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AI Ethics of Online Commercial Arbitration in Comparative Perspective

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INTRODUCTION

In modern commercial practice, a number of flexible processes can be used to assist resolving disputes online, largely as a result of ever-changing technology. This paper evaluates from an ethical perspective the principles of ‘accountability’, ‘fairness and impartiality’, ‘transparency’, ‘competency’ and ‘confidentiality’ of online arbitration in the age of artificial intelligence (AI). Emerging technologies such as big data, service-oriented computing, artificial intelligence (in particular Generative AI), blockchain and smart contracts continue increasing the possibility of automation in dispute resolution process. Nowadays, arbitrators can conduct the whole arbitration proceedings via electronic communications and in some cases with the assistance of AI technology (known as ‘AI-assisted online arbitration’). Robotic arbitrators may be used to provide preliminary or actual arbitral awards without human interactions in an entirely ‘AI-enabled robotic arbitration’ environment. This prompts an assessment and interpretation of principles of ethics for AI-assisted and AI-enabled commercial arbitration. It further discusses the need of ‘ethics by design’ to embed ethical requirements for generative AI arbitration systems to ensure due process in an automated arbitration environment. It seeks to help regulators, policymakers and arbitration institutions make informed decisions as to how traditional ethical principles should be interpreted, and what new principles should be identified and developed for both AI assisted online arbitration and AI-enabled robotic arbitration in a generative AI environment.

Ethics is generally understood as ‘the study of what is morally right and wrong, or a set of beliefs about what is morally right and wrong’ in many ‘western’ societies.¹ In China, ethics is known as ‘daode guifan’ (perhaps best translated as ‘moral standard/norm’) or ‘lun li’ (‘moral principles’) which often based on beliefs, public opinion and traditional custom. When guifan is codified, they may be recorded in ‘Shouze’ (called code[literally handbook of regulations]).

* This paper partly draws upon Parts II and III of the author’s monograph: *Online Arbitration* (Oxford: Routledge, 2017).

¹ See Cambridge Dictionary.<<https://dictionary.cambridge.org/dictionary/english/ethics>> last accessed 1 October 2023.

It is worth noting that the implementation of ethical standards differs from legal rules of law, if only because in judicial systems there are courts and authorities to implement and enforce rules of law—however there are no special ethical enforcement organisations to implement ethical standards. Ethical principles will need to be transplanted and integrated into a set of rules and law for enforcement.

Ethics in commercial arbitration covers the professional conduct of a wide range of parties involved in the process of commercial arbitration, including arbitrators, counsel, experts, and third-party funders. Ethics for arbitrators or codes of conduct for arbitrators are usually implemented through a set of recognised principles. It is often a challenge to reach a consensus on international and national ethical standards due to the diversity of the cultural and legal traditions among arbitrators and other parties. It has been noted that ethical conflicts now occur more often as globalisation of commercial trade has increased the number and diversity of parties, counsel, experts and arbitrators.² For example, when a Chinese lawyer acts as an arbitrator for an American claimant, or an Italian lawyer acts as a Singaporean arbitrator for an English defendant, it may be debatable which professional rules should be applicable to the arbitrators.

In the modern commercial practice, there is a fast-moving trend of digital lawyering in our society as more flexible means can be used to assist arbitrators and parties in resolving disputes online. Emerging technologies (e.g., artificial intelligence (AI), blockchain and smart contracts) increase the possibility of automation in dispute resolution process. These technologies, together with legal knowledge-based systems which have been developed since the 1970s, contribute to greater efficiency in legal services.

AI systems have been broadly interpreted as ‘systems with the ability to process data in a way which resembles intelligent behaviour’ typically including ‘aspects of reasoning, learning, perception, prediction, planning or control’.³ Since the 2010s, AI has quickly grown from another subset of machine learning, that is, deep learning, in particular with recent advances in generative AI such as ChatGPT in 2023.⁴ Generative AI is known to ‘create text, images, music, speech, code or video based on learning from existing available content’.⁵ Currently, there are general concerns over the issue of ‘explainability’ in deep learning, due to the fact that deep learning leads to prediction of outcomes without explaining how a decision is reached within that system.⁶

In 2016 a robot was first used in legal practice, using a chatbot, an item of software, which allows human interaction with a computer database using natural

² Rogers, C (2014) *Ethics in International Arbitration* Oxford University Press.

³ Recommendation on the Ethics of Artificial Intelligence, UNESCO, adopted on 23 November 2021 and published in 2022 at 10 <<https://unesdoc.unesco.org/ark:/48223/pf0000381137>> last accessed 30 August 2023.

⁴ Wang, F. (2023) ‘Copyright Protection for AI-Generated Works: Solutions to Further Challenges from Generative AI’ Series 2, 5(1) *Amicus Curiae* 88-103 at 89.

⁵ Pro-innovation Regulation of Technologies Review: Digital Technologies (‘Review 2023’), HM Treasury, March 2023 <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1142883/Pro-innovation_Regulation_of_Technologies_Review_-_Digital_Technologies_report.pdf> last accessed 1 October 2023.

⁶ Liao, S. M. (2020) ‘A Short Introduction to the Ethics of Artificial Intelligence’ in Liao, S. M. (ed.) *Ethics of Artificial Intelligence* Oxford University Press at 7.

language and generating human-like conversation.⁷ For example, an AI lawyer chatbot has successfully contested 160,000 parking tickets across London and New York.⁸ In 2017, Case Crunch hosted the first AI vs Lawyers mock competition showing that AI-enabled decision-making legal services won with an accuracy rate of 86.6% compared to 62.3% for the lawyers.⁹ In 2018, a chatbot was developed by an Australian law firm to provide automated legal advice to clients, on the ground that it freed up the time of lawyers.¹⁰ There is a growth of chatbots in legal services which help users gain access to justice (i.e. DoNotPay parking ticket appeal app), carry out professional search (i.e. legal research) and answer new queries (i.e. client-facing chatbots).¹¹ In 2019, it was reported that ‘the use of predictive analytics in litigation—effectively predicting a dispute’s outcome—is a technology that is at a very early stage of development’ but leading law firms are already exploring its use.¹² It was pointed out that one of the benefits of using AI assisted legal service is to allow lawyers to review much larger datasets and form a better understanding of a case or issue by discovering omitted information.¹³

The more recent blockchain technology—a shared and distributed ledger; and an alternative to a traditional database—supports the automated execution of smart contracts.¹⁴ It is argued that blockchain and service-oriented computing may be combined as a ‘service-oriented permissioned blockchain’ so as to optimize services such as verifiable data.¹⁵ On a blockchain, all parties may remain anonymous, arbitrators may implement decisions using private key(s), and an arbitral award may be self-executed in an ‘automatic dispute resolution process’ as indicated in LawTech UK/UK Jurisdiction Taskforce Digital Dispute Resolution Rules in April 2021.¹⁶ That is, an arbitrator may be given the technical power to operate, modify, sign or cancel any relevant digital asset if the arbitrator has been given, e.g., the necessary private key(s). From a technological point of view, it would raise an alarming concern if an arbitrator could be given a party’s private

⁷ Chat show: How chatbots can grow your business, 11 January 2019 <<https://www.lawsociety.org.uk/news/stories/chat-show/>> last accessed 30 August 2023.

⁸ Chatbot lawyer overturns 160,000 parking tickets in London and New York, 28 June 2016 <<https://www.theguardian.com/technology/2016/jun/28/chatbot-ai-lawyer-donotpay-parking-tickets-london-new-york>> last accessed 30 August 2023.

⁹ Cellan-Jones, R. (2017) The robot lawyers are here - and they’re winning, released 1 November 2017 <<https://www.bbc.co.uk/news/technology-41829534>> last accessed 30 August 2023.

¹⁰ Financial Time News: Chatbots join the legal conversation, released on 7 June 2018 <<https://www.ft.com/content/0eabcf44-4c83-11e8-97e4-13afc22d86d4>> last accessed 30 August 2023.

¹¹ Chat show: How chatbots can grow your business, 11 January 2019 <<https://www.lawsociety.org.uk/news/stories/chat-show/>> last accessed 30 August 2023.

¹² Parnham, R. (2019) How law firms are using AI-assisted LegalTech solutions: A conversation with Slaughter and May’s Knowledge and Innovation team, released 5 June 2019 <<https://www.law.ox.ac.uk/unlocking-potential-artificial-intelligence-english-law/blog/2019/06/how-law-firms-are-using-legal>> last accessed 30 August 2023.

¹³ Ibid.

¹⁴ Daniel, F., and Guida, L. (2019) ‘A Service-Oriented Perspective on Blockchain Smart Contracts’ 23(1) *IEEE Internet Computing*, 46–53.

¹⁵ Qiu, C., Yao, H., Yu, F.R., Jiang, C., and Guo, S. (2020) ‘A Service-Oriented Permissioned Blockchain for the Internet of Things’ 13(2) *IEEE Transactions on Services Computing* 203–15.

¹⁶ ‘LawTech UK Digital Dispute Resolution Rules’, UK Jurisdiction Taskforce, April 2021, <<https://technation.io/lawtech-uk-resources/>> last accessed 30 August 2023.

key(s) to manage digital assets. There is need to further look into the features of the special type of disputes concerning digital assets, and to work on necessary guidelines concerning the security and due process of arbitrators implementing decisions directly on-chain¹⁷ and thereby ensure appropriate ethical standards for arbitrators in an automated dispute resolution process. It has been also argued that in the sphere of AI ethics, the role and ethical standards of informational professionals in AI technology industries should also be factored into relevant regulatory updates and development.¹⁸

With recent advances in generative AI such as ChatGPT in 2023,¹⁹ legal professionals have been able to use Generative AI to prepare and create legal documents and judgements. Generative AI is known to ‘create text, images, music, speech, code or video based on learning from existing available content’.²⁰ For example, in the United Kingdom (UK), the Court of Appeal judge Lord Justice Birss used ChatGPT to assist him in the summary of judgement where the ChatGPT output formed part of the summary of judgement.²¹ More recently In the US, two US courts have even issued notices to ban using ChatGPT to prepare and create legal documents and file legal cases which ‘create novel risks to the security of confidential information’.²² This prompts further considerations as to what ethics standard should be set for legal professionals including arbitrators using AI technologies, and how AI-generated works should be appropriately used to eliminate their potential harm to society.

Since the understanding and application of ethics has ineluctably shifted in information society, an international harmonisation and standardisation—and a better understanding—of AI ethics in legal practice is needed. International organizations have been working on the development of guidelines and making recommendations regarding AI ethics, in particular by addressing key values, principles and actions, to aid legislative development in range of jurisdictions and promote a well-functioning global market. For example, in the Organisation for Economic Co-operation and Development (OECD) AI Principles in 2019, it

¹⁷ Wang, F. (2021) ‘Online Dispute Resolution’ in H el ene Ruiz Fabri (ed.) *the Max Planck Encyclopedia of International Procedural Law (MPEiPro)* Oxford University Press <<https://opil.ouplaw.com/view/10.1093/law-mpeipro/e3028.013.3028/law-mpeipro-e3028>> last accessed 30 August 2023.

¹⁸ Carter, D. (2020) Regulation and ethics in artificial intelligence and machine learning technologies: Where are we now? Who is responsible? Can the information professional play a role? 37(2) *Business Information Review* 60–68.

¹⁹ Wang, F. (2023) ‘Copyright Protection for AI-Generated Works: Solutions to Further Challenges from Generative AI’ Series 2, 5(1) *Amicus Curiae* 88–103 at 89.

²⁰ Pro-innovation Regulation of Technologies Review: Digital Technologies (‘Review 2023’), HM Treasury, March 2023 <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1142883/Pro-innovation_Regulation_of_Technologies_Review_-_Digital_Technologies_report.pdf> last accessed 1 October 2023.

²¹ Farah, H. (2023) ‘‘Court of appeal judge praises ‘jolly useful’ ChatGPT after asking it for legal summary.’’ 15 September 2023, *Guardian News* <<https://www.theguardian.com/technology/2023/sep/15/court-of-appeal-judge-praises-jolly-useful-chatgpt-after-asking-it-for-legal-summary>> last accessed 1 October 2023.

²² United States Court of International Trade Order on Artificial Intelligence, 8 June 2023 <<https://www.cit.uscourts.gov/sites/cit/files/Order%20on%20Artificial%20Intelligence.pdf>> last accessed 1 October 2023; and US judge orders lawyers to sign AI pledge, warning chatbots ‘make stuff up’, *Reuters News*, 2 June 2023 <<https://www.reuters.com/legal/transactional/us-judge-orders-lawyers-sign-ai-pledge-warning-they-make-stuff-up-2023-05-31/>> last accessed 1 October 2023.

recommended that AI systems should be built in with appropriate safeguards to ensure a fair and just society with respect to the rule of law and human-centred values.²³ More recently, the United Nations Educational, Scientific and Cultural Organization (UNESCO) provided a recommendation on AI ethics in 2021 and key facts regarding its recommendation in 2023.²⁴ UNESCO considers AI ethics to be ‘a dynamic basis for the normative evaluation and guidance of AI technologies, referring to human dignity, well-being and the prevention of harm as a compass and as rooted in the ethics of science and technology’.²⁵ It identified ten core principles for AI ethics—‘proportionality and do no harm’, ‘safety and security’, ‘fairness and non-discrimination’, ‘sustainability’, ‘right to privacy and data protection’, ‘human oversight and determination’, ‘transparency and explainability’, ‘responsibility and accountability’, ‘awareness and literacy’ and ‘Multi-stakeholder and adaptive governance and collaboration’.²⁶

In the UK, the AI Procurement Guidelines along with Data Ethics Framework principles, drawn from OECD AI principles, promotes international norms and principles in respect of AI.²⁷ More recently, following UNESCO’s recommendation, the UK AI White Paper has recently stressed the importance of international engagement and collaboration on AI ethics development and implementation.²⁸ Meanwhile, in the UK, the Centre for Data Ethics and Innovation (CDEI) also published research on AI governance, identifying three key principles for AI governance, namely, transparency, fairness and accountability.²⁹

In the EU, the European Commission ‘White Paper on Artificial Intelligence—A European approach to excellence and trust’ in 2020 also emphasises that AI systems should be embedded with human values and fundamental rights by taking a ‘human-centric approach’ so as to mitigate biases and build trust and

²³ OECD AI Principles Overview and Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449, 2019, Human-centred values and fairness (Principle 1.2) <<https://oecd.ai/en/ai-principles>> last accessed 30 August 2023.

²⁴ Recommendation on the Ethics of Artificial Intelligence, UNESCO, adopted on 23 November 2021 and published in 2022 <<https://unesdoc.unesco.org/ark:/48223/pf0000381137>> last accessed 30 August 2023; and see also Key facts UNESCO’s Recommendation on the Ethics of Artificial Intelligence, published in 2023 <<https://unesdoc.unesco.org/ark:/48223/pf0000385082>> last accessed 30 August 2023.

²⁵ Recommendation on the Ethics of Artificial Intelligence, UNESCO, adopted on 23 November 2021 and published in 2022 at 10 <available at <https://unesdoc.unesco.org/ark:/48223/pf0000381137>> last accessed 30 August 2023.

²⁶ Recommendation on the Ethics of Artificial Intelligence, UNESCO, adopted on 23 November 2021 and published in 2022, at 20-23 <<https://unesdoc.unesco.org/ark:/48223/pf0000381137>> last accessed 30 August 2023.

²⁷ Government Response to the Committee on Standards in Public Life’s 2020 Report AI and Public Standards, Department for Digital, Culture, Media and Sport, London 19 May 2022 <<https://www.gov.uk/government/publications/artificial-intelligence-and-public-standards-government-response-to-report>> last accessed 30 August 2023; and see also Artificial Intelligence and Public Standards: A Review by the Committee on Standards in Public Life, February 2020 <<https://www.gov.uk/government/publications/artificial-intelligence-and-public-standards-report>> last accessed 30 August 2023.

²⁸ Policy paper: A pro-innovation approach to AI regulation (‘UK AI White Paper 2023’) 29 March 2023, para 121 <<https://www.gov.uk/government/publications/ai-regulation-a-pro-innovation-approach/white-paper>> last accessed 30 August 2023.

²⁹ Qualitative research report: Public expectations for AI governance (transparency, fairness and accountability) 2022, published 29 March 2023 <<https://www.gov.uk/government/publications/cdei-publishes-research-on-ai-governance>> last accessed 30 August 2023.

confidence in such systems (known as to 'ecosystem of trust').³⁰ The 2020 White Paper further developed earlier steps taken in respect of AI strategy in 2018,³¹ and the Ethics Guidelines for Trustworthy AI in 2019.³² The Ethics Guidelines specify that trustworthy AI should be:

- '(1) lawful - respecting all applicable laws and regulations
- (2) ethical - respecting ethical principles and values
- (3) robust - both from a technical perspective while taking into account its social environment'.³³

In North America, the National Center for Technology & Dispute Resolution (NCTDR) and the International Council for Online Dispute Resolution (ICODR) jointly issued 'Online Dispute Resolution Standards' in 2022, which promotes the principles of accountability, equality and transparency when deploying AI technology in ODR service.³⁴ In Europe, transparency, fairness and accountability are among the six general ethical principles for AI systems that have been identified by the European Commission.³⁵

Currently existing codes of ethics for arbitrators does not take into consideration specific challenges of robotic technologies to ethical standards for robotic arbitrators. The failure to address the challenges of interpreting existing ethical principles and applying them to online and robotic arbitration will hamper technological innovation and consequently undermine the fairness and integrity of dispute resolution process when using an automated dispute resolution system. Technology is transforming the dispute resolution process and its regulation across the world. It is now time to ask the following questions:

- How competently and effectively can a robotic arbitrator provide an arbitral award?
- Are there any ethical limits (i.e. in particular, lack of competency) to a robotic arbitrator?

³⁰ European Commission White Paper on Artificial Intelligence - A European approach to excellence and trust, COM(2020) 65 final, Brussels, 19.2.2020 at 3 <https://commission.europa.eu/system/files/2020-02/commission-white-paper-artificial-intelligence-feb2020_en.pdf> last accessed 30 August 2023.

³¹ Artificial Intelligence for Europe (hereafter 'AI Strategy') COM(2018) 237, European Commission, April 2018 <<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0237&rid=1>> last accessed 1 October 2023.

³² Ethics guidelines for trustworthy AI: High-Level Expert Group on Artificial Intelligence, European Commission, 14 April 2019 <<https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>> last accessed 1 October 2023.

³³ Ethics guidelines for trustworthy AI: High-Level Expert Group on Artificial Intelligence, European Commission, 14 April 2019 <<https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>> last accessed 1 October 2023.

³⁴ The National Center for Technology and Dispute Resolution (NCTDR) Online Dispute Resolution (ODR) Standards, 2022 <https://odr.info/wp-content/uploads/2022/05/NCTDR_and_ICODR_ODR_Standards_2022.pdf> accessed 30 August 2023.

³⁵ Ethics By Design and Ethics of Use Approaches for Artificial Intelligence, European Commission, 25 November 2021 <https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ethics-by-design-and-ethics-of-use-approaches-for-artificial-intelligence_he_en.pdf> last accessed 30 August 2023.

- Can the existing principles of ethics for arbitrators apply to an automated dispute resolution process in the same way as the traditional arbitration process?

This paper reviews current ethical principles for commercial arbitrators in comparative perspective and discusses what ethical principles for commercial arbitrators should be included, and how they should be interpreted and implemented in a digital dispute resolution environment, in particular when using generative AI in commercial arbitration. This paper firstly evaluates existing ethical principles of ‘accountability’, ‘fairness’, ‘transparency’, ‘competency’ and ‘confidentiality’ for arbitrators in an AI-assisted online arbitration and AI-enabled robotic arbitration environment. It then discusses whether there are any limitations of current AI technologies that pose obstacles to comply with the existing ethical standards of arbitrators. It proposes practical and technological solutions to embed AI ethics in the generative AI arbitration systems to ensure due process in automated arbitration process. It seeks to help regulators and arbitration institutions make informed decisions as to how existing ethical principles should be interpreted, integrated and implemented, and what new principles may be needed for both AI-assisted online arbitration and AI-enabled robotic arbitration procedure.

REVIEW OF ARBITRATORS’ CODES OF CONDUCT

Arbitrators Codes of Conduct

In international arbitration, there is no uniform international code of conduct for arbitrators. There are various sources that can be found in national arbitration laws, arbitration institutions or regulatory authorities, which may provide relevant ethical standards and professional conduct for arbitrators. In most countries, the qualifications and conditions of becoming arbitrators are not set by national laws but are up to arbitration institutions to set out criteria such as professional experiences and ethical standards. In the UK, there are no requirements concerning the qualifications and characteristics of arbitrators under the UK Arbitration Act 1996, although there is a general ethical standard and principle of independence and impartiality set out in Section 33(1) of the Act. Ethical rules are usually set out by UK arbitration institutions. The London Court of International Arbitration (LCIA) revised the LCIA Arbitration Rules in 2014 and issued corresponding guidance LCIA Notes for Arbitrators in 2017 covering ethical principles for arbitrators.³⁶ The Chartered Institute of Arbitrators (CI Arb) revised the Code of Professional and Ethical Conduct for Members in 2009.³⁷

Likewise, in the US, there are also no qualifications for the appointment of arbitrators stipulated in the Federal Arbitration Act (amended 1990); however its Section 10 specifies that the arbitral award may be invalid if the arbitrators act unethically such as ‘there was evident partiality or corruption in the arbitrators’; ‘the arbitrators were guilty of misconduct’; or ‘where the arbitrators exceeded

³⁶ The London Court of International Arbitration (LCIA) Notes for Arbitrators, 26 October 2017 <<http://www.lcia.org/adr-services/lcia-notes-for-arbitrators.aspx>> last accessed 30 August 2023.

³⁷ The Chartered Institute of Arbitrators Code of Professional and Ethical Conduct for Members (October 2009) <<http://www.ciarb.org/guidelines-and-ethics>> last accessed 30 August 2023.

their powers'.³⁸ In US arbitration institutions, the first code of ethics for arbitrators in commercial disputes was developed by American Bar Association (ABA) and American Arbitration Association (AAA) in 1977.³⁹ The Code of Ethics for Arbitrators in Commercial Disputes was last updated by ABA and AAA in 2004.

Unlike the UK and US, China's Arbitration Law 1994 has made provision specifying conditions for appointment of arbitrators in China so that 'an arbitration commission shall appoint its arbitrators from among righteous and upright persons' such as experienced lawyers, judges, legal researchers or practitioners.⁴⁰ In addition, Articles 34 and 58(6) of China Arbitration Law provide general ethical standards on arbitrators to the effect that that arbitrators must not have any conflict of interest with the case or the parties involved.⁴¹ Following the implementation of Arbitration Law (in 1995), arbitration has grown in importance, and it is estimated that there were more than 270 arbitration institutions in 2021, handling more than 4 million arbitration cases.⁴² The most representative code of conduct for arbitrators is the Code of Conduct for Arbitrators which was adopted on 6 April 1993 and revised on 6 May 1994 by the China International Economic and Trade Arbitration Commission (CIETAC)⁴³ and China Maritime Arbitration Commission (CMAC)⁴⁴. Local and regional arbitration commissions also provide their own codes of conduct for arbitrators. For example, the Hong Kong International Arbitration Centre (HKIAC) stipulates its own Code of Ethical Conduct. In Beijing, Beijing Arbitration Commission (BAC) provides the Code of Enhancing Arbitration Efficiency for Arbitrators (known as The 'Code [Handbook] for Arbitrators' Zhongcaiyuan Shouce 仲裁员守则), which was revised and adopted in 2003 and has been effective since 2004.⁴⁵ The revision of the BAC Code for Arbitrators was revised after BAC reviewed the UK Chartered Institute of Arbitrators (CI Arb) Code of Professional and Ethical Conduct for Members, AAA Code of Ethics for Arbitrators in Commercial Disputes and International Bar Association (IBA) Rules of Ethics for International Arbitrators.⁴⁶ Most prominently, the principle

³⁸ US Federal Arbitration Act (amended 1990), Section 10.

³⁹ Holtzmann, H. M., The First Code of Ethics For Arbitrators in Commercial Disputes, (November 1977) *The Business Lawyer* Vol. 33, No. 1, pp. 309-320.

⁴⁰ China Arbitration Law 1994, Article 13.

⁴¹ China Arbitration Law 1994, Article 34 and 58(6).

⁴² 'China Arbitration Lookout Series 3: looking at the development of arbitration in China from the perspective of the first arbitration institution in New China', China Council for the Promotion of International Trade, released 20 December 2021 <<https://www.ccpit.org/a/20211220/20211220ist7.html>> last accessed 30 August 2023.

⁴³ Code of Conduct for Arbitrators (CIETAC) <<http://www.cietac.org/index.php?m=Page&a=index&id=113&l=en>> last accessed 30 August 2023.

⁴⁴ Code of Conduct for Arbitrators (CMAC) <http://www.cmac.org.cn/?page_id=1403&lang=en> last accessed 30 August 2023.

⁴⁵ Codes of Enhancing Arbitration Efficiency for Arbitrators (BAC) <<http://www.bjac.org.cn/english/page/zc/zcygf.html>> last accessed 30 August 2023.

⁴⁶ '2004 Explanation on the Revision of the Beijing Arbitration Commission's "Code [Handbook] of Arbitrators", "Administrative Measures for the Employment of Arbitrators", and "Several Provisions on Improving Arbitration Efficiency", (2004 nian guanyu Beijing Zhongcai Weiyuanhui "Zhongcai Yuan Shouze", "Zhongcai Yuan pinyong Guanli Banfa", "Guanyu tigao Zhongcai xiaolu de Ruogan Guiding" de Xiugai Shuoming) <<https://www.bjac.org.cn/page/ckzl/szsm2004.html>> last accessed 30 August 2023.

of duty of disclosure was introduced into the BAC Code for Arbitrators for the first time.⁴⁷ Some practitioners in other Asian countries, such as Singapore, have been calling for stricter standards of ethics in arbitration as their arbitration centres have become more internationalised or gained the status of the established international arbitration centre.⁴⁸ It is argued here that Singapore has promoted the highest ethical and moral standards in legal professions⁴⁹ and that reliance on the highest possible ethical standards of arbitrators and counsels will benefit both users and the arbitration community in Singapore.⁵⁰

Due to the divergent standards on arbitrator conduct in various countries and arbitration institutions, at the international level, international guidelines have been developed to provide recommendations for best practice for the conduct of arbitrators. It is argued that the Rules of Ethics established by the International Bar Association (IBA) in 1987 is considered to be most representative of such international practice.⁵¹ The 1987 IBA Rules of Ethics for International Arbitrators cover more topics than the IBA Guidelines. The relationship between the Rules of Ethics and the Guidelines is that the Rules of Ethics remain effective in subjects which are not discussed in the Guidelines, whilst the Guidelines replace the Rules of Ethics in matters which are discussed in the Guidelines.⁵² The Guidelines provide assistance to parties in dealing with issues of impartiality, independence and disclosure duty in arbitration, but the Guidelines have no legal effect and do not supersede any applicable national law or arbitral rules chosen by parties.⁵³ In 2014, the IBA issued the revised version of the Guidelines on Conflicts of Interest in International Arbitration (hereafter 'the IBA Guidelines'). These revised IBA Guidelines (2014) also acknowledge that it is in the best interest of international arbitration community to have a uniform practice of ethical standards in order to avoid ill-founded challenges to arbitrators on the grounds of intentionally delaying arbitration process or remove the opposing party's choice of arbitrator.⁵⁴ !!!

Unlike the IBA, other international arbitration institutions may not have specific codes of conduct or rules of ethics for arbitrations, but ethical principles for arbitrators are included in the general arbitration rules. For example, the International Chamber of Commerce (ICC) and its International Court of Arbitration used to incorporate ethical principles in their arbitral rules but did not issue separate codes of conduct or codes of ethics for arbitrators. Its Rules

⁴⁷ *Ibid.*

⁴⁸ Rajah, V. K. (2018) 'The Case for Singapore to Take the Lead in International Arbitration Ethics' 14(1) *Asian International Arbitration Journal* 37–54 at 38.

⁴⁹ *Public Trustee v. By Product Traders Pte Ltd* [2005] 3 SLR(R) 449 at 35.

⁵⁰ Rajah, V. K. (2018) 'The Case for Singapore to Take the Lead in International Arbitration Ethics' 14(1) *Asian International Arbitration Journal* 37–54 at 46.

⁵¹ Wah, S. and Halprin, P. (2018) 'Ethics in International Arbitration' (1) *Journal of Dispute Resolution* 87-108 at 88.

⁵² IBA Guidelines on Conflicts of Interest in International Arbitration (2014) <https://www.ibanet.org/Publications/publications_IBA_guides_and_free_materials.aspx> last accessed 30 August 2023.

⁵³ IBA Guidelines on Conflicts of Interest in International Arbitration (2014) at 6.

⁵⁴ IBA Guidelines on Conflicts of Interest in International Arbitration (2014) at 1.

of Arbitration (Version 1 March 2017) have now included ethical principles for arbitrators and required arbitrators to sign a statement of acceptance, availability, impartiality and independence.⁵⁵ In January 2019, the ICC further clarified the professional rules of conduct in the 'Note to Parties and Arbitral Tribunals on the Conduct of the Arbitration under the ICC Rules of Arbitration'.⁵⁶

There are also no independent codes of conduct for arbitrators issued by the United Nations Commission in International Trade Law (UNCITRAL). In 2017, the UNCITRAL working group revised the previous version of a working document concerning possible future work on ethics in international arbitration, calling for consideration of the question as to whether there is need for harmonised international ethical standards in arbitration.⁵⁷ This working document stressed that there indeed is a need to work on harmonised international ethical standards in arbitration, due to 'the diversification of parties involved in the arbitration process with the diversity of professional standards' and 'the increased complexity of recent disputes'.⁵⁸ It calls for clarification of the interrelationship among ethical rules such as the rules of the arbitrator's home jurisdiction, the rules of the seat/place of arbitration, rules in the chosen applicable law or soft law standards, and rules of the arbitral institutions.⁵⁹

Online Arbitrators Codes of Conduct

With the growing usage of online dispute resolution (ODR), in the last decade, professional organisations have made progress in self-regulatory ODR developments. In 2009 China International Economic and Trade Arbitration Commission ('CIETAC') launched the world's first Online Arbitration Rules which were subsequently revised in 2014.⁶⁰ In more recent years, other arbitration organisations have focused their developments on online arbitration and mediation. For example, the American Arbitration Association (AAA) established a division of AAA Mediation.org, offering clients online mediation.⁶¹ The AAA-International

⁵⁵ ICC Arbitration Rules 2017, Article 11.2.

⁵⁶ Note to Parties and Arbitral Tribunals on the Conduct of the Arbitration under the ICC Rules of Arbitration, International Chamber of Commerce (ICC) <<https://iccwbo.org/content/uploads/sites/3/2017/03/icc-note-to-parties-and-arbitral-tribunals-on-the-conduct-of-arbitration.pdf>> last accessed 30 August 2023.

⁵⁷ A/CN.9/916 - Possible Future Work in the Field of Dispute Settlement: Ethics in International Arbitration, by United Nations Commission on International Trade Law (UNCITRAL), 3–37 July 2017, 50th Session, at 10.

⁵⁸ A/CN.9/916 - Possible Future Work in the Field of Dispute Settlement: Ethics in International Arbitration, by United Nations Commission on International Trade Law (UNCITRAL), 3–37 July 2017, 50th Session, at 10.

⁵⁹ A/CN.9/916 - Possible Future Work in the Field of Dispute Settlement: Ethics in International Arbitration, by United Nations Commission on International Trade Law (UNCITRAL), 3–37 July 2017, 50th Session, at 6.

⁶⁰ China International Economic and Trade Arbitration Commission ('CIETAC') Online Arbitration Rules 2014 <<http://www.cietac.org/index.php?m=Article&a=show&id=2744>> last accessed 30 August 2023.

⁶¹ AAA Mediation Procedures <https://www.aaamediation.org/sites/default/files/document_repository/Mediation_Procedures.pdf> last accessed 30 August 2023.

Centre for Dispute Resolution (AAA-ICDR) Zoom Virtual Hearing Managed Services also offer an online hearing experience in mediation and arbitration to AAA clients, and to the public who wish to use a neutral organization to manage their virtual hearing so as to increase users' confidence for a fair process.⁶² In 2020, AAA-ICDR released 'Order and Procedures for a Virtual Hearing via Videoconference'; 'Virtual Hearings Guide for Arbitrators and Parties Utilising Zoom'; and 'Videoconference Mediation Guide for Parties and Mediators'.⁶³ Other updates on arbitration and mediation rules in the field of international commercial arbitration, taking into consideration of electronic means and usage, are, for instance, the London Court of International Arbitration ('LCIA') updated its arbitration and mediation rules in 2020.⁶⁴ The Chartered Institute of Arbitrators ('CI Arb') also issued the Guidance Note on Remote Dispute

Resolution Proceedings in 2020.⁶⁵ Moreover, the Bar Council of England and Wales provides a good example of guidelines concerning IT issues within professional practice and ethics that can be learned by ODR service providers or ADR entities to support their arbitrators.⁶⁶ In Australia, the Australian Centre for International Commercial Arbitration ('ACICA') also issued the Guidance Note for Online Arbitration in 2020⁶⁷ and Draft Procedural Order for the Use of Online Dispute Resolution Technologies in 2016.⁶⁸ In June 2020, the Swiss Arbitration Association (ASA) has launched the arbitration toolbox, an interactive tool and electronic platform, for users to navigate each stage of an arbitration procedure, and tailor the process to make the arbitration proceeding more efficient.⁶⁹

In the light of online arbitration rules and virtual hearing procedures, arbitrators will be able to join the arbitration proceeding via electronic communications or video conferencing facilities. Although there is no code of conduct for online arbitrators specifically, online arbitrators should follow the online arbitration rules and virtual hearing procedures, and meet the same ethical standards as those in the traditional offline arbitration process. Further challenges to the code of conduct may arise when there is AI-assisted or AI-enabled arbitration. That is, in an AI-assisted online arbitration environment, AI technology may be able to provide preliminary hearings and awards for online arbitrators (natural persons) to review,

⁶² AAA Virtual Hearing Managed Services <<https://adr.org/virtual-hearing-managed-services>> last accessed 30 August 2023.

⁶³ AAA Virtual Hearings <<https://www.icdr.org/>> last accessed 30 August 2023.

⁶⁴ Updates to the LCIA Arbitration Rules and the LCIA Mediation Rules (2020) <<https://www.lcia.org/lcia-rules-update-2020.aspx>> last accessed 30 August 2023.

⁶⁵ The Chartered Institute of Arbitrators ('CI Arb') Guidance Note on Remote Dispute Resolution Proceedings in 2020 <<https://www.ciarb.org/media/8967/remote-hearings-guidance-note.pdf>> last accessed 30 August 2023.

⁶⁶ The Bar Council Ethics and Practice Hub <<https://www.barcouncilethics.co.uk/subject/it/>> last accessed 30 August 2023.

⁶⁷ Australian Centre for International Commercial Arbitration ('ACICA') Guidance Note for Online Arbitration in 2020 <<https://acica.org.au/wp-content/uploads/2020/05/ACICA-Online-Arbitration-Guidance-Note.pdf>> last accessed 30 August 2023.

⁶⁸ ACICA Draft Procedural Order for the Use of Online Dispute Resolution Technologies in 2016 <<https://acica.org.au/wp-content/uploads/2016/08/ACICA-online-ADR-procedural-order.pdf>> last accessed 30 August 2023.

⁶⁹ Swiss Arbitration Association (ASA) Arbitration Toolbox <<https://toolbox-int.arbitration-ch.org/toolbox/home>> last accessed 30 August 2023.

whilst in the entirely AI-enabled robotic arbitration environment, AI technology may be able to provide actual hearings and arbitral awards without any human interaction. It is debatable whether it is legally feasible to have AI-assisted or AI-enabled arbitration. One of the concerns will be ethical standards. For example, in an automated arbitration system, a wide range of stakeholders may be liable in respect of how they contribute to automated ethical assessment of arbitrators. The practicality of ensuring accuracy, fairness and impartiality for robotic arbitrators will affect the feasibility of the use of AI-enabled arbitration in the future. In a traditional environment, the professional background of a human arbitrator is more likely to be transparent to the parties, allowing a trust relationship to form. The knowledge with which a robotic arbitrator is programmed is typically unknown and it may be difficult for parties to trust that there is no bias in the decision-making process. This is because machine learning is 'an application of AI that enables systems to learn from data and to improve without being explicitly programmed'.⁷⁰ Although arguably machine learning could improve their accuracy over time by learning from data, the reliability of datasets and the accuracy of data training will have a significant impact on reasoning and decision-making of generative AI arbitrators and thus affect the outputs. Thus, it is recommended to use 'quality and robust datasets for the training, development, and use of AI', which 'includes the creation of gold standard datasets or open and trust-worthy datasets'.⁷¹ However, it also worth noting that 'even if a machine learning algorithm receives adequate and accurate data', if the algorithm itself was poorly designed and coded, it may still make unreliable predictions.⁷² Subsequently, new ethical principles such as transparency, accountability, accuracy of language from machine learning may need to be considered in various contexts in order to complement the examination of competency of AI-assisted or AI-enabled arbitrators.

The uncertainty of the ethical standards of online arbitrators and robotic arbitrators may hamper the deployment of automated dispute resolution technologies and affect the accessibility, reliability and fairness of private justice. Thus, it is of great importance to assess the feasibility of applying the existing common ethical principles for commercial arbitrators in a digital dispute resolution environment effectively.

ASSESSMENT OF COMMON ETHICAL STANDARDS

One of the most well-known rules of ethics for arbitrators, namely the AAA Code of Ethics for Arbitrations (2004), requires an arbitrator to a) uphold the integrity and fairness of the arbitration process; b) disclose any interest or relationship likely to affect impartiality or which might create an appearance of partiality; c) avoid impropriety or the appearance of impropriety in communicating with parties; d) conduct the proceedings fairly and diligently; e) make decisions in a just, independent and deliberate manner; and f) be faithful to the relationship of trust and confidentiality inherent in that office.⁷³ The IBA's Rules of Ethics for

⁷⁰ Key facts UNESCO's Recommendation on the Ethics of Artificial Intelligence, published in 2023 at 11 <<https://unesdoc.unesco.org/ark:/48223/pf0000385082>> last accessed 30 August 2023.

⁷¹ Key facts UNESCO's Recommendation on the Ethics of Artificial Intelligence, published in 2023 at 13 <<https://unesdoc.unesco.org/ark:/48223/pf0000385082>> last accessed 30 August 2023.

⁷² Liao, S. M. (2020) 'A Short Introduction to the Ethics of Artificial Intelligence' in Liao, S. M. (ed.) *Ethics of Artificial Intelligence* Oxford University Press at 6.

⁷³ The Code of Ethics for Arbitrators in Commercial Disputes AAA Effective 1 March 2004,

International Arbitrators (1987) require a prospective arbitrator to make 'sufficient enquiries' to inform regarding his impartiality, independence, disclosure, competence and availability.⁷⁴ It was suggested that in the light of IBA Ethics for International Arbitrators (1987) and AAA Code of Ethics for Arbitrators in Commercial Disputes (2004), there are ten basic principles for commercial arbitrators: 1) duty of competency; 2) duty of independence and impartiality; 3) duty to uphold the integrity and fairness of the proceeding; 4) duty of disclosure; 5) duty to communicate; 6) duty to act professionally; 7) duty to render a decision; 8) duty to act in a fiduciary manner; 9) compensation; and 10) duty of non-neutral arbitrator.⁷⁵ It is argued that 'impartiality and independence are the core elements of integrity and ethical conduct of arbitrators',⁷⁶ though fairness has also to be a cornerstone which interconnects with other principles such as due process to provide decision-making without bias. The table below shows the common principles of ethical principles for arbitrators in major national, regional and international arbitration institutions:

	ABA/ AAA (2004)	LCIA (2017)	CIArb (2009)	CIETAC (1994)	ICC (2017)	IBA (2014)
Neutrality	√		√			
Integrity	√		√			
Fairness	√	√	√	√	√	
Independence	√	√	√	√	√	√
Impartiality	√	√	√	√	√	√
Duty of Disclosure	√	√	√	√	√	√
Non-impropriety/ Appropriateness (communication)	√		√			
Trust	√		√			
Confidentiality	√	√	√	√	√	
Accuracy	√					
Diligence	√	√				
Availability		√		√	√	
Competence			√			
Information			√			

Table 1: Common Principles of Ethical Principles for Arbitrators

Canon I – VI.

⁷⁴ International Bar Association Rules of Ethics for International Arbitrators 1987, Released on 9 July 2008, Rule 5 <www.ibanet.org/> last accessed 30 October 2018.

⁷⁵ Gabriel, H. and Raymond, A. H. (2005) 'Ethics for Commercial Arbitrators: Basic Principles and Emerging Standards' (5) *Wyoming Law Review* 453-470.

⁷⁶ A/CN.9/916 - Possible Future Work in the Field of Dispute Settlement: Ethics in International Arbitration, by United Nations Commission on International Trade Law (UNCITRAL), 3–37 July 2017, 50th Session, at 6.

International legislation, such as the UNCITRAL Model Law on International Commercial Arbitration (Articles 12 and 13), do not provide terms such as “impartiality”, “independence”, and thus national courts have to interpret them in the light of respective standards in their national law.⁷⁷ There are diverse interpretations of these common principles by arbitral institutions and national courts. In response to legal uncertainty, in recent years the UNCITRAL working group has been considering possible future work on the harmonisation of ethical standards in international arbitration.⁷⁸ For example, definitions of “impartiality” and “independence” have been provided by the recent UNCITRAL working document where:

Impartiality means the absence of bias or predisposition towards parties. Lack of impartiality would arise, for instance, if an arbitrator appears to have prejudged some matters in favour of one of the parties.

Independence usually relates to the business, financial, or personal relationship of an arbitrator with a party to the arbitration, and lack of independence usually derives from problematic relations between an arbitrator and a party or its counsel.⁷⁹

It has been highlighted that there could be challenging to achieve a balance between party autonomy and impartiality; and to draw the line between ‘acceptable knowledge’ and ‘unacceptable knowledge’ which affects the determination of partiality or lack of independence of arbitrators.⁸⁰ Article 12 (2) of the UNCITRAL Model Law on International Commercial Arbitration and Article 12(1) of the UNCITRAL Arbitration Rules use the criteria of ‘justifiable doubts’ for the determination of the arbitrator’s impartiality and independence. An arbitrator may be challenged if circumstances exist that give rise to justifiable doubts as to the arbitrator’s impartiality or independence.⁸¹ It is noteworthy that a “reasonable third person” test, as introduced by the IBA Guidelines on Conflicts of Interest in International Arbitration (2014) to explain the general standard of conflicts of interests, could be employed together with the criteria of ‘justifiable doubts’ to strike the balance of determination that, a reasonable third person having knowledge of relevant information concerning arbitrators may raise “justifiable doubts” about impartiality and independence of arbitrators.

With regard to the general standard of the arbitrator’s duty of disclosure, the IBA Guidelines on Conflicts of Interest in International Arbitration explains that:

a failure to disclose certain facts and circumstances that may, in the eyes of the parties, give rise to doubts as to the arbitrator’s impartiality or independence, does not necessarily mean that a conflict of interest exists, or that a disqualification should ensue.⁸²

⁷⁷ Ibid, at 4.

⁷⁸ Ibid, at 10.

⁷⁹ Ibid, at 6.

⁸⁰ Ibid, at 6.

⁸¹ UNCITRAL Model Law on International Commercial Arbitration as amended 2006, Article 12(2); and UNCITRAL Arbitration Rules as amended 2013, Article 12(1).

⁸² IBA Guidelines on Conflicts of Interest in International Arbitration (2014), p.8.

The IBA Guidelines employ a strict approach to the duty of disclosure that ‘any doubt as to whether an arbitrator should disclose certain facts or circumstances should be resolved in favour of disclosure’.⁸³ The IBA Guidelines (2014) further provide four non-exhaustive lists of specific situations which help to define whether relevant facts and information need to be disclosed by arbitrators.⁸⁴ The four lists are ‘non-waivable red list’, ‘waivable red list’, ‘orange list’ and ‘green list’.⁸⁵ It is in principle that there is no need for arbitrator to disclose facts or circumstances under the green list.

Concerning assessment of the arbitrator’s duty of disclosure in international legislation, although the New Year Convention 1958 does not explicitly address arbitrators’ ethical obligations, courts decisions concerning its Article V (which mirrors Article 36 of the Model Law on Arbitration) may be relevant to the interpretation of ethical standards, in particular the principle of disclosure.⁸⁶ In addition, national laws in states such as Germany, Canada, Belgium, Sweden and Austria have adopted the principle of disclosure as provided in Article 12 (1) of the UNCITRAL Model Law, with which English common law is also consistent.⁸⁷ In the recent case of *Halliburton v. Chubb*, the UK Supreme Court affirms that arbitrators have duties of disclosure, including the disclosure when involving multiple arbitration appointments concerning overlapping facts and subject matter,⁸⁸ as arbitrators should disclose overlapping appointments in order to comply with the statutory duty of fairness and impartiality under section 33 of the Arbitration Act 1996.⁸⁹ However, it still remains as an unclear boundary and a complicated balance to strike in context as to how far the obligation to respect the privacy and confidentiality of an arbitration restrict the arbitrator’s ability to make disclosure.⁹⁰

Nevertheless, the duty of disclosure, if not complied with, would affect the duty of impartiality. Likewise, in the US case of *Commonwealth Coatings Corp. v Continental Casualty Co.*, an arbitral award was set aside even though the award was unanimous. It concluded that, regardless of the agreement between the parties, if an arbitrator has any prior business relationship with one of the parties of which he fails to inform the other party, however innocently, the arbitration award is always subject to being set aside.⁹¹ A national court may have the authority to appoint arbitrators for international arbitration in a situation where parties fail to select arbitrators under law, according to their arbitration agreement or via their appointed arbitration institutions. However, it is noted that ‘judicial appointment

⁸³ Ibid, p.5.

⁸⁴ Ibid, p.17-27.

⁸⁵ Ibid.

⁸⁶ A/CN.9/916 - Possible Future Work in the Field of Dispute Settlement: Ethics in International Arbitration, by United Nations Commission on International Trade Law (UNCITRAL), 3–37 July 2017, 50th Session, at 4.

⁸⁷ *Halliburton v. Chubb* [2020] UKSC 48, para. 114-115.

⁸⁸ *Halliburton v. Chubb* [2020] UKSC 48.

⁸⁹ *Halliburton v. Chubb* [2020] UKSC 48, para. 126.

⁹⁰ *Halliburton v. Chubb* [2020] UKSC 48, para. 85.

⁹¹ *Commonwealth Coatings Corp. v Continental Casualty Co.* [1968] 393 U.S. 145.

of arbitrators is limited to cases where parties have not agreed upon means of selecting arbitrators or where their agreed means have failed to function'.⁹²

With regard to the assessment of the ethical standard of competency, it is suggested that parties' agreements on the appointment of arbitrators are sometimes difficult to secure due to unclear understanding of the ethical requirements of arbitrators.⁹³ For example, in *Jivraj v Hashwani*, the English Court of Appeal struck down an arbitration agreement requiring the three arbitrators to be of a particular religious group, in this case the Ismaili community, as it constituted unfair employment.⁹⁴ However, the Supreme Court of the UK reversed the judgment in 2011, holding that it was legitimate to select a person of a particular religion to be an arbitrator because the role of an arbitrator is not naturally described as employment under a contract personally to do work.⁹⁵ It concluded that

a religious or faith-based community's or organisation's power first to select and then to direct its own employed lawyers would be a secure means of ensuring that its employed lawyers valued, understood and prioritised the handling of English law work so far as possible on a non-confrontational basis, using alternative dispute resolution procedures wherever possible. A refusal to employ anyone other than a member of the particular religion or faith would in that context seem unlikely to be justified or proportionate⁹⁶

When assessing overall ethical standards for international arbitration, the 2018 International Arbitration Survey revealed that 'lack of effective sanctions during the arbitral process' was considered as the second worst characteristic of international arbitration, as it was a result of arbitrators' making insufficient use of the sanctioning power in the process.⁹⁷ It was argued that arbitration tribunals should proactively tackle improper conduct of arbitrators in the light of their relevant arbitration guidelines and rules.⁹⁸

As shown above, the assessment of common ethical standards requires careful interpretation and understanding in different contexts, taking into consideration relevant factors. The interpretation and application of these common ethical standards may be further challenged when involving an online arbitration proceeding. Best practices for ethical standards for online arbitrators should be thus developed and established.

⁹² Born, G. (2011) *International Arbitration: Cases and Materials* Aspen Publishers at 639.

⁹³ The Role of Ethics in International Arbitration, International Council for Commercial Arbitration (ICCA 2013) <www.arbitration-icca.org/media/2/13826154612930/yicca_report_6oct2013.pdf> last accessed 30 August 2023.

⁹⁴ *Jivraj v Hashwani (Rev 2)* [2010] EWCA Civ 712 (22 June 2010), para. 13 <www.bailii.org/ew/cases/EWCA/Civ/2010/712.html> last accessed 30 August 2023.

⁹⁵ *Jivraj v Hashwani* [2011] UKSC 40 (27 July 2011), para. 23 <www.bailii.org/uk/cases/UKSC/2011/40.html> last accessed 30 August 2023.

⁹⁶ *Jivraj v Hashwani* [2011] UKSC 40 (27 July 2011), para. 82.

⁹⁷ 2018 International Arbitration Survey: The Evolution of International Arbitration, at 8 <[https://arbitration.qmul.ac.uk/media/arbitration/docs/2018-International-Arbitration-Survey---The-Evolution-of-International-Arbitration-\(2\).PDF](https://arbitration.qmul.ac.uk/media/arbitration/docs/2018-International-Arbitration-Survey---The-Evolution-of-International-Arbitration-(2).PDF)> last accessed 30 August 2023.

⁹⁸ Abu-Manneh, R. and Dubot, L. (2022) The conduct of the parties in international arbitration: the current state of play, released 4 March 2022 <<https://www.ibanet.org/conduct-of-parties-in-international-arbitration>> last accessed 30 August 2023.

ETHICAL STANDARDS FOR ONLINE ARBITRATORS

Ethics for Online Arbitrators

Online arbitration has increasingly become a popular dispute resolution method. In practice, at the international level, there are various degrees, proportions and forms of technological involvement in online arbitration process. According to the 2021 International Arbitration Survey, among the selected five forms of information technology, the most common use of forms in an international arbitration are 'videoconferencing' and 'room technologies (e.g., multimedia presentations, real-time electronic transcripts)' with 65% scored 'frequently' and 'always' usage; the next most commonly used forms are 'cloud-based storage' and 'virtual hearing rooms'; and the least common use of form is 'artificial intelligence (e.g., data analytics, technology-assisted document review)' with 35% scoring 'never', 24% scoring 'rarely', 26% scoring sometimes, 13% scoring 'frequently' and 2% scored 'always' usage.⁹⁹ Nevertheless, the figures show a trend towards more advanced technology being used in international arbitration.

In various countries and regions, there are also different ways of employing technologies in both public and private ODR services. For example, in the US, it has been recorded that ODR services are mainly text-based interaction for convenience and accessibility.¹⁰⁰ In the EU, the European Online Dispute Resolution (ODR) platform, provided by the European Commission, is designed to provide online consumers and traders with an easy access to quality dispute resolution tools.¹⁰¹ However, currently there are no embedded online hearing technologies on the EU ODR platform. The platform merely enables online consumers and traders to choose and agreed on a trusted dispute resolution body if they wish to. If disputes cannot be resolved by negotiation or mediation, arbitration may be agreed by both parties as a way forward to resolve their disputes.

In China, arbitration institutions have been developing online arbitration platforms embedded by AI technologies in recent years. For example, the China Guangzhou Arbitration Commission firstly launched Arbitration Cloud Platform 1.0 in 2016 and an updated version of China Guangzhou Arbitration Commission 2.0, providing one-stop online arbitration service including case filing, hearing, cross evidence examination and arbitral awards.¹⁰² Meanwhile although it has been observed that courts and tribunals have much slower adoption of new technologies and online processes than private initiatives,¹⁰³ in recent years China has speeded up its innovative development of 'smart courts' (characterised in China

⁹⁹ 2021 International Arbitration Survey: Adapting arbitration to a changing world, at 21 <https://arbitration.qmul.ac.uk/media/arbitration/docs/LON0320037-QMUL-International-Arbitration-Survey-2021_19_WEB.pdf> last accessed 30 August 2023.

¹⁰⁰ Rule, C. (2019) ODR Around the World, released 14 August 2019 <<https://www.tylertech.com/solutions/courts-public-safety/public-safety/the-call/articles/odr-around-the-world>> 26 April 2022.

¹⁰¹ About the ODR Platform <<https://ec.europa.eu/consumers/odr/main/?event=main.home.howitworks>> last accessed 30 August 2023.

¹⁰² Chen, Z. (2019) The Path for Online Arbitration: A Perspective on Guangzhou Arbitration Commission's Practice, released 4 March 2019 <<http://arbitrationblog.kluwerarbitration.com/2019/03/04/the-path-for-online-arbitration-a-perspective-on-guangzhou-arbitration-commissions-practice/>> last accessed 30 August 2023.

¹⁰³ *Ibid*, 53

as ‘Internet Courts’).¹⁰⁴ Chinese Courts have increasingly used electronic means to support the whole process of court proceedings. For example, Zhejiang Courts use Electronic Commerce Online Court¹⁰⁵ to register any electronic commerce related disputes online and conduct mediation via telephone, online messaging and videos. If disputes cannot be resolved at this initial stage, the case will be filed online and the entire court procedure will be conducted online including hearing, witness statements and court judgement. All hearings (face-to-face or online) will be podcasted to the public via the courts’ website.¹⁰⁶ This process has been recognised as the building of the “internet courthouses” in China.¹⁰⁷ In some Chinese court buildings, video walls, facial recognition techniques and voice-enabled registration are employed to provide automated services when filing a case. Judges sit in videoconference-enabled courtrooms, while parties are called into hearings via video.

As shown above, increasingly advanced technology is being used in dispute resolution. There is currently no international consensus on ethical principles for online arbitrators or adjudicators. In 2009, the Advisory Committee of the National Centre for Technology and Dispute Resolution at the University of Massachusetts drafted ODR Standards of Practice, intending to provide ‘guidelines for practice across the spectrum of ODR’. The guidelines promote the principles of fairness, transparency and confidentiality of an ODR system, rather than individual operation frameworks, in order to be applicable across different subject matters, legal jurisdictions and technological platforms.¹⁰⁸ The ODR Standards of Practice has since been updated and expanded by ‘Ethical Principles for Online Dispute Resolution’ in 2016, which list 17 ethical principles including ‘accessibility, accountability, competence, confidentiality, empowerment, equality, fairness, honesty, impartiality, informed participation, innovation, integration, legal obligation, neutrality, protection from harm, security and transparency’.¹⁰⁹ All these principles are mostly intended to apply to the design and implementation of ODR systems, processes and implementation, except for the principles of competence, confidentiality, impartiality and neutrality which are more tailored for practitioners (including arbitrators). The ethical principle of ‘duty of disclosure’ was unfortunately omitted in ‘Ethical Principles for Online Dispute Resolution’ in 2016.

¹⁰⁴ Report of the Supreme People’s Court on the Adjudication Work of the People’s Courts on Intellectual Property Rights at the 31st Session of the Standing Committee of the 13th National People’s Congress on 21 October 2021 <<http://www.npc.gov.cn/npc/c30834/202110/2adb18d160c945e989bc20df3641cffc.shtml>> last accessed 30 August 2023.

¹⁰⁵ Electronic Commerce Online Court in Zhejiang Courts <<https://www.yuncourt.com/portal/main/domain/index.htm>> last accessed 30 August 2023.

¹⁰⁶ Zhejiang Courts Hearing Live <<http://zj.sifayun.com/>> last accessed 30 August 2023.

¹⁰⁷ Rule, C. (2019) ODR Around the World, released 14 August 2019 <<https://www.tylertech.com/solutions/courts-public-safety/public-safety/the-call/articles/odr-around-the-world>> last accessed 30 August 2023.

¹⁰⁸ National Centre for Technology and Dispute Resolution, 2009, Online dispute resolution standards of practice <www.icann.org/en/system/files/files/odr-standards-of-practice-en.pdf> last accessed 30 August 2023.

¹⁰⁹ Wing, L. (2016) Ethics and ODR: Ethical principles for online dispute resolution, National Center for Technology and Dispute Resolution <http://odr.info/ethics-and-odr/#_ftn2> last accessed 30 August 2023; and see also Wing, L. (2016) ‘Ethical Principles for Online Dispute Resolution A GPS Device for the Field’ 3(1) *International Journal on Online Dispute Resolution* 12-29.

In order to establish appropriate ethical principles for arbitrators and to provide their appropriate interpretation and application in ODR systems and processes, it is important to understand the differences of these systems and processes—in terms of features, values, technologies, knowledge and culture—between in-person arbitration and online arbitration. It has been pointed out that

it is possible that the purpose of professional ethics in this area is to distinguish at any given time which task of the legal profession has become standard and which part of our activities have not, in order to preserve and protect ‘human’ added value. This differentiation must be carried out based on professional and ethical criteria, not from business criteria exclusively, for the benefit of the rule of law which we must abide by.¹¹⁰

Long before the design of ODR systems, it was debated as to whether there should be a separate set of ethics standards for those who design systems of dispute resolution for an institution.¹¹¹ Correspondingly, consideration should be given as to whether there should be an additional separate set of ethics standards for those who design ODR systems, processes and platforms for institutions. In this author’s opinion, software engineers who design ODR systems, processes and platforms for institutions should comply with common software engineer ethics such as ‘the Software Engineering Code of Ethics and Professional Practice’¹¹² in accordance with the system functionalities requested by arbitration institutions to consolidate relevant arbitration rules.

In an online arbitration environment, the principles of neutrality and impartiality for online arbitrators should be interpreted, as the ODR systems, processes and platforms need to be designed to enable online arbitrators to provide neutral and impartial decisions. For example, if an ODR system, process and platform are provided by an arbitration institution, this system, process and platform should be programmed to provide functionalities which enable and guide arbitrators to conduct an arbitration procedure and make independent decisions in light of relevant arbitration rules in the arbitration institution.

Next, the principles of confidentiality for online arbitrators in an online arbitration environment should be interpreted as the ODR systems, processes and platforms should be designed to provide a secure environment using appropriate technologies such as digital signatures, authentication and time stamps to check the identity of arbitrators, encrypt any evidential and decision documents, keep hearing records and arbitral awards safely in the light of parties’ agreements and relevant data privacy protection legislation. In traditional in-person arbitration, only authorised parties, arbitrators and councils will be able to enter the arbitration room and only authorised groups will be allowed in breakout rooms. In an online arbitration environment, if all parties and arbitrators are connected from their own

¹¹⁰ Martinez, C. V. (2020) The ethics of new technologies in the legal profession, July 2020 <<https://www.ibanet.org/article/F6A45901-2B8F-4717-AE79-13FB692BA96D>> last accessed 30 August 2023.

¹¹¹ Menkel-Meadow, C. (2009) ‘Are There Systemic Ethics Issues in Dispute System Design? And What We Should [Not] Do About It: Lessons from International and Domestic Fronts’ (14) *Harvard Negotiation Law Review* 195-231 at 199.

¹¹² The Software Engineering Code of Ethics and Professional Practice, by the Association for Computing Machinery’s Committee on Professional Ethics <<https://ethics.acm.org/code-of-ethics/software-engineering-code/>> last accessed 30 August 2023.

places, there is no way to know that whether there is any unauthorised person at any end of the connection that is able to hear the arbitration proceeding. The only way to minimise the risk is to advise parties and arbitrators to use webcam during the hearing process, and make sure that the ODR systems are designed to check IDs and keep all records confidentially within the systems.

With regard to the principle of competency for arbitrators in an online arbitration environment, this principle should be interpreted as that the ODR systems should be designed to offer arbitrators online training on how to use the ODR systems and conduct the ODR processes on the platforms. Online arbitrators should pass digital competency assessment on the ODR systems to show a basic level of digital competency for the online arbitration proceedings. Additional digital competency for arbitrators may be required by parties and arbitration institutions when dealing with certain specialist subject matters. Moreover, online arbitrators may require more credentials in certain areas due to the features of online conduct. It was suggested that online arbitrators should also complete professional ethics courses and follow the code of conduct of the professional computing societies.¹¹³ The role of an online arbitrator will require vocational training specific to the requirements of the online dispute resolution (ODR) platform environment. Basic IT skills will be required, so that a business involved in ODR software may wish their employee to complete a digital skills training course such as that provided by the BCS (British Computer Society). The UK Bribery Act 2010 makes bribery a specific offence. Businesses involved in ODR software may wish to enrol their employees in appropriate ethical and anti-bribery compliance training courses.

As to the ethical principle of duty of disclosure for online arbitrators, there may be additional challenges when performing the duty of disclosure by an online arbitrator. For example, questions may arise as to in what scope of information that the online arbitrator should disclose conflict of interests and in what appropriate manner such disclosure should be made. Since online arbitrators are arbitrators (natural persons) who use electronic communications in conducting the arbitration process, the scope of required information for disclosure should be the same as traditional arbitrators. Online arbitrators should be expected to disclose such information by electronic communications and in a durable medium. It may be possible for the online arbitration platform to build in an automated ethical checking system to check against submitted disclosure information from parties and nominated arbitrators.

With regard to the appointment of online arbitrators, there is legal uncertainty of the validity of the arbitrators' appointment may arise when both parties could not agree on the same method of arbitration. For example, if one party appoints an online arbitrator but the other party appoints a traditional/offline arbitrator, the arbitration process becomes a hybrid process. This could add the layer of complication as to how arbitration procedures are followed, and due process is ensured. The ethical requirements of online arbitrators may also be difficult to interpret, for example, an online arbitrator or an arbitrator involving in a hybrid process may be required to have relevant technical knowledge to meet the ethical standard of competency to handle the process. Although there may be challenges to the appointment of online arbitrators, there are benefits of using online arbitrators selected from the ODR platforms as opposed to traditional arbitrators. In an ODR

¹¹³ Ebner, N. & Zeleznikow, J. (2016) 'No sheriff in town: Governance for the ODR field' 32(4) *Negotiation Journal* at 11.

environment, service providers can adopt an online arbitrator rating system that enables clients to review and rate the service of online arbitrators. In current practice, arbitrators are usually registered with specific arbitration institutions. Arbitrators may be listed under specific arbitration institutions chosen by the parties. Different ODR service providers may employ different rating systems to rate the individual work of arbitrators. In other words, the same arbitrators may have different rating scores under different ODR service platforms. Moreover, it is likely the winning party rates the arbitrator favourably and the losing party rates the arbitrator unfavourably. Nevertheless, review and rating of online arbitrators on an ODR system, as long as realisable rating systems are employed, may provide helpful reference to parties during the process of the selection and appointment of arbitrators.

With regard to the ethical requirements and power of online neutrals (including online arbitrators), UNCITRAL Technical Notes 2016 emphasises that the neutrals are required to declare and remain ‘impartiality and independence’ and provide a fair process for resolving disputes.¹¹⁴ Accordingly, the arbitrator shall conduct the arbitral proceedings fairly, diligently, efficiently, independently and impartially, which is mostly in line with the majority of existing institutional rules, national law and international arbitration legislation.

It is worth noting that procedural rules in some countries or regions concerning arbitrators may also require arbitrators with specific knowledge or expertise. For example, the EC Directive on Consumer ADR provides that ‘member States shall ensure that the natural persons in charge of ADR [. . .] possess the necessary knowledge and skills in the field of alternative or judicial resolution of consumer disputes, as well as a general understanding of law’.¹¹⁵ The China Arbitration Law also stipulates that an arbitrator must have acquired knowledge of law, engaged in the professional work in the field of economy and trade, etc.¹¹⁶

With regard to the design of a more sophisticated ODR system including the online arbitration platform, in addition to building in rating systems for the selection of arbitrators according to customers’ reviews, the system may be able to automatically recommend qualified arbitrators through aggregated data according to the criteria of required arbitrators that parties have input in the system. It is common knowledge that arbitration is confidential and arbitral awards are usually unpublished. It is hard to know the actual experience of arbitrators and their standard of decision-making. In order to increase and equalise access to critical information in the arbitrator selection process, in 2015 Arbitrator Intelligence—a non-profit, interactive informational network—concluded its preliminary start-up phase to set up a pilot project to collect arbitrators’ past decision-making information.¹¹⁷ Arbitrator Intelligence has designed a feedback questionnaire called ‘Arbitrator Intelligence Questionnaire (AIQ)’ to facilitate systematic collection

¹¹⁴ UNCITRAL Technical Notes on Online Dispute Resolution (2016), Articles 48(b) and 49 <https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/v1700382_english_technical_notes_on_odr.pdf> 30 August 2023.

¹¹⁵ EC Directive on Consumer ADR, Article 6(1)(a).

¹¹⁶ Arbitration Law of People’s Republic of China, 1994, Article 13.

¹¹⁷ Arbitrator Intelligence <www.arbitratorintelligence.org/about/> last accessed 30 August 2023.

of information about arbitrators' past case management and decision-making.¹¹⁸ They are also collecting published and unpublished international arbitrator award submissions.¹¹⁹ The initiative is an excellent idea; however it is unpredictable as to how many arbitrators in the world may participate in the questionnaire and contribute their awards to the system. On 1 June 2017 the Singapore International Arbitration Centre (SIAC) entered into a cooperation agreement with Arbitrator Intelligence to encourage their arbitrators to participate in AIQ.¹²⁰ Although the use of AIQ has been promoted across the globe, it is still not clear how reliable and how useful the resulting data will be. Nevertheless, if ODR service providers use their published and unpublished arbitral awards in their database to analyse the quality and standard of arbitrators' past decision-making, then this analysis may provide parties with helpful recommendations and assist parties to make informed choice of online arbitrators. It will even be more helpful if the majority of ODR service providers establish partnerships to share their data of arbitrators' past decision-making in an aggregated form, without revealing parties' personal data and confidential information, by means of data anonymisation. Such aggregated data may provide factors for consideration of the selection of arbitrations such as arbitrators' speed of resolving disputes in each phase of the arbitration process, qualifications, special knowledge, experience and skills of arbitrators, successful rates of arbitral awards and customers' review etc. ODR service providers must take care to ensure information is original and unmodified before inclusion in their system. False reviews or modified awards could distort the impression of an arbitrator, and result in a poor choice being made for a given dispute. The person or body submitting information should not be anonymous, and their relationship to the case should be noted.

AI Ethics for Online Arbitrators

Furthermore, if AI algorithmic technology is embedded to provide technological assistance to arbitrators and arbitration proceedings such as the provision of outcome predictions or final automated arbitral awards, ethical principles should be appropriately embedded in ODR system design. Such an ODR system with embedded AI technology should be designed to comply with relevant arbitration rules and applicable law. It should also be designed to process dataset appropriately and provide competent legal reasoning in line with AI ethics. It is without a doubt that in a generative AI arbitration environment, concerns may be further raised with regard to accuracy and accountability of an ODR outcome due to the reliability of data from open sources.¹²¹ A 2021 international arbitration survey has already concluded that:

Interviews further revealed that there is a general lack of familiarity with new technologies, coupled, in some cases, with a continuing sense of mistrust.

¹¹⁸ Arbitrator Intelligence Questionnaire (AIQ) <www.arbitratorintelligence.org/aiq-frequently-asked-questions/> last accessed 30 August 2023.

¹¹⁹ Award Progress Bar <www.arbitratorintelligence.org/project-updates/> last accessed 30 August 2023.

¹²⁰ SIAC Signs Cooperation Agreement with Arbitrator Intelligence, posted on 1 June 2017 <<http://www.siac.org.sg/>> last accessed 30 August 2023.

¹²¹ Wang, F. (2023) 'Copyright Protection for AI-Generated Works Solutions to Further Challenges from Generative AI' Series 2, 5(1) *Amicus Curiae* 88-103 at 89.

Interviewees from all groups expressed a degree of scepticism towards the potential use of AI tools and algorithms for predictive justice. They raised ethical considerations and doubts as to how much such tools can or should interfere with the adjudicative function. The vast majority of interviewees felt that AI cannot substitute for human arbitrators and counsel.¹²²

This shows that in order to encourage users' trust and confidence in an AI embedded ODR environment, it is important that key ethical principles of transparency, accountability, fairness, impartiality and neutrality, competency and confidentiality from machine learning are implemented adequately in all areas including the interpretation of ethical principles, and the design of ethical ODR systems. In the author's opinion, the explanatory notes to the interpretation of key principles to AI ethics of online commercial arbitration could be suggested as follows:

- Transparency in a generative AI arbitration environment means that the AI actors for arbitration proceedings should provide users with information as to how a decision has been made using AI and where such information can be found. It is expected that the purpose, inputs, operations, capabilities, limitations, benefits, and risks of the AI system or program are knowable and understandable to its stakeholders and end-users (e.g., arbitrators and disputing parties).¹²³ In addition, disputing parties should be able to access the reasons for a decision affecting their rights,¹²⁴ and have an opportunity to make further enquiries to competent human arbitrators who should be able to review and correct the decision if necessary.
- Accountability in a generative AI arbitration environment means that the AI actors for arbitration proceedings should make it clear that when decisions (e.g. arbitral awards) made by AI could not be agreed with by disputing parties, how disputing parties should be able to exercise their rights. AI arbitration system and process should be auditable including inputs, outputs, decisions, procedures, tools and datasets.
- Fairness, impartiality and neutrality in a generative AI arbitration environment means that AI-enabled arbitrators should make all reasonable efforts to avoid algorithmic determination and bias on the outcomes or arbitral awards, including the use of reliable datasets and the accurate training of data. Non-bias AI arbitration systems should be built to ensure the independence of generative AI arbitrators and prevent conflicts of interest.
- Competency in a generative AI arbitration environment means that AI-enabled arbitrators should be embedded with ethical principles by design

¹²² 2021 International Arbitration Survey: Adapting arbitration to a changing world <https://arbitration.qmul.ac.uk/media/arbitration/docs/LON0320037-QMUL-International-Arbitration-Survey-2021_19_WEB.pdf> last accessed 30 August 2023.

¹²³ Ethics By Design and Ethics of Use Approaches for Artificial Intelligence, European Commission, 25 November 2021 at 9 <https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ethics-by-design-and-ethics-of-use-approaches-for-artificial-intelligence_he_en.pdf> last accessed 30 August 2023.

¹²⁴ Recommendation on the Ethics of Artificial Intelligence, UNESCO, adopted on 23 November 2021 and published in 2022 at 22 <<https://unesdoc.unesco.org/ark:/48223/pf0000381137>> last accessed 30 August 2023.

and have passed stringent ethical impact assessments. Generative AI arbitration system should also demonstrate competent algorithm, along with competent knowledge, understanding and implementation of relevant arbitration legislation, procedures, languages and precedents with appropriate and reliable datasets and training data over time.

- Confidentiality in a generative AI arbitration environment means that case materials and parties' personal information submitted to AI-generated arbitration should be protected in the light of data privacy protection regulations. Arbitral awards generated by AI-generated arbitration should also be kept private and confidential, except that parties have agreed for arbitral awards to be used in the same AI system as datasets. Security and safety of the AI-generated arbitration system should be ensured to prevent infringement of confidentiality.

Along with the interpretation of AI ethics of online commercial arbitration in a generative AI environment, 'ethics by design' should be an approach adopted so as to ensure that the ethical requirements are properly addressed during the development of AI system or technique, rather than fixing them later in the process when ethical issues arise.¹²⁵ Ethical requirements for AI systems should include the algorithmic integration of ethical reasoning for machine learning; regulatory compliance for data collection and training; and code of conducts for AI actors or developers. One of the most challenging aspects in the design, create and use AI-generated arbitration systems is due to the issue of confidentiality. It is known that arbitration proceedings and outcomes are strictly confidential, unlike in court hearings. This makes it hard for AI-generated arbitration systems for data collection and training, unless users have agreed for AI-generated arbitration systems to use their case data within the same system for the system to improve over time.

With regard to robotic arbitration (namely, fully automated arbitration without any human interaction), robotic arbitrators' duty of disclosure may not be relevant if a robotic arbitrator can be coded to avoid any conflict of interests even though the robotic arbitrator has been involved with the parties in the past. Robotic arbitrators may also gain bias via the machine learning process. If so, computer engineers need to mitigate such factors when re-programming a robotic arbitrator to undertake a new case.

As discussed earlier, parties may be able trust traditional arbitrators based on their background and experience. The professional background of a traditional arbitrator is required to be available to the parties, allowing a trust relationship to form. The knowledge with which a robotic arbitrator is programmed is typically unknown and it may be difficult for parties to trust that there is no bias in the decision-making process. To trust a robotic arbitrator and have the confidence that such an arbitrator is fair and nonbiased, users need to have a good knowledge of the design process, perhaps the knowledge used to train the automated arbitration, the use of competent algorithm and reliable datasets. In order to minimise a negative impact on wellbeing (such as users' potential frustration on a biased

¹²⁵ Ethics By Design and Ethics of Use Approaches for Artificial Intelligence, European Commission, 25 November 2021 at 11 <https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ethics-by-design-and-ethics-of-use-approaches-for-artificial-intelligence_he_en.pdf> last accessed 30 August 2023.

automated arbitration outcome), AI embedded ODR systems should be assessed for risk factors before they can be adopted on online platforms to avoid ‘materially distorting a person’s behaviour’ or causing ‘physical or psychological harm’, as proposed by the EU in its Proposed Artificial Intelligence (AI) Act.¹²⁶

AI ETHICS MEASURES

Automated computing and legal knowledge-based systems have been increasingly employed in legal services including arbitration. It is arguable whether human ethics can be embedded into an autonomous machine process successfully. Embedding ethics into autonomous machines means programming ethics into automated reasoning. It was argued that it is technologically challenging to program ‘normative ethics’ to provide judgements based on previous behaviours, decisions and actions, even though such coding has already precluded other ethical aspects such as ‘moral code and norms’ in culture and society.¹²⁷ Technical challenges to embed ethics into machine may include translating philosophical concepts and theories in natural language to generic machine coding; as well as interpreting complex parameters such as social acceptance into machine values.¹²⁸ With the further deployment of AI in legal service including arbitration, AI-specific ethical principles also need to be incorporated into automated dispute resolution system.

In the EU Ethics Guidelines for Trustworthy AI, there are four AI-specific ethical principles for trustworthy AI, namely, ‘respect for human autonomy’, ‘prevention of harm’, ‘fairness’ and ‘explicability’.¹²⁹ Among them, ‘fairness’ and ‘explicability’ are also two of the identified common ethical principles for online commercial arbitration globally. This is because in the context of an AI-enabled online arbitration system, ‘explicability’ means that the algorithm, datasets, process and decision-making need to be traceable, transparent, reliable, accountable and explainable as identified in other countries.

The principle of ‘prevention of harm’ is also one of key principles UNESCO’s recommendation as discussed earlier. With regard to ‘prevention of harm’ in the context of an AI-enabled online arbitration system, responsibilities and liabilities should be placed on legal persons and ‘humans who make primary necessary arrangements including the creators/programmers/developers and designers of identified primary AI algorithms, the persons who select, input and train the data, and the operators/users of AI algorithms’.¹³⁰ However, the task of determining liability for damage caused by an AI-enabled online arbitration system still remains changing, as this is similar to the challenges that we have faced on the liability for

¹²⁶ Proposed Artificial Intelligence Act 2021, Article 5.

¹²⁷ Bonnemains, V., Saure, C., and Tessier, C. (2018) ‘Embedded ethics: some technical and ethical challenges’ (20) *Ethics and Information Technology* 41-58 at 42.

¹²⁸ *Ibid*, 56-57.

¹²⁹ Ethics guidelines for trustworthy AI: High-Level Expert Group on Artificial Intelligence, European Commission, 14 April 2019 at 12.

¹³⁰ Wang, F. (2022) ‘AI and Intellectual Property Rights: IPR Protection for AI-Created Work’ *Speech at the Evidence Meeting of AI and Intellectual Property Rights: IPR Protection for AI-Created Work for All-Party Parliamentary Group (APPG)*, 24 January 2022 <<https://www.youtube.com/watch?v=E3wMWldnIPM>> last accessed 30 August 2023.

defects and accidents involved with autonomous cars using AI-based system. For example, in the EU, it is debated that ‘under the Product Liability Directive, a manufacturer is liable for damage caused by a defective product. However, in the case of an AI based system such as autonomous cars, it may be difficult to prove that there is a defect in the product, the damage that has occurred and any causal link between the two. In addition, there is some uncertainty about how and to what extent the Product Liability Directive applies in the case of certain types of defects, for example if these result from weaknesses in the cybersecurity of the product. Thus, the difficulty of tracing back potentially problematic decisions taken by AI systems and referred to above in relation to fundamental rights applies equally to safety and liability-related issues. Persons having suffered harm may not have effective access to the evidence that is necessary to build a case in court, for instance, and may have less effective redress possibilities compared to situations where the damage is caused by traditional technologies. These risks will increase as the use of AI becomes more widespread’.¹³¹ Accordingly, before adopting an AI-enabled online arbitration system, it should be subject to stringent risk assessment to minimise and prevent potential harm. For certain types of machine learning, it may not be possible to prove properties such as fairness, competency and lack of bias are built into the system at the start. Regular testing and analysis may be required to ensure the system still meets ethical standards.

In an automated arbitration process, there are many more varieties of stakeholders and parties involved compared with traditional arbitration. The potential unethical consequences of online and robotic arbitration will hinder trust and fairness of using machine intelligence and legal knowledge-based systems to improve the efficiency of dispute resolution services. If AI ethics can be embedded within automated online arbitration systems appropriately, AI-enabled online arbitration is more likely to make arbitration service/process less costly, and less in need of expert human supervision. It may be potentially more efficient and sustainable with a corresponding drop in the need for expensive, time-consuming litigation in certain cases.

Data quality is another key factor for the success of an AI-enabled online arbitration system. Data ethics, now identified as ‘an emerging branch of applied ethics’, reflect on ‘value judgements and approaches’ to the generation, analysis and dissemination of data in new technologies in the light of existing legislation.¹³² In 2023 the UK Centre for Data Ethics and Innovation (CDEI) affirmed the three key principles for AI governance, namely, transparency, fairness and accountability,¹³³ which were identified as important by Data Ethics Framework for the public sector in 2020.¹³⁴ That Framework explains that ‘transparency’ relates to actions,

¹³¹ European Commission White Paper on Artificial Intelligence - A European approach to excellence and trust, COM(2020) 65 final, Brussels, 19.2.2020 at 12 <https://ec.europa.eu/info/sites/default/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf> last accessed 30 August 2023.

¹³² Guidelines for AI Procurement: A summary of best practices addressing specific challenges of acquiring Artificial Intelligence in the public sector, the UK Office for Artificial Intelligence, 2020 <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/990469/Guidelines_for_AI_procurement.pdf> last accessed 30 August 2023.

¹³³ Qualitative research report: Public expectations for AI governance (transparency, fairness and accountability) 2022, published 29 March 2023 <<https://www.gov.uk/government/publications/cdei-publishes-research-on-ai-governance>> last accessed 30 August 2023.

¹³⁴ Data Ethics Framework, UK Government Digital Service, 2020 <<https://assets.publishing>

processes and data being made ‘in a complete, open, understandable, easily-accessible and free format’; ‘accountability’ refers to ‘effective oversight and control’ by the public over government’s decisions and actions; and ‘fairness’ refers to mitigation of biases to eliminate potential ‘unintended discriminatory effects on individuals and social groups’.¹³⁵

Another AI-specific ethical principle for robotic arbitrators that may need to be considered is appropriateness in languages (e.g. by employing automatic filtering systems). Appropriateness in languages, may be most challenging issue, because it may well be almost impossible to block all inappropriate languages as a statement may only be able to be understood correctly within specific context. Machine learning still has its limitations in understanding context accurately. Thus, this obstacle may pose a significant challenge—can robotic (automated) arbitrators act as arbitrators competently and legally, in particular in the usage of generative AI? For example, if generative AI arbitrators are used to make a decision concerning whether an uploaded video infringes rightsholder’s copyright, there are technological limitations of the ability of AI algorithms to understand content in context (i.e., fair use or case law) at our current stage of development.¹³⁶

CONCLUSION AND RECOMMENDATIONS

As discussed above, it has been shown that the implementation of the existing ethical standards for online arbitrators faces challenges. It is more complex to develop equivalent ethical standards for robotic arbitrators due to the variety of factors and parties involved in the process. With the recent deployment of generative AI giving legal advice, it further shows that the fast-moving trend of integrating machine intelligence into legal practice comes with increasing challenges.

Based on the analytical research results shown above, the ethical principles of ‘impartiality’, ‘independence’ and ‘duty of disclosure’ are the core ethical standards for arbitrators in all forms including traditional, online (AI-assisted) and robotic (automatic/AI-enabled) arbitrators. In a generative AI arbitration environment, AI ethics need to be further incorporated into ethical principles for online and robotic arbitrators. As suggested by the author, there are five AI ethical principles for online and robotic arbitrators: (1) transparency; (2) accountability; (3) fairness (which should also include impartiality and neutrality); (4) competency (which includes but is not limited to competent algorithms and datasets); and (5) confidentiality (which includes but is not limited to security and safety). AI-enabled online arbitration systems should be infused with AI ethics best practices, with appropriate interpretation and implementation of AI ethics for online and robotic arbitrators. Appropriate legal and technical measures should be considered for AI-specific ethical issues to prevent potential harm, without hindering productivity and innovation in society. Responsibilities and liabilities need to be further clarified for issues occurring in AI-enabled

[service.gov.uk/government/uploads/system/uploads/attachment_data/file/923108/Data_Ethics_Framework_2020.pdf](https://www.service.gov.uk/government/uploads/system/uploads/attachment_data/file/923108/Data_Ethics_Framework_2020.pdf) last accessed 30 August 2023.

¹³⁵ *Ibid.*

¹³⁶ Wang, F. (2022) ‘Resolving Online Content Disputes in the age of Artificial Intelligence: Legal and Technological Solutions in comparative perspective’ 17(2) *Journal of Comparative Law* 491-517 at 491.

arbitration proceedings. Technical measures for ensuring appropriateness in language and quality data in the AI-enabled arbitration process can be further developed to improve accuracy.

The take-up of AI-enabled arbitration systems must be gradual. Not all disputes and cases are suitable for resolution by AI-enabled arbitration systems, in particular with the limitations in current technologies. Even if robotic arbitrators may become technically feasible and reliable in the future, their usage should be cautiously adopted. Humans have thousands of years of wisdom embedded in their brains and genes. It may be possible in some way to transplant our wisdom to robots via coding, machine learning and deep learning, however, it is increasingly concerning that robots can also develop their own personalities and wisdom throughout time. The usage of robots must be under complete control of humans for the benefit of improving the efficiency, productivity, fairness, wellbeing and order in the society. It would be beneficial for stakeholders and policymakers in AI and arbitration industries to work together with lawmakers to create best practices for AI-related products risk assessment and ethical standard implementation.

GLOSSARY OF CHINESE TERMS

Romanisation (Hanyu Pinyin)	Chinese Characters	English Translation
daode guifan	道德规范	moral standard/norm
lun li	伦理	moral principles
shouze	守则	code.
Zhongcaiyuan Shouze	仲裁员守则	Code for Arbitrators

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