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Artificial Intelligence in Arbitration: Opportunities and Regulatory Challenges

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ABSTRACT

Recently, new guidelines on the use of Artificial Intelligence (AI) in arbitration marked a significant development in the evolving landscape of the dispute resolution process. In this article, we reviewed those guidelines, comparing historical development of AI integration in arbitral practice and examines key concepts behind these guidelines, with a particular focus on compliance, ethical responsibilities, and confidentiality. The examination of the results placed in perspective procedures for safeguarding procedural fairness, highlighting the autonomy of decision-making authority. The paper also discloses best managerial practices on the use of AI in arbitration, including compliance, preservation of the integrity of proceedings, and avoidance of the misuse of private information. The study offers guidance to scholars, managers, decision-makers and practitioners, in addressing the sophisticated ethical and regulatory challenges of AI in arbitration, setting the foundation for policymaking and future research on this fast-moving practice area.

Keywords: Artificial Intelligence, Generative AI, International Arbitration Guidelines.

INTRODUCTION

Firstly, the term artificial intelligence was introduced in 1956, with Alan Turing's 1950 work exploring the mathematical potential of AI (Anyoha, 2017). Early efforts at complex tasks, like language acquisition, mostly failed (Malhoutra & Ahmad, 2022). However, the integration of AI into arbitration and legal practices has been recently investigated, which integration is frequently studied in phases (Al-Kemawee, 2024; Surden, 2018). The first phase, known as the Early Concepts and "The Golden Age" period (1950-1970), saw computer scientists working to develop algorithms that mimic human intelligence by understanding and replicating cognitive processes (Malhoutra & Ahmad, 2022). The second phase was called Expert Systems and Legal Tech Emergence (1980s-1990s), as this period saw the development of "Expert Legal Systems" that offered specialized advice in narrow legal areas (Ijuo, 2025). The expansion of electronic document storage (e.g., LexisNexis) and personal computers significantly sped up legal processes (Saleem, 2024). The "Big Data" era (2000-2020) drove Artificial Intelligence (AI) advancements, with AI learning from large datasets instead of manual rule-writing (Malhoutra & Ahmad, 2022). This led to improvements in machine learning and neural networks (Malhoutra & Ahmad, 2022). AI is becoming integral to daily life due to "Big Data" growth and advances in Machine Learning (ML) and Natural Language Processing (NLP) (Ben-Ari et al.,

2017; Ijuo, 2025). Integrating law with AI offers significant opportunities to improve legal practice quality and efficiency (Al-Kemawee, 2024). AI is being used in legal tech for research, prediction, and document review (Saleem, 2024). Finally, the GenAI Revolution (Post-2022) is marked with the launching of OpenAI's ChatGPT in November 2022, marking a "significant transformation," bringing GenAI to widespread awareness and use by both the general public and professionals (McNamara, 2025; Broyde & Mei, 2024; Saleem, 2024). GenAI offers more natural, context-aware, and flexible interactions (Broyde & Mei, 2024). Although early discussion concerned AI replacing human judgment, the general view among mediators and arbitrators today is of AI as mostly a "improvement" tool to promote efficiency, provide deeper insights, and increase accuracy (Evans et al., 2023). Arbitration is currently acknowledged as a starting point for broader application of AI in the alternative dispute resolution method and legal process, due to its party autonomy and flexibility (Broyde & Mei, 2024). Its growing "judicialization" makes it an appropriate arena to test the integration of AI (Broyde & Mei, 2024). In comparison, China has AI in its judiciary since 2017 when it launched "smart courts" and "robot judges" in the Guangzhou Arbitration Commission (Cardoso et al., 2024).

USE OF AI IN ARBITRATION

AI is expected to be used in various areas of international arbitration, including selecting arbitrators, conducting legal research, drafting documents, proofreading, translating cases, managing cases, estimating costs, and drafting standard award sections (Malhoutra & Ahmad, 2022). At first, many lawyers thought its impact on their field would be small (Malhoutra & Ahmad, 2022). However, AI has now become a rapidly expanding sector in the legal industry (Malhoutra & Ahmad, 2022). The growing use of Artificial Intelligence (AI) in arbitration has led to the publication of guidelines and rules by major arbitration institutions on how it should be used. These guidelines are meant to encourage the responsible and effective use of AI tools while protecting basic arbitration principles like confidentiality, due process, fairness, and the ability to enforce awards. New guidelines and rules for AI technologies usually focus on "wise planning, transparency, fairness, justness, and prudence" (Al-Kemawee, 2024, citing Surden, 2018).

The Evolution of the Guides and Rules for the Use of AI in Arbitration

The landscape of AI and Generative AI (GenAI) in Arbitration and Alternative Dispute Resolution (ADR) is evolving rapidly, resulting in no single, universally accepted best practices guide. This fragmentation is driven by factors such as diverse applications and purposes, different databases and training methods (Cardoso et al., 2024; Scherer, 2019), fast technological advances (Broyde & Mei, 2024; Saleem, 2024), jurisdictional and institutional variations (Cardoso et al., 2024; Socol de la Osa & Remolina, 2024; McNamara, 2025), and the 'Black Box' phenomenon (Cardoso et al., 2024; Awoyomi, 2023).

Literature Review on Artificial Intelligence (AI)

AI is commonly referred to as machines with the capability to execute activities related to human thinking, such as interpreting natural language, detecting semantic patterns, and generating human-like outputs. SVAMC (2024) is of the view that AI is software code that performs tasks, classically the domain of human intellect, such as processing natural language, identifying semantic patterns, and generating outputs like human language. VIAC (2025) avoids adopting a static definition, acknowledging the hurricane pace of technological progress in AI

and the risk that such a definition will be outdated the moment it goes to print. The new policy makes a distinction between generative AI and other new-generation AI technologies. Generative AI refers to those tools that employ deep learning models capable of producing narrative content, computer code, financial reports, mathematical proofs, graphics, or other product substitutes or material transformations of human output. These other types of AI, such as evaluative or discriminative AI, perform very significant roles in arbitration, including legal research, document review, translation, transcription, recommendation, and classification activities. These programs typically use machine learning software to identify complicated patterns and make predictions based on learned data sets. VIAC (2025) mentions the increasing range of AI usage in Arbitration, from natural language processing programs to evidence analysis and drafting support but is not precise regarding application. These differences underscore that generative AI is best publicized, but other advanced AI technologies as well facilitate greater efficiency, accuracy, and strategic decision-making in arbitration. Its use also must withstand the test of ethical and regulatory demands. The AI practices in arbitration do not replace or substitute for mandatory rules, ethical duties, or professional standards. The AI practices are intended to supplement current laws, regulations, policies, and institutional regulations. The CIArb Guideline (2025) and SVAMC (2024) emphasize the importance of broad policies and governance regimes. As advanced AI technology progresses, these guidelines will dictate best practices and steer future international arbitration rules, e.g.:

Compliance: AI systems must adhere to legal frameworks that include monitoring mechanisms such as inspections, performance assessments, and controls (Al-Kemawee, 2024). The process of 'datafication' within the legal system raises concerns about adherence to due process norms (Broyde & Mei, 2024).

Ethical Responsibilities: Generative AI use implies in ethical concerns regarding consent, due to the lack of privacy, and impacts on democracy and personal autonomy (Broyde & Mei, 2024). AI chatbots can exhibit an "empathy gap" and perpetuate biases (Broyde & Mei, 2024). A program is unable to "accurately identify the ethical and moral considerations of a given scenario or event" (Imam & Ahmed, 2024). Ethical principles for trustworthy AI emphasize fairness, privacy, transparency, and accountability (Cardoso et al., 2024).

Accountability: AI systems' lack of transparency can lead to an "accountability deficit" (Broyde & Mei, 2024). Arbitrators must remain fully responsible for their decisions, even with AI support, and be able to explain and justify them (Cardoso et al., 2024). The MIT guidelines emphasize accountability and oversight (Cardoso et al., 2024).

Transparency and Explainability: These are essential ethical principles. Transparency involves making AI system operations public and understandable (Al-Kemawee, 2024). Explainability means tracing how an AI system uses data to reach its conclusions (Cardoso et al., 2024). The "black box" phenomenon, where complex neural networks hide reasoning, is a major challenge (Cardoso et al., 2024; Awoyomi, 2023; Broyde & Mei, 2024).

Confidentiality: Protecting sensitive data is crucial when sharing information with AI tools. While some platforms assert strong privacy protections, others have default settings that allow data to be used for monitoring abuse or training models (Evans et al., 2023). Users should

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carefully review privacy policies before sharing confidential details (Evans et al., 2023). Lawyers might need to certify that AI use has not resulted in the disclosure of privileged information (Saleem, 2024; Cardoso et al., 2024). Sharing confidential client data with general LLM chatbots "would run the risk of ethical violations or waiver of the privilege" (Murray, 2023). The MIT guidelines highlight the importance of confidentiality obligations (Cardoso et al., 2024).

Supporting Theory: Unified Acceptance of Information Technology (UTAUT)

The Unified Acceptance of Information Technology (UTAUT) was chosen to support this work because it is a theory created by Venkatesh et al. (2003) that aims to explain how people accept the use of technology and their behavior when using it. The UTAUT theory comprises four determinants: (a) effort expectation, (b) performance expectation, (c) social influence, and (d) enabling circumstances. Factors (a), (b), and (c) predict users' intention behavior, while the fourth factor directly predicts the usage behavior. These determinants, in turn, are moderated by gender, age, voluntariness, and experience to predict behavior when adopting new technologies that use information systems (Venkatesh et al., 2003). In the case of AI use in arbitration, the adoption the adoption of new technology has divided opinions: while some people accept the use of AI as a technology that has come to revolutionize and simplify arbitration processes in general, that is, they perceive value in the use of AI in arbitration (Acero, 2025; Florescu, 2024), others still show a certain distrust in the adoption of new technology as a powerful ally for dispute resolution (Araluce, 2024; Rauch, 2024). In all cases, the UTAUT theory predicts how users adapt their behaviors to the adoption of new technologies, such as the application of AI in arbitration.

Benefits of Using AI in Arbitration

The Chartered Institute of Arbitrators (CIArb, 2025) highlights several benefits of integrating AI into arbitration. AI boosts efficiency and quality by enabling parties and tribunals to handle large data sets, streamline legal research, enhance drafting, and accelerate procedural tasks. Natural language processing (NLP) tools can produce customized research results and quickly and accurately summarize complex legal issues, surpassing traditional search engines. Additionally, the conscient use of AI reduces costs, automates repetitive administrative tasks, helps prioritize cases, and retrieves data within seconds (Al-Kemawee, 2024). It can also improve the efficiency of resolving cases and alleviating resource pressures (Socol de la Osa & Remolina, 2024, p. 4). Given that international arbitration is often costly and slow, AI could offer substantial improvements (Malhoutra & Ahm ad, 2022). Furthermore, AI supports data analysis by identifying patterns in extensive datasets, detecting inconsistencies, and objectively synthesizing information (CIArb, 2025). AI-driven tools can enhance online searches, analyze legal databases, extract relevant data, and present it in a clear and accessible manner (Al-Kemawee, 2024). GenAI can provide insights and summaries that might otherwise be overlooked (Socol de la Osa & Remolina, 2024). Generative AI provides valuable support in drafting by producing coherent narrative texts, legal analyses, computer code, and graphics, as outlined by CIArb (2025) and elaborated by Hogan Lovells (2025). They emphasize that, with proper supervision, generative AI tools can improve clarity and accuracy in written submissions. AI can assist in draft creation by suggesting language, verifying compliance, and analyzing previous versions (Al-Kemawee, 2024). Additionally, tools are available to automate contract reviews, generate redlines, and highlight key clauses (Al-Kemawee, 2024).

AI enhances evidence management by offering tools for quick document review and analysis, accelerating the process of fact-finding. Translation and transcription tools improve accessibility in multilingual environments. These features promote fair treatment for all, particularly supporting under-resourced participants by providing advanced tools at a lower cost (CIArb, 2025; SVAMC, 2024). When trained on internal decisions, GenAI can assist judges in maintaining consistency in jurisprudence, leading to clearer precedents and increased predictability (Socol de la Osa & Remolina, 2024). AI can also support more objective, bias-aware decision-making (Broyde & Mei, 2024). AI also has the potential to broaden access to justice by improving efficiency and supporting the rule of law (Socol de la Osa & Remolina, 2024). It can help individuals lacking legal expertise present arguments clearly (Broyde & Mei, 2024). Some believe that AI models offer the benefit of "algorithmic impartiality and infallibility" compared to humans, who are disposed to cognitive biases (Malhoutra & Ahmad, 2022; Imam & Ahmed, 2024). GenAI can process and analyze data more quickly than humans, reducing costs and speeding up decision-making (Broyde & Mei, 2024; Imam & Ahmed, 2024; Murray, 2023). Automated conflict resolution systems can settle millions of disputes without human involvement, bypassing human biases, fatigue, and emotions (Ben-Ari et al., 2017).

Risks of AI Use in Arbitration

However, the experts cite significant risks. Confidentiality and data protection are top concerns due to AI systems' dependence on input data that can violate privacy when processed over public interfaces. Altenkirch (2024) warns that most generative AI models, like ChatGPT, record user inputs and outputs, which can expose confidential or privileged information. Similarly, SVAMC (2024) and VIAC (2025) also highlight rigorous scrutiny and authorization before sharing confidential material with AI systems. Algorithmic bias is another serious threat where the output may reflect prejudice or error in training data, undermining fairness and objectivity. Reddy and Singh (2024) observe the absence of effective regulatory frameworks to offset bias threats, warning that unmanaged dependence on AI tools could jeopardize the enforceability of awards and the integrity of arbitral awards. AI systems tend to perpetuate unintentionally embedded biases in training data, resulting in discriminatory outcomes (Socol de la Osa & Remolina, 2024; Al-Kemawee, 2024; Malhoutra & Ahmad, 2022). Bias is against standardizing juridical outputs, where uniformity of AI-generated content risks overwhelming judicial diversity based on varied perspectives and context analysis (Socol de la Osa & Remolina, 2024). AI systems inherently amplify and reinforce the biases in the training data, leading to discriminatory outputs (Socol de la Osa & Remolina, 2024; Al-Kemawee, 2024; Malhoutra & Ahmad, 2022; Broyde & Mei, 2024; Imam & Ahmed, 2024; Awoyomi, 2023). This issue, "bias amplification," can arise even when the training data are previous judicial rulings (Socol de la Ola & Remolina, 2024).

A common saying is that AI models are only as good as the data they are trained on. If the data they are trained on is "tainted" or “polluted” with human biases, the algorithm can reinforce and even compound these biases (Malhoutra & Ahmad, 2022). AI models can also suffer from policy changes since they rely on past data and may not be able to keep up with instant policy changes, thus possibly causing the continuation of "conservative" methods that can end up conflicting with recent legal advances (Malhoutra & Ahmad, 2022). GenAI can generate text that looks real even if it is replete with factual errors or entirely fabricated (Socol de la Osa & Remolina, 2024; Imam & Ahmed, 2024; Evans et al., 2023; Murray, 2023; Murray, 2023). This

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"AI hallucination" decreases reliability (Socol de la Osa & Remolina, 2024). As noted above, the benefit of AI is to increase access to justice, but also to bring about inequalities in access to justice. While AI can potentially make things more efficient, unequal adoption due to the differences in resources among jurisdictions can widen the gap in access to justice (Socol de la Osa & Remolina, 2024). The "black box" phenomenon makes AI use more difficult because opaque or closed algorithms prevent users from easily justifying or scrutinizing outputs (CIArb, 2025). As a result, their decision-making processes become complex and hard to interpret (Socol de la Osa & Remolina, 2024; Al-Kemawee, 2024; Cardoso et al., 2024; Awoyomi, 2023; Broyde & Mei, 2024). Professionals debate whether these problems are purely theoretical or if they pose immediate practical risks. Souza-McMurtrie (2025) suggests that current guidelines may only address hypothetical issues without real-world grounding and warns against rushing regulation. This situation risks undermining accountability and due process (Socol de la Osa & Remolina, 2024). Finally, AI's high energy consumption raises environmental concerns (CIArb, 2025), while risks to due process and enforceability emerge if AI influences legal analysis or prioritization of evidence without sufficient human oversight.

GENERAL SUGGESTIONS FOR THE USE OF AI IN ARBITRATION

As we move towards the adoption of Artificial Intelligence (AI) in Arbitration, experts are considering how best to responsibly maximize its advantages. The Chartered Institute of Arbitrators (CIArb) states that parties and arbitrators ought to engage AI technology with a critical perspective, questioning their functions, limitations, and vulnerabilities, and regulating through the law, rules, and ethics. Meanwhile, Hogan Lovells is calling for education of arbitration specialists to understand AI's promise, commenting that well-informed application can preclude over-dependence and reduce operational risks. The International Chamber of Commerce (ICC) has also provided critical inputs, listing crucial considerations for AI implementation such as building stable infrastructure, protecting proprietary information, managing implicit biases, and implementing clear regulatory frameworks. Not everyone agrees, though. There are some who worry that prematurely published guidelines would be too vague and cause confusion. Others consider soft law frameworks to be a dynamic solution, promoting innovation while guaranteeing ethics. Ultimately, guidelines are supposed to supplement existing frameworks, and the application of AI to arbitration must concentrate on core principles like party autonomy, due process, and enforceability. By establishing the right balance, we can harvest the potential of AI without compromising the integrity of the arbitration process.

SVAMC GUIDELINES: INTEGRATED ANALYSIS WITH PROFESSIONAL COMMENTS

After the literature review and analyses on the use of AI in Arbitration were presented, in August 2025, the guideline considered most comprehensive to guide the use of AI in Arbitration is the SVAMC, which is further detailed below, with contributions from CIArb and VIAC.

Guidelines for All Parties in Arbitrations

Guideline 1: The first SVAMC (2024) guideline focuses on the understanding of the uses, limitations, and risks. It requires all parties to make diligent efforts at understanding each AI tool's intended application, limitations, and risks. This aligns with CIArb's (2025) call for intelligent AI use and due care. As Mülchi (2025) puts it, professionals are shifting now from the early excitement regarding generative AI towards a functional focus on workflow

automation and risk assessment, underlining the need for arbitration professionals to move beyond adoption towards strategic consideration of AI capabilities, especially against the backdrop of the fragmented and rapidly evolving legal tech landscape (Mülchi, 2025). *Guideline 2:* The second SVAMC (2024) guideline focuses on the protection of confidentiality and says that there is no general obligation to disclose, but advises consideration of each case ad hoc. This stance has been criticized. Souza-McMurtrie (2025) argues that the approach can cause vagueness since CIArb suggests disclosure is generally required where AI affects evidence or procedural fairness, and VIAC suggests a middle-ground discretionary model. The inconsistency means there is no consistency in disclosure standards, and these can be vague for arbitrators and parties in cross-institutional cases.

Guidelines for Party Representatives and Parties

Guideline 3: In this third guideline, SVAMC (2024) focuses on the duty of diligence or competence and requires party representatives to maintain factual and legal accuracy of AI outputs. Hogan Lovells (2025) suggests that AI tools have the potential to improve research time and drafting quality but are susceptible to errors and hallucinations and therefore require human control to ensure credibility and prevent strategic misuse. CIArb (2025) and VIAC (2025) emphasize that such duties are non-delegable, and the employment of AI does not reduce professional obligation. Reddy and Singh (2024) also underscore the risk of algorithmic prejudice, terming blind reliance on it as likely to lead to legal and procedural issues. *Guideline 4:* This Guideline is defined by SVAMC (2024) to ensure the integrity of procedures and evidence. This provision prohibits the use of AI to deceive or manipulate facts, thereby maintaining arbitration integrity (SVAMC, 2024). Altenkirch (2024) states increasing concern over the authority of generative AI in creating convincing but false documents, calling for tightened rules to maintain public confidence in arbitral awards. ICC (2018) further emphasizes the requirement for fair innovation that retains the moral standards and promotes due process.

Guidelines for Arbitrators

Guideline 5: In this Guideline, SVAMC (2024) explicitly prohibits the delegation of decisions, prevents arbitrators from delegating the decision-making to AI, and ensures human responsibility is maintained. Souza-McMurtrie (2025) laments that the current guidelines are harmonious in theory but operationally conflicting, with CIArb advocating caution and party consultation even in low-risk applications of AI, while SVAMC allows greater flexibility. This difference may weaken the foreseeability of proceedings, especially in multi-institutional cases.

Guideline 6: SVAMC (2024) in this Guideline requires respect for due process, mandates arbitrators to disclose reliance on AI-generated material beyond the record in order to be fair. Nevertheless, professionals observe that while this facilitates openness, excessive regulation may hinder innovation. Altenkirch (2024) cautions that excessive disclosure may bog parties down with technicalities, whereas Reddy and Singh (2024) advocate for a middle path that combines the advantages of AI with protection of procedural integrity.

ACADEMIC ANALYSIS OF AI USAGE IN ARBITRATION

AI and GenAI are utilized to a limited extent in drafting legal papers, case overviews, agreements, arguments, emails, and letters (Saleem, 2024; Murray, 2023; Murray, 2023). They also aid in legal analysis and research, recommending legal options, creating background

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material, conducting fact investigations, summarizing the basics of the law, and evaluating judicial decisions (Saleem, 2024; Murray, 2023; McNamara, 2025). In addition, AI software facilitates rapid examination and translation of large volumes of documents (Murray, 2023). AI and GenAI employ predictive analytics to examine documents and forecast case outcomes from past precedents (Cardoso et al., 2024; Saleem, 2024). AI facilitates review of compliance, legal risks, and regulatory compliance as well (Ben-Ari et al., 2017). Moreover, AI provides strategic recommendations via the identification of legal inconsistencies and idea generation for intricate legal issues (Imam & Ahmed, 2024). The key limitations of AI and GenAI are factual accuracy and hallucination problems, wherein they guarantee with certainty the generation of false or fabricated content, e.g., fabricated citations and cases (Saleem, 2024; Murray, 2023; Murray, 2023; Socol de la Osa & Remolina, 2024). AI systems "do not 'know' what it is talking about" (Murray, 2023). They find it challenging to understand contextual knowledge, reasoning, interpreting purposeful laws, and grasp subtlety and ethical rights (Imam & Ahmed, 2024; Broyde & Mei, 2024; Cardoso et al., 2024; Murray, 2023; Socol de la Osa & Remolina, 2024). Some of the other weaknesses of AI include its lack of human intuition, wisdom, ethics, and professionalism (Murray, 2023; Murray, 2023).

It cannot make moral or ethical judgments because it cannot effectively recognize ethical factors in a situation (Imam & Ahmed, 2024, p. 4; Saleem, 2024; Cardoso et al., 2024). In addition, AI is not conscious, emotive, or morally judging (Ijuo, 2025). The dynamic legal landscape with evolving case law and preferences challenges the accuracy of forecasting outcomes by AI and its adaptability to policy change (Saleem, 2024; Malhoutra & Ahmad, 2022; Broyde & Mei, 2024). The "Black Box" nature of AI means that its decision-making process is generally impenetrable, i.e., it is difficult to comprehend how conclusions are being reached (Saleem, 2024; Cardoso et al., 2024; Awoyomi, 2023; Broyde & Mei, 2024; Malhoutra & Ahmad, 2022). AI models require large amounts of high-quality, confidential-free data, which are typically governed in arbitration due to confidentiality concerns (Malhoutra & Ahmad, 2022; Cardoso et al., 2024). Commercial AI applications will also be limited from accessing or processing real-time information, and they do not process visual, audio, or non-text data directly (Cardoso et al., 2024). Further, AI is able to handle repetitive patterns and binary outcomes, but complex, non-repetitive issues are less easy to handle (Malhoutra & Ahmad, 2022).

Safeguarding Confidentiality

The recommendations include restricting access to sensitive data and avoiding sharing confidential client information with general LLM chatbots like ChatGPT, as doing so could breach ethical standards or waive privileges (Murray, 2023). For example, the guidelines in New Zealand and the UK explicitly prohibit inputting sensitive data into GenAI chatbots (Cardoso et al., 2024; Socol de la Osa & Remolina, 2024). It is also advisable to certify confidentiality, as lawyers may need to attest that their use of GenAI did not disclose any confidential information (Cardoso et al., 2024; Saleem, 2024). Minimize disclosure risks to address the potential for GenAI systems to inadvertently reveal personal or sensitive information due to their limited understanding of context and privacy (Socol de la Osa & Remolina, 2024). Establish strong data protocols by developing comprehensive data management strategies within the judiciary that emphasize transparency and enforce strict data governance (Socol de la Osa & Remolina, 2024). Users should check platform privacy

protections before sharing confidential data; they should review the platform's privacy measures to understand how data is handled (training, encryption, storage) and manually update privacy settings if necessary (Evans et al., 2023). It is required to use secure environments, as JAMS AI Rules outline procedures for experts to review AI systems and related materials in secure settings, prohibiting the transmission or removal of materials (Cardoso et al., 2024). It is recommended to verify data sources, and legal professionals should inquire about the origins of the data used to train AI models, whether it includes private information, and if informed consent was obtained (Awoyomi, 2023). It is mandatory to obtain informed consent, ensuring it is received before using personal data to train AI models (Socol de la Osa & Remolina, 2024). Finally, secure storage must be implemented, using strong protections to store and safeguard data used in training and fine-tuning AI models to prevent breaches and unauthorized access (Socol de la Osa & Remolina, 2024).

Disclosure

Transparency and disclosure keep trust in arbitration. Securing environments, as outlined by JAMS AI Rules, specify procedures for experts to review AI systems and materials in secure settings, prohibiting any transmission or removal of such materials (Cardoso et al., 2024). Legal professionals should inquire about the origins of the data used to train AI models, including whether it contains private information, and whether informed consent was obtained (Awoyomi, 2023). Implement robust data management protocols within the judiciary that emphasize transparency and include comprehensive data governance strategies (Socol de la Osa & Remolina, 2024). When GenAI is used in judicial processes, all relevant parties should be required to disclose its use (Socol de la Osa & Remolina, 2024). Clarity, accessibility, and thoroughness are vital for disclosures, which should be clear, accessible, and fully presented in a way that's understandable to users regardless of their technical or legal knowledge (Socol de la Osa & Remolina, 2024). Key disclosure items include identifying the AI system used (Socol de la Osa & Remolina, 2024,; providing a clear statement of AI's purpose (Socol de la Osa & Remolina, 2024); explaining the level of scrutiny judges will apply to the AI's output (Socol de la Osa & Remolina, 2024); indicating whether the AI's involvement is general or specific (such as for weighing evidence) (Socol de la Osa & Remolina, 2024); offering explanatory documents from courts describing the AI system's nature and limitations (Socol de la Osa & Remolina, 2024); stating parties' rights to challenge, review, or appeal AI decisions (Socol de la Osa & Remolina, 2024); and balancing transparency with efficiency so parties understand AI's role and their rights without obstructing the legal process (Socol de la Osa & Remolina, 2024).

Non-delegation of Arbitrator Decision-making Responsibilities

Arbitrators should not transfer decision-making authority to AI due to AI's lack of essential human qualities and the nuanced understanding required for legal judgments. The arbitrator must retain the final authority. The articles consistently emphasize that arbitrators (and judges) should hold the ultimate decision-making power (Socol de la Osa & Remolina, 2024). The consensus is that AI should function as an "AI assistant" (Imam & Ahmed, 2024) or an "assistive tool" (Imam & Ahmed, 2024; Saleem, 2024), rather than replacing human judgment or the "humane element in the adjudicatory process" (Imam & Ahmed, 2024). AI "cannot replace a judge" (Saleem, 2024, citing Judge Chitkara). The arbitrator should restrict delegation to only "nominal matters' to GenAI, ensuring accessible appellate forums for AI decisions to uphold human oversight (Imam & Ahmed, 2024). Arbitrators need to acknowledge AI's

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limitations, such as its inability to grasp "deeper meaning" beyond iterative signs (Imam & Ahmed, 2024), contextual reasoning, or purposive interpretation (Imam & Ahmed, 2024; Saleem, 2024). AI does not possess true understanding, judgment, or consciousness (Murray, 2023; Saleem, 2024) and cannot make decisions or exercise discretionary judgment (Murray, 2023; Murray, 2023). Arbitrators should be trained and equipped with resources to critically evaluate GenAI outputs and recognize their limitations (Socol de la Osa & Remolina, 2024). Liability should be allocated in a tiered manner, where high-risk cases require more comprehensive human review by an arbitrator. Developers are accountable for the system's functionality and flawed algorithms, but not for unexpected errors caused by judges (Socol de la Osa & Remolina, 2024). Ethical safeguarding of rights can be challenging for LLMs, as their emphasis on efficiency over security might cause them to miss critical steps necessary for a fair trial (Socol de la Osa & Remolina, 2024). Arbitrators must verify that AI deployment adheres to ethical principles that are difficult to encode into software (Cardoso et al., 2024).

Respect for Due Process

Ensuring due process in AI-assisted arbitration is crucial, requiring attention to transparency, bias, and human oversight. The main recommendation is human oversight, where AI merely assists attorneys and judges rather than replacing them (Saleem, 2024; Imam & Ahmed, 2024). A 'hybrid judicial model' uses generative AI as an aid under human supervision to promote fairness and transparency (Imam & Ahmed, 2024). Transparency in reasoning addresses AI's 'opacity in decision-making' (Imam & Ahmed, 2024) and 'black box' issue (Socol de la Osa & Remolina, 2024; Cardoso et al., 2024), making AI decisions more understandable. While legal reasoning might not always reveal true motives, it’s preferred over a 'black box' approach (Broyde & Mei, 2024). Addressing bias involves removing dataset biases to promote fairness, recognizing AI as a socio-technical system (Saleem, 2024; Imam & Ahmed, 2024).

PROFESSIONAL REFLECTION AND CRITICISM

Overall, these guidelines show a growing consensus among institutions and professionals that AI provides transformative potential for arbitration. However, their practical effectiveness will depend on: (a) developing practitioner competence to evaluate and supervise AI outputs effectively; (b) ensuring consistent disclosure standards to maintain fairness and transparency, and (c) grounding future soft law in empirical practice, avoiding theoretical overregulation, and fostering adaptable, evidence-based AI governance in arbitration. Nevertheless, Souza-McMurtrie (2025) challenges the proliferation of AI-arbitration guidelines, arguing they arrived prematurely without sufficient practical experience, risking overly abstract and inconsistent norms. In contrast, Reddy and Singh (2024) defend soft law’s adaptive role, suggesting it offers necessary interim safeguards while global regulatory frameworks evolve. This scholarly tension reflects the broader debate on whether current AI guidelines provide clarity or create confusion in practice.

DISCUSSION AND RESEARCH IMPLICATIONS

This analysis reveals several overarching themes, such as (a) *human oversight and non-delegation* are explicitly emphasized in all guidelines, which clearly state that decision-making authority should not be transferred to AI tools. The human role in arbitration, involving independent judgment, ethical reasoning, and subtle interpretation, remains essential and cannot be replaced (Cardoso et al., 2024; Imam & Ahmed, 2024; Murray, 2023; Saleem, 2024;

Socol de la Osa & Remolina, 2024). (b) *Confidentiality and data protection* are key concerns due to the risk of exposing sensitive data when using public GenAI systems. Maintaining strict confidentiality, implementing robust data management protocols, and using verified AI tools are essential to build trust and ensure enforceability (Evans et al., 2023; Murray, 2023; Cardoso et al., 2024; Socol de la Osa & Remolina, 2024). (c) *Disclosure and transparency requirements* vary among institutions, and there is a growing consensus on the importance of being transparent about AI use in proceedings. This promotes procedural fairness and helps parties understand the extent of AI involvement (Saleem, 2024; Cardoso et al., 2024; Socol de la Osa & Remolina, 2024). (d) *Balancing innovation with caution,* as the debate continues over whether current guidelines are premature or necessary safeguards. While some argue they address hypothetical problems without enough practical grounding (Souza-McMurtrie, 2025), others see soft law frameworks as vital temporary measures to manage risks (Reddy & Singh, 2024). In addition, these findings may have implications in correlate fields of study, such as (a) labor litigations (Dantas Cotrim & Dias, 2025; Pessoa & Dias, 2025); (b) complex business negotiations (Coutinho, Tsuru & Dias, 2025; Dias, 2018; Dias, 2020); (c) mergers & acquisitions (Rico & Dias,2025; Vidaletti, Ferreira & Dias, 2025), for example.

GUIDELINES FOR PRACTITIONERS AND INSTITUTIONS

For practitioners and institutions, these guidelines: (a) *Establish a basic framework for responsible AI adoption* that promotes efficiency and innovation while upholding ethical standards (Cardoso et al., 2024). (b) *Highlight the importance of professional competence* in recognizing AI limitations and risks to avoid uncritical reliance (Murray, 2023; Saleem, 2024). (c) *Emphasize that guidelines alone are insufficient*; robust institutional policies, practitioner training, and case-specific procedural adjustments are essential for effective AI integration (Cardoso et al., 2024; Socol de la Osa & Remolina, 2024). For policymakers and arbitral institutions, the guidelines: (a) *offer a foundation* for developing enforceable soft law instruments and model rules based on empirical practice. (b) *Highlight the importance of international harmonization* to prevent conflicting standards in cross-border disputes (Al-Kemawee, 2024).

RESEARCH LIMITATIONS

This study acknowledges certain limitations, including the lack of empirical data validating the guidelines, which results in limited practical case law or evidence regarding AI's actual use and impacts in arbitration proceedings. Additionally, the rapid pace of technological progress means that AI innovation can quickly render some guidelines or recommendations outdated, necessitating continuous review and updates. Furthermore, the study's regional focus on four major international institutions may not fully capture all emerging regional guidelines or domestic regulatory initiatives, which could limit the comprehensiveness of the analysis.

FUTURE RESEARCH

Future research and policy implications should focus on several key areas, including empirical studies on the practical use of AI tools in arbitration and the effectiveness of existing guidelines in addressing risks and challenges. Developing unified disclosure standards that balance transparency with procedural efficiency and privilege protections is also crucial. Additionally, establishing ethical frameworks and liability models for AI errors in arbitration will ensure clear accountability among parties, representatives, and arbitrators. Other important areas of

study include the role of international organizations in developing comprehensive soft law instruments, the impact of AI on diversity, access to justice, and sustainability, and optimal human-AI integration to achieve effective results. Furthermore, ongoing research is needed to overcome AI limitations, such as developing Explainable AI (XAI), updating regulatory frameworks, and ensuring technological competence among stakeholders through continuous training, all while recognizing arbitration as a unique environment suitable for AI innovations due to its controlled nature and party agreement.

CONCLUSION

This study thoroughly examines the integration of Artificial Intelligence (AI) and Generative AI (GenAI) into international arbitration and Alternative Dispute Resolution (ADR). It consolidates insights from leading institutions and scholarly works, highlighting a dynamic landscape filled with great potential and notable challenges. Shared Principles and Evolving Frameworks: Leading institutions like CIArb, ICC, SVAMC, and VIAC, along with national courts and government bodies (e.g., EU AI Act, Brazil's CNJ, New Zealand, UK, US Federal initiatives), are actively creating guidelines and rules for AI use in arbitration and ADR. These frameworks share a common core principle: AI's transformative power must be harnessed while strictly maintaining arbitration's fundamental ethical and procedural principles (Cardoso et al., 2024; Socol de la Osa & Remolina, 2024). They consistently highlight that human oversight, fair process, impartiality, confidentiality, and enforceability are essential (CIArb, 2025; ICC, 2018; SVAMC, 2024; VIAC, 2025). These guidelines do not replace mandatory rules or ethical responsibilities but add to them to promote responsible and effective AI integration (CIArb, 2025; ICC, 2018; SVAMC, 2024; VIAC, 2025).

The Fragmented Landscape of Best Practices: Despite these concerted efforts, a single, universally accepted best practices guide for AI and GenAI in arbitration remains out of reach. This fragmentation results from several key factors: (a) *Diverse Applications and Specific Purposes*: AI and GenAI applications are highly specialized, serving various purposes such as legal research, document drafting, and predictive analytics (Murray, 2023; Cardoso et al., 2024; Ben-Ari et al., 2017). Each application has unique needs and risks, making a one-size-fits-all approach impractical. (b) *Varied Databases and Training Methods*: AI models are trained on diverse datasets, which greatly influence their capabilities and limits. The confidential nature of international arbitration awards, for example, restricts access to extensive, specialized datasets needed for training accurate AI models (Cardoso et al., 2024; Scherer, 2019). This variation in data sources and training methods makes it difficult to create a universal standard. (c) *Rapid Technological Evolution*: The speed of AI innovation is unmatched. The arrival of GenAI tools like ChatGPT in late 2022 marked a significant transformation, providing more natural and adaptable interactions than earlier AI systems (Broyde & Mei, 2024; Saleem, 2024). This rapid development often causes regulatory frameworks to lag behind real-world advancements, requiring flexible approaches (Broyde & Mei, 2024; Saleem, 2024). (d*) Jurisdictional and Institutional Nuances:* Different jurisdictions and arbitral institutions are creating guidelines tailored to their specific legal traditions and operational contexts (Cardoso et al., 2024; McNamara, 2025; Socol de la Osa & Remolina, 2024). While important, these localized initiatives add to a fragmented landscape, emphasizing the urgent need for harmonized standards, especially for disclosure (Socol de la Osa & Remolina, 2024). Finally, the 'Black Box' Problem: The inherent lack of transparency in many complex GenAI systems, where

their decision-making processes are hard to understand, presents a major challenge (Awoyomi, 2023; Cardoso et al., 2024). This lack of explainability makes it more difficult to develop universal standards for accountability and transparency (Socol de la Osa & Remolina, 2024).

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