THE ROLE OF LARGE LANGUAGE MODELS AND MACHINE LEARNING IN INTERNATIONAL COMMERCIAL ARBITRATION: LEGAL IMPLICATIONS AND PRACTICAL CONSIDERATIONS.

- *Ms. Sandhya Balaji[1]*
- *Ms. Ayushi Sadana[2]*

CHRIST (Deemed to be University)

Pune, Lavasa.

Abstract

In a world where AI's influence is rapidly expanding, the spotlight shines brightly on Large Language Models (LLMs) like OpenAI's ChatGPT[3]. These transformations offer tantalizing prospects, especially in in international commercial arbitration. But with great promise comes great scrutiny. This paper delves deep into the possibilities and pitfalls surrounding LLM and machine learning integration in arbitration. The research methodology involves a thorough review of various literature, legal frameworks, and case studies to analyze the implications of integrating LLMs into arbitration processes. Findings suggest that while LLMs offer benefits in research, evidence collection, and decision-making, they also pose challenges related to transparency, accountability, and data privacy[4]. Recommendations include revising arbitration rules, establishing clear guidelines for AI usage, and prioritizing data security measures. Collaboration among stakeholders and ongoing research efforts are deemed essential to ensure fair and effective arbitration amidst evolving AI technology.

Keywords: Large Language Models, Artificial Intelligence, International Commercial Arbitration, Legal Challenges, Ethical Considerations.

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[1] Sandhya Balaji is a 5th year law student pursuing BBALLB, Christ (Deemed to be University), Pune, Lavasa, contact details: 9600014865, sandhya.b@law.christuniversity.in.

[2] Co- author: Ms. Ayushi Sadana is an assistant professor in Christ (Deemed to be University), Pune, Lavasa, , email: ayushi.sadana@christuniversity.in.

[3] Sindre Haugen, Language Model AI and International Commercial Arbitration Master's thesis, UIS BUSINESS SCHOOL, UNIVERSITY OF INTERNATIONAL STUDIES, (2023), https://hdl.handle.net/11250/3088419

[4] Bommasani, R., Zhang, D., Lee, T., & Liang, P. "*Improving Transparency in AI Language Models: A Holistic Evaluation*," *HAI POLICY & SOCIETY* (February 2023), hai.stanford.edu

I.   Understanding the Key Terms: Introduction and Background of AI, LLM and ICA.

Artificial intelligence (AI) has transitioned from a futuristic concept to an integral aspect of daily life. Despite its omnipresence in digital assistants and social media algorithms, AI often remained abstract until the unveiling of OpenAI's ChatGPT on November 30th, 2022[5]. While the technology behind ChatGPT wasn't entirely novel, its design showcased unprecedented capabilities in processing human-like text, sparking global interest in AI language models.[6]

At this critical juncture, a number of elements came together to demonstrate the usefulness of AI language models. The rapid and sophisticated text processing of ChatGPT rekindled interest in artificial intelligence (AI) and resulted in a boom of consultancies offering advice on its application, especially in the legal sector. This paper will explore AI language models in international commercial arbitration and navigate through the excitement, fear, uncertainty, and speculation surrounding AI language models, with a focus on their application in arbitration. This development evoked both excitement and apprehension. It aims to evaluate whether these approaches, while addressing the ethical and legal issues they raise, can indeed improve arbitration's efficacy and efficiency. Through examining these issues, this study seeks to provide a well investigated viewpoint on the role of AI in ICA.

II.   AI, Machine learning and large language models

Artificial Intelligence (AI), a term coined by Stanford professor John McCarthy in 1955, encompasses machines exhibiting human-like intelligence, such as reasoning, discovery, and learning from experience. McCarthy's definition of AI as machines behaving in ways akin to human intelligence underscores its broad scope and potential applications. Within the field of AI,

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[5] Gulyamov & Mokhinur Bakhramova, "*Digitalization of International Arbitration and Dispute Resolution by Artificial Intelligence,*" WORLD BULLETIN OF MANAGEMENT AND LAW (WBML) 9, 79, (2022) https://www.scholarexpress.net

[6] Herbert Smith Freehills, "*Inside Arbitration: Legally speaking – Are large language models friends or foe?,*" HERBERT   SMITH   FREEHILLS   INSIGHTS   (September   27,   2023), https://www.herbertsmithfreehills.com/insights/2023-09/inside-arbitration-legally-speaking-%E2%80%93-are-large-language-models-friends-or-foe.

machine learning and deep learning are prominent subsets. Machine learning, as defined by the World Intellectual Property Organization (WIPO), involves systems learning from structured or training data, refining themselves to make decisions autonomously, akin to human learning processes. In recent years, the focus has shifted towards deep supervised machine learning, facilitated by advancements in neural network techniques and hardware.

Modern society uses machine learning for a variety of purposes, such as identifying voice commands, text, or photos, translating different languages, and filtering unsolicited emails. Large Language Models , specialised AI systems created for language processing, are an important advancement in AI. To improve performance, LLMs generate digital representations of language that change over time with more parameters. The word "large" in LLMs refers to their increasing powers and intricacy, which are fueled by developments in AI technology and research.[7]

Transformer technology is one of the most significant developments in LLMs. These models deviate from conventional step-by-step analysis techniques by taking into account many data points inside a sequence at the same time thanks to transformers. This invention greatly improves LLMs' capacity to understand context in intricate phrase constructions and produce well-reasoned responses, which is essential for tasks in natural language processing.

In summary, AI, particularly within the realms of machine learning and LLMs, has witnessed remarkable advancements, revolutionizing various sectors with its capabilities.[8] Transformer technology exemplifies the ongoing evolution of AI systems, promising further advancements in natural language processing and beyond.

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[7] Arkhipov, V. V., & V. B. Naumov. "*Artificial Intelligence and Autonomous Devices in Legal Context: on Growth of the First Russian Law on Robotics*," SPIIRAS PROCEEDINGS 6.55 , 46-62 (2017)

[8] Kashkin, S. Yu. "*Artificial Intelligence and Robotics: The Possibility of Invasion of Human Rights and Legal Regulation of These Processes in the EU and the World*," LEX RUSSICA 7 ,151-159 (2019).

III.　Interplay between LLM and arbitration

The convergence of ICA and LLM Artificial Intelligence presents an unexpected yet potentially transformative synergy. Although initially disparate, the integration of Language Model AI into arbitration processes offers promising enhancements across various facets of the arbitral proceedings.

Language serves as a cornerstone in both law and arbitration. Legal systems heavily rely on linguistic constructs, with norms, statutes, and precedents articulated through language, where nuanced interpretations carry significant legal consequences. Similarly, arbitration hinges on the exchange of legal arguments and resolutions expressed through language.

Large Language Models (LLMs) emerge as pivotal tools in this context. These AI programs are engineered to comprehend and generate texts as that of humans, showcasing their versatility and applicability. Notably, the Iceland's adoption of GPT-4 for preserving the Icelandic language underscores the confidence in these technologies.[9]

The future utility of Large language models in arbitration processes is considerable. These models could contribute at various stages, ranging from preliminary assessment of cases to the passing of final awards. Their innate proficiency in understanding and generating complex textual content aligns seamlessly with the language-centric nature of arbitration proceedings.[10]

The inherent interplay among language, law, international commercial arbitration, and large language models presents a compelling pathway for further exploration, promising significant advancements in the realm of dispute resolution.

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[9] Sindre Haugen*, Language Model AI and International Commercial Arbitration* Master's thesis, UIS BUSINESS SCHOOL, UNIVERSITY OF INTERNATIONAL STUDIES, (2023), https://hdl.handle.net/11250/3088419

[10] Scherer, M., "*Artificial Intelligence and Legal Decision-Making: The Wide Open?,"* JOURNAL OF INTERNATIONAL ARBITRATION 36, no. 5 , 542 (2019)

IV.   <u>**Exploring the upside of AI in Arbitration**</u>

After laying the groundwork on LLMs and the ICA , it's time to delve into how these two intersect. How can LLMs enhance the arbitration process? This part aims not to predict the happenings of tomorrow but to highlight the capabilities of LLMs in arbitration, paving the way for further investigation and dialogue in this emerging field.

- The capabilities of LLMs in legal Research and gathering evidences

One filed where large language model Artificial intelligence could prove beneficial is the preliminary phase of international commercial arbitration, particularly in research and evidence collection[11]. AI consulting agencies suggest that LLMs have the potential to greatly enhance research methods by swiftly and accurately analyzing large data sets.[12] They can identify patterns and connections that might otherwise go unnoticed, leading to new insights. Additionally, LLMs can generate new text, aiding in document summaries, idea generation, and even complete document drafting.

Given their purported potential to understand and output human-like text, LLMs could automate ,enhance the research and evidence collection process in international commercial arbitration. This phase typically involves rummaging through legal files and documents , thorough research, covenants, treaties, and precedents, and collecting admissible evidence, which can be time delaying and costly. For example, LLMs might efficiently review parties' contracts, arbitration precedents, covenants, treaties, and other pertinent documents, extracting key points while saving significant time and resources.

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[11] Bakhramova, M., "ODR (Online Dispute Resolution) System as a Modern Conflict Resolution: Necessity and Significance," EUROPEAN MULTIDISCIPLINARY JOURNAL OF MODERN SCIENCE 4 443-452 (2022), https://emjms.academicjournal.io/index.php/emjms/article/view/114.

[12] Gulyamov & Mokhinur Bakhramova, "*Digitalization of International Arbitration and Dispute Resolution by Artificial Intelligence,*" WORLD BULLETIN OF MANAGEMENT AND LAW (WBML) 9, 79, (2022) https://www.scholarexpress.net

- Facilitating Documents Production

LLMs may also be beneficial in the area of document preparation, which is an essential component of international arbitration. Effective document management is crucial because the process mostly depends on documentary proof. By effectively handling massive amounts of data, including scanning, categorising, and looking for pertinent documents, LLMs could speed up this procedure[13]. Additionally, they can evaluate the possible relevance of documents based on prior arbitration cases and spot trends or concepts that might be missed. LLMs can also draft requests for document production, making sure they adhere to the necessary guidelines, and check responses for errors.[14] Additionally, they can reduce errors in the process by automating the redaction of sensitive material.

- Using LLMs to Handle Linguistic Difficulties in International Arbitration

Language barrier navigation is a major difficulty in international arbitration that LLMs could help with. Because of their multilingualism, LLMs could act as a link across languages, helping in multilingual drafting, summarising, and document translation[15]. This could lessen the possibility of misunderstandings and procedural errors resulting from language problems, enhancing justice and effectiveness in arbitration procedures. Moreover, real-time translation might be made possible by the great speed and efficiency of LLMs, which would remove the need for sequential interpretation or waiting for translated papers. This would cut down on procedural delays and save time and money.

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[13] Berg, A. J. V. D., New Horizons in International Commercial Arbitration and Beyond , KLUWER LAW INTERNATIONAL (2005)

[14] Marghitola, R., Document production in international arbitration. KLUWER LAW INTERNATIONAL , 1, (2019).

[15] Sindre Haugen, *Language Model AI and International Commercial Arbitration* Master's thesis, UIS BUSINESS SCHOOL, UNIVERSITY OF INTERNATIONAL STUDIES, (2023), https://hdl.handle.net/11250/3088419

V.   **Recognising Obstacles in international Commercial Arbitration**

The choice of a neutral forum for conflict resolution and the enforceability of arbitral rulings internationally are Redfern and Hunter's two primary justifications for arbitration[16]. Since these elements are fundamental to the procedure, LLMs are not likely to have an impact on them. But when it comes to business, efficiency and cost are critical. These are domains in which LLMs may have an effect.

Traditionally, arbitration has been seen as a more successful and cost-effective alternative to going to court. Arbitration fees, meanwhile, have been rising over time. Despite the best efforts of arbitral institutions to regulate them, these costs continue to rise. According to a Queen Mary University of London poll from 2015, the most important factor in international commercial arbitration is cost. In order to tackle this issue, arbitral organisations have implemented accelerated arbitration protocols, as the International Chamber of Commerce's "Expedited Arbitration" and the Oslo Chamber of Commerce's "Fast-Track Arbitration." These procedures reflect a recognised need for enhanced efficiency and lower costs in the arbitration of commercial disputes, as they are intended for less complex situations involving relatively minor disputed sums.

By dividing the arbitration procedure into two main stages—the decision-making phase and the preparatory phase that precedes the arbitrator's ruling—it becomes clear that LLMs may provide new insight. They could lower expenses and increase efficiency at both stages. Even if these ideas are still theoretical, investigating them advances our knowledge of AI's possible applications in arbitration.

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[16] Redfern, Alan, and Martin Hunter. *Redfern and Hunter on International Arbitration*, Page 25 (2015).

VI. Implementing LLMs in the Decision-Making Process in International Commercial Arbitration

We are now moving on from the initial stages of international commercial arbitration to the crucial phase of decision-making. Decisions determinations are made that significantly influence the outcomes of the arbitral process. The main objective is to assess the possible consequences of incorporating Large Language Models (LLMs) into the ICA's decision-making process.

Article 28(1) of the UNCITRAL Model Law states that the arbitration panel or tribunal is in charge of making legally binding decisions in the field of international commercial arbitration. It is also required by Article 31(1) that "The award shall be made in writing..."[17]

This unction of the tribunal is fundamental and distinctive, setting international arbitration apart from other resolution mechanisms like mediation and the conciliation that prioritize negotiated settlements[18].

The decision-making process in arbitration is characterized by flexibility and adaptability, tailored to the unique circumstances of each case and aligned with the parties' intentions, yet it retains a judicial nature[19]. It's noteworthy that failure by a tribunal to act judiciously can have severe consequences, potentially leading to the annulment or non-enforcement of the tribunal's award. This concern gains significance when considering the integration of Large Language Models (LLMs),

Theoretically, there could be a number of advantages to using Large Language Models (LLMs) as arbitrators in ICA, especially in terms of efficacy and cost. Because LLMs are computational models, they can process and analyse large datasets quickly, which could allow arbitrators to make decisions more quickly. Their availability is also unrestricted by standard business hours or time

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[17] UNCITRAL Model Law on International Commercial Arbitration 1985: with amendments as adopted in 2006 (Vienna: United Nations, 2008), www.uncitral.org/pdf/english/texts/arbitration/ml-arb/07-86998_Ebook.pdf

[18] Herbert Smith Freehills, "*Inside Arbitration: Legally speaking – Are large language models friends or foe?,*" HERBERT SMITH FREEHILLS INSIGHTS (September 27, 2023), https://www.herbertsmithfreehills.com/insights/2023-09/inside-arbitration-legally-speaking-%E2%80%93-are-large-language-models-friends-or-foe.

[19] Gulyamov & Mokhinur Bakhramova, "*Digitalization of International Arbitration and Dispute Resolution by Artificial Intelligence,*" WORLD BULLETIN OF MANAGEMENT AND LAW (WBML) 9, 79, (2022) https://www.scholarexpress.net

zones, which may improve the arbitration process's adaptability and accessibility. Cost-wise, while training such equipment may need an initial expenditure of up to millions of dollars, ongoing use may result in long-term cost savings because of its efficiency, adaptability, and accessibility.

But it's important to take into account the requirements for arbitrators stated in legal frameworks like the UNCITRAL Model Law and other national legislation, which primarily apply to natural beings. For example, unless the parties agree otherwise, individuals of any nationality may serve as arbitrators under Article 11 of the UNCITRAL Model Law[20]. Comparably, national legislation of nations such as China, Vietnam, Sweden, Norway, and others place a strong emphasis on the necessity of arbitrators being human. Section 13 of the Norwegian Arbitration Act mandates that arbitrators be independent, unbiased, and suitably qualified for their position. Furthermore, it is implied in Section 14 of the same Act that arbitrators have to be human. Section 5 of the Federal Arbitration Act of the United States suggests arbitrators are natural persons by referring to them using gender pronouns. Section 7 of the Swedish Arbitration Act expressly stipulates that arbitrators must be fully qualified natural people. Furthermore, some requirements such as judicial or legal experience are mandated in the Arbitration Law of the People's Republic of China and the Law of Commercial Arbitration of Vietnam, suggesting a preference for human arbitrators.

While these legal frameworks typically imply humans as arbitrators, these do not bar the chances of LLM arbitrators explicitly. Hence, unless strict legislation is enacted to the contrary, the potential for LLMs to serve as arbitrators is open to interpretation and plausible incorporation in the future.

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[20] UNCITRAL Model Law on International Commercial Arbitration 1985*: with amendments as adopted in 2006 (Vienna: United Nations, 2008), www.uncitral.org/pdf/english/texts/arbitration/ml-arb/07-86998_Ebook.pdf

VII.   <u>Case prediction and analysis</u>

The study by the Brazilian 5th Regional Court and the research by Aletras et al. demonstrate the predictive power of AI models that have been extensively trained on legal information. These developments open the door to Large Language Models (LLMs) being incorporated into the arbitration procedure itself. These models could aid in decision-making by providing well-informed and statistically supported recommendations, as opposed to only ex-ante outcome predictions.If a trustworthy prediction model was in place, LLMs could, in a hypothetical situation, perform a preliminary study of the case and identify the most likely outcomes based on the facts as provided and previous legal decisions. This research could be the starting point for arbitrators, saving them time and Furthermore, these studies could be taken into account by arbitrators when creating the award, giving their decision-making process a data-driven aspect.

The result would be an arbitral award that would be the product of a joint effort by AI and human arbitrators, combining the latter's data-processing skills with the former's ethical and legal knowledge.[21]Furthermore, incorporating LLMs into the award-rendering procedure may improve arbitration proceedings' uniformity and predictability. This improvement has the potential to increase arbitration's appeal as a conflict resolution method.[22]It's crucial to remember that, as stated in the UNCITRAL Model Law and other legal rules, parties maintain their liberty in choosing the arbitrator or arbitrators. The selection process for arbitrators may be agreed upon by the parties, who may also decide to bar certain people from serving as arbitrators due to their nationality.

In conclusion, whereas some legal frameworks promote the use of human arbitrators, it is theoretically possible for LLMs to be selected for ICA and to serve as judges, subject to changing legal standards and interpretations. But it's important to recognise the sovereignty of parties in choosing arbitrators as well as the legal framework's presumption of human arbitrators.

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[21] Sindre Haugen, *Language Model AI and International Commercial Arbitration* Master's thesis, UIS BUSINESS SCHOOL, UNIVERSITY OF INTERNATIONAL STUDIES, (2023), https://hdl.handle.net/11250/3088419

[22] Herbert Smith Freehills, "*Inside Arbitration: Legally speaking – Are large language models friends or foe?,"* HERBERT   SMITH   FREEHILLS   INSIGHTS   (September   27,   2023), https://www.herbertsmithfreehills.com/insights/2023-09/inside-arbitration-legally-speaking-%E2%80%93-are-large-language-models-friends-or-foe.

VIII.   Legal Challenges in the Utlilization LLMs in ICA

There are important legal and ethical questions raised by the intriguing potential of Large Language Models in international arbitration.These include the need to uphold fairness and integrity in the arbitration process, compliance with procedural rules, and the law of the arbitration's jurisdiction.

Legal Consequences in the Implementation of LLMs in the judgement process

- Requirement of unbiased and Impartial arbitrator

In international commercial arbitration, the arbitrators' independence and impartiality are essential. While "impartiality" refers to an arbitrator's potential prejudice, "independence" refers to the arbitrator's lack of any financial or other link with any side[23]. Ensuring equitable treatment is a fundamental aspect of international arbitration, as these principles foster impartiality and procedural justice for all parties concerned.

- Complete transparency and comprehensibility - A Basis for Well-Informed Choices

It is imperative that arbitration use LLMs in a transparent and understandable manner. Clarity in the AI's operations is necessary for transparency so that interested parties may comprehend how it makes decisions. Explainability refers to the AI's capacity to explain the thinking behind its choices.[24] Legal issues and perceptions of arbitrariness could result from a failure to make clear and explicable choices.

- Proficiency and Precision - Factual Accuracy

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[23] Herbert Smith Freehills, "*Inside Arbitration: Legally speaking – Are large language models friends or foe?,"* HERBERT SMITH FREEHILLS INSIGHTS (September 27, 2023), https://www.herbertsmithfreehills.com/insights/2023-09/inside-arbitration-legally-speaking-%E2%80%93-are-large-language-models-friends-or-foe

[24] Bommasani, R., Zhang, D., Lee, T., & Liang, P. "*Improving Transparency in AI Language Models: A Holistic Evaluation,*" *HAI POLICY & SOCIETY* (February 2023), hai.stanford.edu

In arbitration, where it might be difficult to apply applicable laws and determine pertinent facts, it is imperative to ensure factual accuracy[25]. To make informed decisions, LLMs need to have access to verifiable information and laws. But they have trouble understanding the nuances of the cases and using common sense, which could affect how accurate and fair the arbitration decisions are.

- Security and Privacy of Data

Because arbitration includes managing sensitive data, strong cybersecurity and data protection precautions are required. [26]The integrity of the arbitration process could be compromised by unauthorised access or data breaches, which could have negative legal and reputational effects. Respecting parties' rights to privacy requires adherence to data protection laws.

- Policy policy

Since arbitration awards must abide by social norms and legal principles unique to each jurisdiction, the integration of LLMs creates public policy challenges. Ensuring AI judgements adhere to these standards and interpreting public policy across jurisdictions may provide challenges. Public interest is centred on issues of justice, accountability, and transparency in arbitral processes.

- Accountability

It can be difficult to determine who is accountable in LLM-assisted arbitration because it can be the developers, data sources, AI prompt operators, or actual arbitrators. LLMs, being non-human entities, create problems regarding the right paradigm of responsibility and require ethical considerations beyond technical and legal aspects. Human arbitrators can be held accountable for carelessness or bias.

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[25] Gulyamov & Mokhinur Bakhramova, "*Digitalization of International Arbitration and Dispute Resolution by Artificial Intelligence,*" WORLD BULLETIN OF MANAGEMENT AND LAW (WBML) 9, 79, (2022) https://www.scholarexpress.net

[26] drees, M. H., & Onyefulu, A. "*Chapter 23: The Role of Artificial Intelligence in International Commercial Arbitration in the Post-Covid Era,*" 400–414, (2023) https://doi.org/10.4337/9781800884953.00034, https://www.elgaronline.com/edcollchap/book/9781800884953/book-part-9781800884953-34.xml

IX.   Possible Solutions to the Raised Legal Issues

It is necessary to investigate potential remedies in order to resolve the legal issues related to the implementation of LLM in international commercial arbitration. These involve updating arbitration laws, developing fresh legal frameworks, offering precise instructions for using AI, and attending to privacy and data security issues.[27]

- Updates to the Arbitration Rules

While determining operational parameters, revisions to the arbitration rules can facilitate the employment of LLM. For example, a legal framework that is similar to the initiative of the European Commission can offer clarity regarding accountability, transparency, and conformity with natural justice principles. Regular rule reviews can guarantee technology innovation adaptability and promote international acceptance of LLM-assisted decision-making. Creating a mechanism for the regular evaluation and revision of arbitration rules in order to keep them up to date with advances in technology could be one strategy.[28] Furthermore, there may be a global movement to recognise judgements that are impacted by language model AI, provided that uniform laws are put in place beforehand. A coordinated effort like this could lessen disputes and inconsistencies that result from different public initiatives. Moreover, this framework can be customised to examine and address the various legal implications of using LLM-AI at various arbitration stages. For example, in the planning stage, it may provide direction on how to use LLMs appropriately for data analysis and document review, for example.[29]

- Unambiguous AI Use Guidelines

Parties can learn about the possibilities and constraints of AI by following thorough, well-defined criteria. These policies ought to address the choice of AI model, data entry, interpretation of decisions, treatment of errors, and performance assessment. Transparent accountability criteria, like those provided by the European Data Protection Board (EDPB), which provided a guidance

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[27] Sindre Haugen, *Language Model AI and International Commercial Arbitration* Master's thesis, UIS BUSINESS SCHOOL, UNIVERSITY OF INTERNATIONAL STUDIES, (2023), https://hdl.handle.net/11250/3088419

[28] drees, M. H., & Onyefulu, A. "*Chapter 23: The Role of Artificial Intelligence in International Commercial Arbitration in the Post-Covid Era*," 400–414, (2023) https://doi.org/10.4337/9781800884953.00034, https://www.elgaronline.com/edcollchap/book/9781800884953/book-part-9781800884953-34.xml

[29] Arkhipov, V. V., & V. B. Naumov. "*Artificial Intelligence and Autonomous Devices in Legal Context: on Growth of the First Russian Law on Robotics*," SPIIRAS PROCEEDINGS 6.55 , 46-62 (2017).

on anonymization procedures, are crucial prerequisites for AI integration since they promote trust and dependability in arbitration proceedings. [30]

- Privacy and Data Security

Strong data security protocols are essential to preventing breaches or unwanted access that can jeopardise the integrity of arbitration. Safeguards including frequent data backups, restricted access, and cutting-edge cybersecurity procedures are essential[31]. For case data from earlier cases, anonymization methods must also be used to ensure privacy and compliance with data protection laws.

- Effective Collaboration is Necessary

To put these cures into action, parties must effectively collaborate. Policymakers, technological specialists, arbitration organisations, attorneys, must collaborate to harness LLM potential while mitigating risks[32]. Flexibility and openness to learning are crucial to adapt to technological advancements and ensure continued effectiveness in dispute resolution.

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[30] Wilinski, P., and M. Durbas. "*International Commercial Arbitration and Technology - An Authors' Interview with Generative Artificial Intelligence*," (August 22, 2023)., https://ssrn.com/abstract=4586473 or http://dx.doi.org/10.2139/ssrn.4586473

[31] Scherer, M., "*Artificial Intelligence and Legal Decision-Making: The Wide Open?*," JOURNAL OF INTERNATIONAL ARBITRATION 36, no. 5 , 542 (2019)

[32] Wilinski, P., and M. Durbas. "*International Commercial Arbitration and Technology - An Authors' Interview with Generative Artificial Intelligence*," (August 22, 2023)., https://ssrn.com/abstract=4586473 or http://dx.doi.org/10.2139/ssrn.4586473

X. <u>Conclusion</u>

In conclusion, while LLMs offer promising benefits for international commercial arbitration, their integration poses significant legal and ethical challenges.[33] Thoughtful remedies, including clear guidelines, robust data security measures, and collaborative efforts, are essential to ensure fair and efficient arbitration processes. The utilization of AI in arbitration presents a dynamic and promising landscape. Specifically, from an Indian vantage point, AI offers potential to mitigate disputes, particularly regarding transcript accuracy, and to enhance efficiency across preliminary arbitral procedures. However, given its emergent status, practitioners in international arbitration are urged to adhere to ethical and responsible AI usage practices, aligning with the evolving legal framework governing AI deployment. Whether obligatory disclosure of AI involvement will become a requisite in international arbitration remains uncertain[34]. Continued research and adaptation to evolving technology are necessary to uphold fundamental human principles and values in dispute resolution.

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[33] Clyde & Co., "*AI and Arbitration: Opportunities, Risks & the Way Forward from an Australian Perspective*," MARKET INSIGHT ASIA PACIFIC 1(9 March 2024), https://www.clydeco.com/en/insights/2024/03/ai-and-arbitration-opportunities-risks-the-way-1.

[34] Sindre Haugen*, Language Model AI and International Commercial Arbitration* Master's thesis, UIS BUSINESS SCHOOL, UNIVERSITY OF INTERNATIONAL STUDIES, (2023), https://hdl.handle.net/11250/3088419