in International Arbitration: What is the Big Deal, The American Review of International Arbitration (2024)

presentation and comprehension far easier.

In addition to that, AI plays a major role in fostering procedural efficiency. Automation of routine procedures, such as case management, coordination and communication helps reduce the scope of delays which often hinder time-efficiency. Standardising these processes is especially helpful in institutional settings, where the volume of cases is high. AI could also speed up drafting of procedural orders, settlements and awards, by analysing past cases and using set templates, therefore ensuring consistency and precision.[41] This would allow arbitrators to dedicate more time to substantive issues of the dispute, all the while ensuring time efficiency in the entire process.

Research is an integral part of any judicial process and AI has proven to be transformative in this aspect as well. By simplifying legal research, AI saves countless hours of scouring the internet and legal databases to find relevant precedents, statutes and other relevant materials. It also helps ensure that the research used is accurate, as well as authentic and properly accessible, which directly contributes to the quality of submissions made, and the understanding of law.[42] AI's capacity to provide up-to-date information also ensures compliance with the latest trends and amendments, especially in dynamic areas such as commercial laws.

Navigating the Challenges

AI has enormous potential to revolutionise arbitration, but it is not without its challenges and risks. One significant issue is fairness and bias. AI systems depend on training data and if the datasets contain cultural, regional or institutional biases, these flaws can become embedded in the AI's outputs, potentially undermining impartiality. Without stringent safeguards and constant oversight, the trust in AI's promise of fairness could erode.[43]

Confidentiality and security are also pressing issues, considering the fact that arbitration often involves sensitive, personal and commercial information which must be protected. However, AI systems call for huge amounts of data, enlarging the risk of breaches, unauthorised access, or misuse. Building and maintaining secure infrastructure, including encryption and data protection protocols, demands significant resources and coordination, which can add cost and complexity to arbitration. A failure to protect sensitive data could not only harm the parties involved, but also the integrity of arbitration as a procedure in itself.

The financial burden of integrating AI into arbitration is another challenge. Developing and maintaining AI systems tailored for arbitration can be extremely expensive, particularly with the need for continuous updates to stay legally compliant. Training arbitrators and practitioners to use these tools effectively adds another layer of cost, which can deter smaller institutions and practitioners, further widening the gap between large organisations and smaller players.

Moreover, dispute resolution requires qualities that only humans are capable of bringing to the table, such as empathy, cognitive judgment, and a general understanding of human interactions. These nuances are essential in arbitration but beyond the capabilities of AI, underscoring the need for human oversight.[44] Over-reliance on AI could lead to oversights and flawed decision making, as AI lack the ability to fully adopt the intricacies of human disputes.[45]

Ethical and accountability concerns add another layer of complexity.[46] The 'Black Box'[47] nature of AI systems brings difficulty in tracing how decisions are made, giving birth to questions about liability and fairness. This lack of transparency limits AI's role to an assistive function rather than replacing human

41 How Arbitrators are Harnessing Artificial Intelligence, AAA ICDR BLOG & NEWS (20 February 2024), https://adr.org/blog/how-arbitrators-are-harnessing-artificial-intelligence

42 William S. Veatch, Artificial Intelligence and Legal Drafting, American Bar Ass'n Legal Analytics Committee Newsletter (April 2019)

43 Elliot Friedman, Marta García Bel, Veronika Timofeeva, & Desmond Chong, Generative AI: Opportunities and Risks in Arbitration, Freshfields (2024)

44 AI Chatbots have Shown They Have an "Empathy Gap" that Children are Likely to Miss, SCIENCEDAILY (July 2024), https://www.sciencedaily.com/releases/2024/07/240710195430.htm

45 AI Can "Fake" Empathy But Also Encourage Nazism, Disturbing Study Suggests, LIVESCIENCE (May 29, 2024), https://www.livescience.com/technology/artificial-intelligence/ai-can-fake-empathy-but-also-encourage-nazism-disturbing-study-suggests\

46 Brian Spisak, Louis B. Rosenberg, & Max Beilby, 13 Principles for Using AI Responsibly, Harvard Business Review (Jun. 30, 2023)

47 Julia Angwin et al., Machine Bias, ProPublica (May 23, 2016)

judgment. For AI to support arbitration effectively, it must be carefully monitored, complementing human oversight rather than replacing it.

Instances of AI misuse in legal proceedings underscore the need for caution and accountability. In the case of *Smith v. Farwell*[48], the Court found that the plaintiff's opposition papers contained fabricated case citations. When interrogated, the plaintiff's counsel initially claimed ignorance, blaming interns for preparing the documents. He later admitted that an AI system generated false citations and conceded that he had failed to verify their accuracy. While the counsel had reviewed the documents for grammar and language, he neglected to confirm the validity of references. This oversight led to the removal of the fictitious citations, and the counsel stated he had since shifted to using trusted legal research tools like LEXIS to avoid such errors in the future.

AI's limitations in providing up-to-date or accurate legal information further complicate its use in arbitration and legal proceedings. Generative language models, while advanced, are constrained by the scope of their training data. For instance, ChatGPT's dataset does not involve information beyond 2021, making it unreliable for recent legal developments and precedents. This poses a major challenge in arbitration, where the most current legal context is often crucial. In extreme cases, courts have penalised attorneys who relied on AI-generated fabricated citations, as seen in *Mata v. Avianca Inc*[49]. and *Smith v. Farwell.* These examples highlight the risks of over-reliance on AI in the legal field , emphasising the need for human oversight and diligent verification to ensure integrity and confidence in legal processes.

Conclusion

While AI offers numerous potential advantages in alternative dispute resolution, it also raises important risks and concerns that must be addressed. As AI technology continues to progress, it is crucial for ADR practitioners and policymakers to carefully evaluate both the merits and risks which come with integrating AI into ADR processes. They must put in place proactive measures to ensure that AI is used responsibly, impartially, and transparently.

However, there is a pressing need for more data and research to assess the effectiveness of AI in ADR. Although some studies and pilot projects exist, further investigation is required to fully understand AI's impact on the ADR process and its outcomes. One of the significant challenges in implementing AI in ADR is the cost associated with developing and maintaining the technology. AI systems demand substantial investments in resources, including data management, computing power, and skilled personnel.

48 Smith v. Farwell, Norfolk, SS. Mass. Superior Court No. 2282CV01197 (February 12, 2024)

49 Mata v. Avianca, Inc., 678 F. Supp. 3d 443 (S.D.N.Y. 2023)