



The Indian Journal for Research in Law and Management

Open Access Law Journal – Copyright © 2026

Editor-in-Chief – Dr. Muktai Deb Chavan; Publisher – Alden Vas; ISSN: 2583-9896

This is an Open Access article distributed under the terms of the Creative Commons Attribution-Non-Commercial-Share Alike 4.0 International (CC-BY-NC-SA 4.0) License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium provided the original work is properly cited.

Can Artificial Intelligence Function as an Arbitrator? A Legal and Ethical Analysis

Mannat Gothwal

Abstract

Justice has always been regarded as a distinctly human responsibility. But as artificial intelligence becomes increasingly capable of performing complex legal tasks, can it also be trusted to decide disputes? This question lies at the heart of the growing debate on the role of artificial intelligence (AI) in arbitration. The expanding use of AI in Online Dispute Resolution (ODR), legal research, document review, and case management has significantly reshaped arbitral practice, raising important questions about whether AI can move beyond assisting decision-makers to functioning as an arbitrator itself. This paper examines the legal and ethical feasibility of AI acting as an arbitrator within the existing framework of international and domestic arbitration law. It explores whether current legal instruments recognise or implicitly exclude AI arbitrators, analyses the ethical concerns associated with AI-driven adjudication, and considers the reforms required for its responsible integration into arbitral proceedings.

Keywords: artificial intelligence, arbitration, dispute resolution, governance, due process, human oversight

Introduction

Artificial intelligence (AI) is no longer a technology confined to research laboratories or science fiction. It has become a part of everyday life, influencing the way businesses operate,

governments function, and legal services are delivered. As international trade and e-commerce have grown, dispute resolution has also evolved to meet changing commercial needs. One of the most significant developments has been the rise of Online Dispute Resolution (ODR), which was initially developed to resolve high-volume, low-value disputes through online negotiation and mediation.¹ Over the years, however, its role has expanded considerably. Today, digital platforms assist with case management, document analysis, and other procedural tasks that were once carried out entirely by human professionals. AI has followed a similar path within the legal profession, where it is increasingly used for legal research, contract analysis, document review, translation, and drafting routine legal documents.²

Arbitration has naturally become one of the areas most receptive to these technological developments. Unlike traditional court proceedings, arbitration is based on party consent and offers considerable procedural flexibility, allowing parties to adopt processes that best suit their dispute. This flexibility has encouraged arbitral institutions and professional bodies to explore the responsible use of AI, leading to the publication of guidelines on its use during arbitral proceedings.³ While these guidelines generally treat AI as a tool to assist arbitrators rather than replace them, they also raise a broader and more challenging question: **can artificial intelligence itself legally perform the role of an arbitrator?** As AI systems become more sophisticated, this question is no longer merely theoretical. It has important implications for the future of international commercial arbitration and for the legal principles that have traditionally governed it.

This paper explores whether existing arbitration laws permit AI to function as an arbitrator and whether future legal developments could make such a possibility feasible. It examines whether international and domestic legal frameworks recognise or implicitly exclude AI arbitrators, and whether the principle of party autonomy can justify their appointment. The paper also considers the ethical issues that accompany AI-driven adjudication, including algorithmic bias, transparency, accountability, due process, confidentiality, and the limits of

¹ NITI Aayog, Designing the Future of Dispute Resolution: The ODR Policy Plan for India 7–9 (2021).

² Tamlyn Mills & Mrithula Shanker, *New Frontiers: Regulating Artificial Intelligence in International Arbitration* (Norton Rose Fulbright, Sept. 2024), <https://www.nortonrosefulbright.com/en/knowledge/publications/3cb82b55/new-frontiers-regulating-artificial-in-telligence-in-international-arbitration>

³ Solicitors Regulation Authority, *Risk Outlook Report: The Use of Artificial Intelligence in the Legal Market* (Nov. 20, 2023), <https://www.sra.org.uk/sra/research-publications/artificial-intelligence-legal-market/>

machine decision-making in disputes that often require context, discretion, and human judgment.

The discussion is primarily confined to international commercial arbitration, while drawing comparative insights from selected jurisdictions to understand how different legal systems are responding to the increasing use of AI in dispute resolution. The research adopts a doctrinal approach supported by comparative analysis of legislation, judicial decisions, institutional guidelines, and scholarly writing. Particular attention is given to the UNCITRAL Model Law on International Commercial Arbitration, the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York Convention), the Indian Arbitration and Conciliation Act, 1996, and recent institutional guidance on AI in arbitration. By analysing these sources together, the paper seeks to assess whether the existing legal framework is equipped to accommodate AI as an autonomous decision-maker or whether its role should remain limited to assisting human arbitrators.

Understanding Artificial Intelligence and Arbitration

Artificial intelligence (AI) is best understood as a broad concept that covers a variety of computational technologies capable of performing tasks traditionally associated with human intelligence. Rather than referring to a single technology, AI includes systems that analyse information, recognise patterns, solve problems, and generate outputs with varying levels of autonomy. The European Union's Artificial Intelligence Act adopts a functional definition by focusing on what an AI system is capable of doing instead of the technology on which it is built. It describes AI systems as those that infer from input data, generate outputs such as predictions, recommendations, or decisions, and may adapt their behaviour after deployment.⁴ Within this wider field, machine learning allows systems to improve through experience gained from data rather than relying solely on pre-programmed instructions. Deep learning builds on this by using multi-layered neural networks to identify complex patterns in large datasets. Generative AI, including systems powered by large language models, can create original text, images, analysis, and other forms of content in response to user prompts. It is this branch of AI that has attracted significant attention in the legal profession because of its growing ability to assist with legal research, drafting, document review, and certain aspects of legal reasoning.

⁴ Regulation (EU) 2024/1689, art. 3(1), 2024 O.J. (L 1689) 1 [hereinafter EU AI Act].

Arbitration is a private and consensual method of dispute resolution through which parties agree to submit existing or future disputes to one or more arbitrators instead of national courts.⁵ Its legitimacy rests on party consent, allowing the parties to choose both the decision-maker and the procedure that will govern the proceedings. Party autonomy, procedural flexibility, neutrality, confidentiality, and the finality of arbitral awards are among its defining features. These principles are reflected in the UNCITRAL Model Law on International Commercial Arbitration, which requires arbitration agreements to be in writing while recognising the parties' freedom to shape the arbitral process.⁶ Arbitration is therefore more than an alternative to litigation. It functions as an independent system of adjudication whose credibility depends not only on a fair procedure but also on the competence, integrity, and impartiality of the individual entrusted with resolving the dispute.

Accordingly, an arbitrator is expected to possess several essential qualities. Independence and impartiality remain the cornerstones, ensuring that the decision-maker has no personal or financial interest capable of influencing the outcome. An arbitrator must also demonstrate the necessary legal or technical expertise, preserve the confidentiality of the proceedings, and exercise sound judgment while delivering a reasoned award.⁷ The UNCITRAL Model Law reinforces these standards by requiring arbitrators to disclose any circumstances that may give rise to justifiable doubts about their independence or impartiality.⁸ The IBA Guidelines on Conflicts of Interest further clarify this obligation by identifying situations in which disclosure, waiver, or disqualification may be appropriate.⁹

Whether an AI system can meet these expectations remains one of the most debated issues in modern arbitration. Supporters argue that AI is not affected by fatigue, personal prejudice, financial interests, or prior relationships with the parties, making it capable of producing more consistent and impartial outcomes than human decision-makers. Critics take a different view. They argue that independence and impartiality require far more than the absence of personal bias. They also demand the ability to recognise, evaluate, and disclose potential conflicts of interest throughout the proceedings. Present-day AI systems cannot exercise this

⁵ Gary B. Born, *International Commercial Arbitration* § 1.01 (3d ed. 2021).

⁶ UNCITRAL Model Law on International Commercial Arbitration, G.A. Res. 40/72, Annex, art. 7 (Dec. 11, 1985), amended by G.A. Res. 61/33, Annex, art. 7 (Dec. 4, 2006) [hereinafter Model Law].

⁷ Nigel Blackaby, Constantine Partasides, Alan Redfern & Martin Hunter, *Redfern and Hunter on International Arbitration* ¶ 1.04 (6th ed. 2015).

⁸ Model Law, *supra* note 6, art. 12.

⁹ Int'l Bar Ass'n, *IBA Guidelines on Conflicts of Interest in International Arbitration* (2014), <https://www.ibanet.org/document?id=guidelines-on-conflicts-of-interest-in-international-arbitration-2014>

degree of legal judgment or self-awareness. In addition, any bias embedded in an AI system often originates from its training data, programming, or design choices, factors that are not always transparent or easy to identify. This lack of explainability remains one of the principal concerns surrounding the use of AI in arbitration and continues to influence institutional approaches to its responsible use.¹⁰

Present Role of AI in Arbitration

AI-Assisted Arbitration

At present, AI is used primarily as a tool that supports the arbitral process rather than replacing the arbitrator's decision-making role. Legal research platforms powered by large language models help identify relevant precedents and comparable arbitral awards. Document review software uses natural language processing to sort large volumes of material by relevance or privilege, while AI-based translation tools make multilingual proceedings faster and more efficient by reducing reliance on human interpreters. Predictive analytics is increasingly used by legal practitioners, and more cautiously by arbitral institutions, to estimate the likely outcome of a dispute or the potential quantum of damages. AI drafting tools are also being used to prepare initial versions of procedural orders, which arbitrators subsequently review, revise, and approve.¹¹ Recognising these developments, both the Silicon Valley Arbitration & Mediation Center and the Chartered Institute of Arbitrators have issued guidance on the responsible use of AI. They emphasise that AI-generated outputs should always be independently verified and that arbitrators must continue to exercise their own judgment instead of relying uncritically on automated analysis.¹²

AI in Online Dispute Resolution

Online Dispute Resolution (ODR) platforms provide the clearest example of AI operating in a role that comes closest to decision-making, although this is largely confined to routine, low value disputes. eBay's Resolution Centre has long relied on automated negotiation and case triage systems to resolve millions of disputes between buyers and sellers each year, with little

¹⁰ Silicon Valley Arb. & Mediation Ctr., *Guidelines on the Use of Artificial Intelligence in Arbitration* (Apr. 30, 2024) [hereinafter SVAMC Guidelines]

¹¹ Norton Rose Fulbright, *supra* note 2.

¹² Chartered Inst. of Arbitrators, *Guideline on the Use of AI in Arbitration* (2025), <https://www.ciarb.org> [hereinafter CI Arb Guideline].

or no human involvement.¹³ In China, the Hangzhou Internet Court, established as part of the country's broader smart court initiative, has introduced an AI powered virtual judge capable of dealing with online trade, copyright, and e-commerce product liability disputes while drawing evidence directly from major digital trading platforms.¹⁴ Modria, an ODR platform originally developed within eBay before becoming an independent company, similarly automates the early stages of dispute assessment and resolution for both government agencies and commercial organisations. These examples show that AI performs effectively in high volume, rule based disputes where the possible outcomes are relatively limited and predictable. They provide far less assurance, however, that AI can undertake the nuanced, fact sensitive reasoning and legal judgment required of arbitrators in complex

Can AI Legally Act as an Arbitrator?

The existing framework of arbitration law was developed on the assumption that the decision-maker would be a human being. The Model Law states that no person shall be disqualified from acting as an arbitrator on the ground of nationality, a provision that implicitly assumes the arbitrator is a natural person capable of possessing a nationality.¹⁵ The Indian Arbitration and Conciliation Act, 1996 follows the same approach by requiring an arbitrator to disclose in writing any circumstances that may give rise to justifiable doubts regarding "his" independence or impartiality. Although this language reflects the drafting style of its time, it also reveals a broader assumption that an arbitrator is a human capable of exercising judgment, making disclosures, and acting independently.¹⁶ Neither the Model Law nor the New York Convention expressly excludes a non-human arbitrator. Even so, their repeated references to personal obligations such as disclosure, recusal, and liability, together with the absence of any recognition of electronic legal personality, strongly suggest that the present legal framework was never designed with AI decision-makers in mind.

Three legal requirements are particularly relevant when considering whether an AI system can be appointed as an arbitrator. The first concerns legal capacity. AI systems have no independent legal personality in any major jurisdiction and therefore cannot hold office, execute legal instruments, or bear personal responsibility for an award. The European

¹³ Simon Chesterman, *All Rise for the Honourable Robot Judge? Using Artificial Intelligence to Regulate AI*, 2023 Tech. & Regul. 45 (2023).

¹⁴ Id.

¹⁵ Model Law, *supra* note 6, art. 11(1).

¹⁶ Arbitration and Conciliation Act, No. 26 of 1996, § 12, India Code (1996) [hereinafter Arbitration Act].

Parliament once considered granting sophisticated AI systems a limited form of electronic personhood but ultimately declined to adopt the proposal.¹⁷ That decision illustrates both the appeal of the idea and the reluctance to recognise AI as an independent legal actor. The second requirement is independence and impartiality, concepts that existing arbitration law treats as obligations of a legal subject capable of making disclosures. The third is the continuing duty to disclose conflicts of interest throughout the proceedings. This duty assumes that the decision-maker can recognise, assess, and reveal circumstances that may affect neutrality. Current AI systems do not possess this form of self-awareness or legal judgment.

Party autonomy remains one of the central principles of arbitration. The Model Law allows parties considerable freedom to determine the procedure governing their dispute, provided they remain within the mandatory requirements of the applicable law.¹⁸ This raises an important question. If both parties knowingly agree to submit their dispute to an AI decision-maker, should the law respect that choice as an expression of party autonomy? The difficulty is that party autonomy operates within the limits of the applicable arbitration law and the public policy of the enforcing state. An agreement between the parties cannot, by itself, override statutory provisions that assume an arbitrator is a natural person, nor can it bind courts that may later be asked to recognise and enforce the award.

Even where both parties consent, enforcing an award rendered by an AI arbitrator presents additional legal difficulties under the New York Convention. Article V(1)(d) allows recognition to be refused where the composition of the arbitral tribunal does not comply with the parties' agreement or, in the absence of such agreement, with the law of the seat of arbitration.¹⁹ Since most national arbitration laws assume that arbitrators are natural persons, an AI generated award may face challenges under this provision even if neither party objected during the proceedings. Article V(2)(b) also permits refusal where enforcement would be contrary to the public policy of the enforcing state, an argument that could be advanced on the ground that the award lacked genuine human judgment and independent deliberation.²⁰ In addition, Article V(1)(b) allows refusal where a party was unable to present its case effectively. Questions may arise if the reasoning of an AI arbitrator cannot be shown

¹⁷ Eur. Parl. Res. of Feb. 16, 2017, with Recommendations to the Comm'n on Civil Law Rules on Robotics, 2015/2103(INL), ¶ 59(f).

¹⁸ Model Law, *supra* note 6, art. 19.

¹⁹ Convention on the Recognition and Enforcement of Foreign Arbitral Awards art. V(1)(d), June 10, 1958, 330 U.N.T.S. 3 [hereinafter New York Convention].

²⁰ New York Convention, *supra* note 19, art. V(2)(b).

to have meaningfully considered the evidence and submissions made by each side.²¹ Taken together, these provisions indicate that, despite its potential efficiency, an award rendered solely by AI would face a significantly greater risk of non-enforcement under the current international arbitration framework.

Ethical Challenges

AI systems trained on historical datasets can reproduce and even reinforce the biases contained within that information. This concern is far from theoretical. In *State v. Loomis*, the Wisconsin Supreme Court considered a due process challenge to the use of the proprietary COMPAS risk assessment algorithm during sentencing. Although the Court permitted its use subject to appropriate safeguards, the case has become a leading example of how an opaque, data driven system can influence significant legal decisions in ways that neither the affected individual nor, to a considerable extent, the court itself can fully examine.²² An AI arbitrator trained on past arbitral awards or settlement data could similarly absorb patterns reflecting the bargaining power of repeat players or systemic biases affecting parties from particular jurisdictions or industries, without providing any meaningful opportunity for those biases to be identified or challenged.

Many advanced AI systems, particularly those based on deep neural networks, generate results through processes that cannot be fully explained, even by their own developers. This is commonly known as the “black box” problem. The European Union AI Act addresses this concern by requiring high risk AI systems to provide sufficient transparency so that users can understand and appropriately rely on their outputs.²³ Arbitration currently lacks a comparable explainability requirement, despite the fact that the legitimacy of an arbitral award depends heavily on clear and reasoned decision making that parties, and where necessary reviewing courts, are able to scrutinise. Without a transparent explanation of how a conclusion was reached, establishing accountability and maintaining confidence in an AI generated award becomes considerably more

The Model Law requires that parties be treated equally and be given a full opportunity to present their case.²⁴ This guarantee extends beyond procedural formality. It assumes a

²¹ New York Convention, *supra* note 19, art. V(1)(b).

²² *State v. Loomis*, 881 N.W.2d 749 (Wis. 2016).

²³ EU AI Act, *supra* note 4, art. 13.

²⁴ Model Law, *supra* note 6, art. 18.

decision maker capable of listening to oral arguments, evaluating witness credibility, and refining its understanding of the dispute as the proceedings unfold. Whether an AI system can genuinely perform these functions, rather than merely processing spoken or written submissions as data, remains an unresolved question. The answer carries significant implications for the right to a fair hearing.

If an AI arbitrator produces a manifestly incorrect award, the question of responsibility remains unresolved. Possible candidates include the developer of the AI model, the arbitral institution that adopted it, the parties who agreed to its use, or the software company that licensed the technology. None of these actors, however, fits comfortably within the existing framework of arbitrator liability, which is built around the personal responsibility, albeit limited, of an identifiable natural person. The decision in *Mata v. Avianca, Inc.* offers a useful comparison. When lawyers relied on a generative AI system that fabricated non-existent judicial authorities, the United States District Court for the Southern District of New York imposed sanctions on the lawyers rather than the AI provider because they failed to verify the output.²⁵ That approach may prove difficult to apply in arbitration, where no comparable human safeguard may exist between the AI system and the final binding award.

Confidentiality has long been regarded as one of arbitration's principal advantages. The increasing use of AI, however, often requires parties to upload commercially sensitive information, trade secrets, or personal data to third party systems whose data handling practices may not always be fully transparent.²⁶ In India, such processing also falls within the scope of the Digital Personal Data Protection Act, 2023, which imposes obligations relating to purpose limitation, lawful processing, and data security.²⁷ Cybersecurity risks further compound these concerns. A breach involving an AI platform used across multiple arbitrations could expose confidential information from numerous unrelated disputes at the same time, creating risks that have little parallel in traditional paper based or file based arbitral proceedings.

Some arbitral functions require more than the mechanical application of legal rules. The Model Law allows an arbitral tribunal, where expressly authorised by the parties, to decide disputes *ex aequo et bono* or as *amiable compositeur*, an approach that depends on fairness

²⁵ *Mata v. Avianca, Inc.*, No. 22-cv-1461 (PKC), 2023 WL 4114965 (S.D.N.Y. June 22, 2023).

²⁶ Norton Rose Fulbright, *supra* note 2.

²⁷ Digital Personal Data Protection Act, No. 22 of 2023, India Code (2023) [hereinafter DPDP Act].

and equitable judgment rather than strict legal rules alone.²⁸ Considerations such as equity, compassion, cultural sensitivity, and moral reasoning are difficult to reduce to algorithms. In such situations, an AI system can only generate outputs based on statistical patterns derived from its training data rather than exercising genuinely independent ethical judgment. This limitation does not necessarily rule out the use of AI in arbitration, but it does suggest that the strongest case for retaining human decision makers lies in those aspects of adjudication that require fairness, discretion, and nuanced judgment beyond what existing AI systems can provide.

Comparative International Perspective

European Union

The European Union has adopted a risk based approach through the AI Act. AI systems capable of significantly affecting the outcome of legal proceedings, including systems used by or on behalf of judicial authorities, are treated as high risk and are therefore subject to requirements relating to risk management, data governance, and human oversight.²⁹ Article 14 specifically requires that such systems remain under effective human control, including the ability to disregard or override AI generated outputs.³⁰ Although the AI Act does not directly regulate arbitration, which remains a private dispute resolution process, its emphasis on human oversight is increasingly viewed as a useful model for arbitral institutions developing their own AI governance standards.

United Kingdom

Reform of the Arbitration Act 1996 culminated in the Arbitration Act 2025, which updated areas such as the governing law of arbitration agreements and arbitrators' disclosure obligations. Significantly, the legislation contains no specific provisions on remote hearings, electronic documentation, or the use of AI in dispute resolution.³¹ Many commentators attribute this omission to the speed of technological change rather than to a deliberate decision to exclude AI from future regulation.³² In the meantime, professional bodies such as

²⁸ Model Law, *supra* note 6, art. 28(3).

²⁹ Justice Speakers Inst., *AI in the Courts: Part Five: Courts of the Future: Innovation, Access, and Global Trends* (2025), <https://justicespeakersinstitute.com/ai-in-the-courts/>

³⁰ EU AI Act, *supra* note 4, art. 14.

³¹ Law Comm'n of Eng. & Wales, *Review of the Arbitration Act 1996: Final Report and Bill* (Law Com. No. 413, 2023).

³² David Turner & Thaysa Panza de Paula, *The Arbitration Act 2025: A Welcome Fine-Tuning of England's Arbitration Law*, Baker Botts (Mar. 20, 2025),

the Solicitors Regulation Authority and the Bar Council have issued guidance on the use of generative AI in legal practice, resulting in a regulator led approach rather than a dedicated arbitration framework.³³

United States

The United States has not enacted a federal statute dealing specifically with AI in arbitration. Instead, much of the guidance has come from private institutions. The Silicon Valley Arbitration & Mediation Center's Guidelines on the Use of Artificial Intelligence in Arbitration, issued in April 2024, were the first international guidelines focused specifically on AI in arbitral proceedings and emphasised human oversight, confidentiality, and appropriate disclosure of AI use.³⁴ American courts have also demonstrated a strong expectation of human verification. In *Mata v. Avianca, Inc.*, sanctions were imposed after lawyers submitted a brief containing fabricated case citations generated by an AI chatbot, reinforcing the view that AI is currently treated as a tool that must be checked by human professionals rather than as an independent source of legal authority.³⁵

Singapore

Singapore has adopted a gradual and structured approach to AI governance in the justice sector. It introduced the Model AI Governance Framework in 2019, emphasising accountability, transparency, and data protection in the deployment of AI systems.³⁶ In September 2024, the Supreme Court of Singapore issued a Registrar's Circular accompanied by a Guide on the Use of Generative Artificial Intelligence Tools by Court Users, requiring that AI generated material submitted to the courts be independently verified for accuracy.³⁷ Although directed at court users, these principles are widely considered relevant to arbitration as well. The Chartered Institute of Arbitrators' 2025 Guideline reflects a similar approach by

<https://www.bakerbotts.com/thought-leadership/publications/2025/march/the-arbitration-act-2025-a-welcome-fine-tuning-of-englands-arbitration-law>

³³ Nicola Cain, *Hand Up: What Laws and Regulations Govern the Development and Use of Artificial Intelligence (AI) in the UK?*, Handley Gill (Nov. 27, 2025),

<https://www.handleygill.co.uk/handley-gill-blog/hand-up-what-laws-regulations-governs-the-development-and-use-of-artificial-intelligence-ai-in-the-uk>

³⁴ SVAMC Guidelines, *supra* note 10.

³⁵ *Mata v. Avianca*, *supra* note 25.

³⁶ Infocomm Media Dev. Auth. & Pers. Data Prot. Comm'n, *Model AI Governance Framework* (1st ed. 2019), <https://www.imda.gov.sg/About-IMDA/Research-and-Statistics/SGDigital/tech-pillars/Artificial-Intelligence>

³⁷ Sup. Ct. of the Republic of Sing., Registrar's Circular No. 1 of 2024: *Guide on the Use of Generative Artificial Intelligence Tools by Court Users* (Sept. 23, 2024), https://www.judiciary.gov.sg/docs/default-source/circulars/2024/registrar%27s_circular_no_1_2024_supreme_court.pdf

treating AI as a research and drafting aid while insisting that arbitrators exercise independent judgment before relying on any AI generated output.³⁸

India

India's Arbitration and Conciliation Act, 1996, even after the 2015 and 2019 amendments, contains no provision dealing specifically with AI decision making. The appointment and disclosure provisions continue to assume a natural person arbitrator.³⁹ India's broader policy on technology enabled dispute resolution has instead developed through executive and institutional initiatives. NITI Aayog's 2021 report, *Designing the Future of Dispute Resolution: The ODR Policy Plan for India*, proposed a phased strategy for expanding online dispute resolution through digital infrastructure, training for neutrals, and targeted procedural reforms, but stopped short of recommending AI as a substitute decision maker.⁴⁰ During the consultations preceding the report, Justice D.Y. Chandrachud, then Chairperson of the Supreme Court's e-Committee, described the initiative as an important examination of the relationship between dispute resolution and technology while indicating that high volume, lower value disputes were more suitable for technology driven processes than complex commercial arbitration.⁴¹ Taken together, India's present legal and policy position supports the use of AI as a tool to improve access to justice in defined categories of disputes, rather than as a replacement for the human arbitrator contemplated by Section 11 of the Arbitration and Conciliation Act.⁴²

Advantages and Risks of AI Arbitrators

The debate over AI in arbitration ultimately involves balancing practical benefits against legal and ethical concerns. While AI offers significant gains in efficiency, consistency, and cost reduction, it also raises serious questions about fairness, accountability, transparency, and due process. The principal arguments on both sides are summarised below:

³⁸ CI Arb Guideline, supra note 12.

³⁹ Arbitration Act, supra note 16.

⁴⁰ NITI Aayog, supra note 1, at 12–15.

⁴¹ Press Info. Bureau, Gov't of India, *NITI Aayog Pushes for Online Dispute Resolution for Speedy Access to Justice* (Nov. 29, 2021), <https://pib.gov.in/PressReleasePage.aspx?PRID=1776202>

⁴² Arbitration Act, supra note 16, § 11.

Advantages	Risks
Speed in processing and analysing voluminous documentary evidence	Lack of empathy and inability to weigh equitable or human considerations
Lower cost relative to senior arbitrator fees and extended hearings	Algorithmic bias inherited from training data
Greater consistency across similar fact patterns	Due process concerns regarding the right to be meaningfully heard
Freedom from personal financial or relational conflicts of interest	Cybersecurity and confidentiality risk in data handling
Continuous availability, unconstrained by arbitrator scheduling	Uncertainty over recognition and enforcement of the resulting award

Overall, AI's greatest strengths lie in supporting the procedural and evidentiary aspects of arbitration, which is also where existing institutional guidance encourages its use. By contrast, the most significant concerns arise at the heart of the arbitral process, namely the delivery of a final, reasoned, and enforceable award. This distinction is critical because it shapes the different models for integrating AI into arbitration that are examined in the following section.

Future of AI Arbitration

Model 1: Human Arbitrator with AI Assistant

This model most closely reflects current practice and aligns with the approach endorsed by both the SVAMC Guidelines and the CIArb Guideline. AI serves as a supporting tool by assisting with legal research, document review, and drafting, while the arbitrator retains sole responsibility for evaluating the evidence, applying the law, and delivering the final award. Because the decision-maker remains a natural person, this model fits comfortably within the existing arbitration framework without requiring legislative change.

Model 2: Hybrid Arbitration

A more advanced model would allow AI to perform clearly defined procedural or evidentiary functions, such as organising document disclosure, conducting preliminary assessments of quantum, or assisting with case management. Decisions on liability, equitable relief, and the final award, however, would continue to rest with the human arbitrator. For this approach to operate effectively, arbitral institutions would need rules that clearly specify which responsibilities may be delegated to AI while ensuring that the arbitrator retains ultimate control and the authority to review or override any AI generated output. This approach is consistent with the principle of human oversight reflected in the EU AI Act.

Model 3: Fully Autonomous AI Arbitration

The most ambitious model would allow AI systems to issue binding arbitral awards without any human involvement in the final decision. Existing ODR platforms provide a limited illustration of this approach in routine, standardised, and low value disputes. Extending it to complex commercial arbitration, however, remains unrealistic under the current legal framework because unresolved issues relating to legal personality, disclosure obligations, due process, and the enforceability of awards continue to present substantial obstacles, as discussed in Section 4.

Among these approaches, the hybrid model appears to be the most practical at present. It captures the proven efficiency of AI in document intensive and procedural aspects of arbitration while preserving the human decision-maker required under existing arbitration legislation and the enforcement framework established by the New York Convention.

Recommendations

Institutional rules should make it clear that a natural person must always retain ultimate responsibility for the arbitral process. While AI may assist by generating research, analysing documents, or offering preliminary assessments, the authority to evaluate that material, disregard it where necessary, and deliver the final decision should remain exclusively with the human arbitrator. This reflects the approach already adopted by both the SVAMC Guidelines and the CIArb Guideline, which consistently treat AI as a decision-support tool rather than a replacement for human judgment.

Greater international consistency is also needed. A harmonised instrument developed at the UNCITRAL level on the use of AI in arbitration would reduce the current fragmentation

created by institution-specific soft law. At the same time, AI systems used during arbitral proceedings should satisfy minimum standards of explainability so that parties, tribunals, and reviewing courts are able to understand and scrutinise the basis on which an AI-generated output has been produced.

Transparency should form another essential safeguard. Both parties and arbitrators ought to disclose any material use of AI tools at the beginning of proceedings and whenever such use becomes significant during the arbitration. In parallel, arbitral institutions could establish certification or accreditation mechanisms for AI systems used in proceedings, assessing factors such as algorithmic bias, the provenance of training data, and compliance with recognised security standards. Institutions should also require robust baseline cybersecurity measures for every AI tool that processes confidential arbitral information in order to protect sensitive commercial data.

Finally, jurisdictions that intend to accommodate AI more formally should avoid leaving the issue to implication under statutes drafted with only human arbitrators in mind. Instead, arbitration legislation should be amended where necessary to define the permissible role of AI, clarify applicable disclosure obligations, and establish an appropriate framework governing responsibility and liability for its use.

Conclusion

Artificial intelligence is steadily reshaping arbitration by improving legal research, document review, and the early resolution of high-volume consumer disputes. At the same time, the legal framework governing arbitration, including the UNCITRAL Model Law, the New York Convention, and the Indian Arbitration and Conciliation Act, 1996, was drafted on the assumption that the decision-maker would be a human being. Its provisions on appointment, disclosure, legal capacity, and enforcement continue to reflect that assumption and do not readily accommodate an AI arbitrator.

This legal gap is reinforced by significant ethical concerns. Issues such as algorithmic bias, the lack of transparency associated with black-box systems, due process challenges, unresolved questions of accountability, and the inability of AI to replicate the equitable, contextual, and culturally sensitive judgment often required in arbitration continue to limit its role. A comparative study of developments in the European Union, the United Kingdom, the

United States, Singapore, and India reveals a common direction. Across jurisdictions, lawmakers, courts, and arbitral institutions have consistently favoured mandatory human oversight while encouraging the responsible use of AI as a supporting tool.

Against this background, a hybrid model in which AI assists but does not replace the human arbitrator remains the most practical and legally sustainable approach. Any future reform should therefore proceed cautiously by strengthening disclosure obligations, developing clear standards of explainability, and promoting greater harmonisation of institutional guidance. In this way, technological innovation can be integrated into arbitral practice without compromising the fairness, independence, and due process that have long formed the foundation of arbitration as a trusted system of binding dispute resolution.