CHAPTER 8

Developing Legal Frameworks for Dispute Resolution in the Digital Age

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1 Introduction

The United Nations Commission on International Trade Law (UNCITRAL or Commission) is the core legislative body of the United Nations (UN) system in the field of international trade law established by the UN General Assembly in 1966.[2] Its mandate is to further the progressive harmonization and modernization of the law of international trade. In the area of dispute resolution, UNCITRAL is known for instruments such as the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York Convention), which is broadly acknowledged to be the foundation of international arbitration, the UNCITRAL Model Law on International Commercial Arbitration (MAL) and the UNCITRAL Arbitration Rules (UARS). In line with its mandate, UNCITRAL continues to update or develop rules and norms, so as to address evolving circumstances.

The impact of digitalization is seen across the board and dispute resolution is obviously not immune. Resolving technology-related disputes demands a thorough understanding of technical matters by arbitrators, as technologies may be at the centre of such disputes, involving intricate technical details. At the same time, due to the nature of the transactions from which such disputes arise, there are persistent calls for further expediency in their resolution, despite efforts having been made to expedite dispute resolution proceedings in general.

Digitalization has not only made the subject matter of disputes to be technologically sophisticated. It has also brought a more direct impact on dispute resolution proceedings themselves, as digital technologies and technology-enabled services have become integrated in the conduct of proceedings. While digital technologies may bring efficiencies to proceedings, they are considered to have associated risks that may result in undermining the prin-

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ciples of due process and fairness and, thus, require legal responses. There is also debate about advantages of digital technologies not being taken to the fullest extent possible due to obsolete laws and rules remaining as obstacles.

This chapter provides an overview of two of UNCITRAL's ongoing projects in the area of dispute resolution, namely the legislative work undertaken by Working Group II (WGII) on technology-related dispute resolution and adjudication and the project on the stocktaking of developments in dispute resolution in the digital economy, and concludes with an observation as to the overarching objective by which UNCITRAL's work in this area is guided.[3]

2 Technology-Related Dispute Resolution and Adjudication[4]

As mentioned above, the UARS are a key UNCITRAL text in dispute resolution. As noted by the General Assembly, these rules *"are recognized as a very successful text and are used in a wide variety of circumstances covering a broad range of disputes, including disputes between private commercial parties, investor-State disputes, State-to-State disputes and commercial disputes administered by arbitral institutions, in all parts of the world"*.[5] The UARS were first adopted in 1976 as a comprehensive set of procedural rules upon which parties may agree for the conduct of arbitral proceedings arising out of their contractual relationship and are widely used in *ad hoc* arbitrations as well as institution-administered arbitrations, covering all aspects of the arbitration process. In 2010, the UARS were revised to reflect arbitral practice that had evolved in the course of the previous thirty years, as seen, for example, in the inclusion of provisions on multi-party arbitration, joinder, liability, a cost review mechanism as well as the updating of procedures for the replacement of an arbitrator. In 2013, article 1(4) was added to incorporate the UNCITRAL Rules on Transparency in Treaty-based Investor-State Arbitration, designed to provide for transparency and making treaty-based investor-State arbitration more accessible to the general public.[6] In 2021, article 1(5) was added to incorporate the UNCITRAL Expedited Arbitration Rules (EARS) as an appendix to the UARS.

The EARS have been developed to cater for the needs of parties for a quicker resolution of their disputes, for instance, when the amount disputed is relatively small and the case is relatively straightforward.[7] The EARS provide in principle for a completion of the arbitral proceedings within 6 months after the constitution of the tribunal.

Notwithstanding the EARS, in times marked by rapid technological advancements in pursuit of increased speed and efficiency, it has become evident that parties seek to find ways and means to resolve disputes even more expeditiously but with the competing desire to preserve the overall quality of dispute resolution. Against this backdrop, at its fifty-fifth session in 2022,[8] the Commission discussed suggestions regarding work on technology-related dispute resolution and adjudication and decided to entrust WGII on dispute resolution to prepare model clauses and other legislative or non-legislative texts to be built on the foundation of the EARS, focusing on shorter time frames, streamlined procedures, appointment of experts or neutrals, guidelines on evidence, and confidentiality. When finalized and adopted, UNCITRAL's expectation is that such model clauses and texts will enable parties to customize the process to their specific needs by incorporating model clauses into contracts or to seek guidance from the texts.

At the time this chapter is drafted, deliberations in WGII to carry out work on technology-related dispute resolution and adjudication have been held in October 2022, February and September 2023. After three working group sessions, WGII is headed towards developing four model clauses and two guidance texts. The four draft model clauses are the Model Clause on Highly Expedited Arbitration, the Model Clause on Adjudication, the Model Clause on Technical Advisors and the Model Clause on Confidentiality. The two guidance texts are the Guidance on Confidentiality and the Guidance on Evidence. The gist of the draft model clauses and guidance texts are discussed below. It is expected that the draft model clauses and guidance texts will be finalized by WGII at its session in February 2024 and adopted by the Commission at its session in June/July 2024.

2.1 Draft Model Clause on Highly Expedited Arbitration

The draft Model Clause on Highly Expedited Arbitration provides an option to enable parties to have their disputes settled through proceed-

ings in which time frames are shortened and procedures are further simplified from those provided in the EARS. Notably, while the specific time frame has yet to be decided by WGII, the model clause will provide for a shortened time frame for making the award from the six-month provided in article 16 of the EARS.

2.2 Draft Model Clause on Adjudication

Recognizing that, aside from arbitration and mediation, there are certain mechanisms that are designed to settle differences that arise over the course of long-term contracts, the draft Model Clause on Adjudication enables parties willing to enter into such contracts to incorporate a dispute resolution process that ensures prompt decisions to prevent projects from stalling. While the mechanism derives from adjudication used commonly in construction cases, the aim of the draft model clause is to provide for a mechanism not only suitable for construction contracts but all types of long-term and complex contracts such as software development contracts. The clause foresees arbitral proceedings limited in their jurisdiction to make enforceable the decision by the adjudicator through a procedure identical to that of the draft Model Clause on Highly Expedited Arbitration.

2.3 Draft Model Clause on Technical Advisors

The draft Model Clause on Technical Advisors provides for the appointment of independent technical advisors accompanying arbitral tribunals in disputes involving complex technical matters such as those on software programming. Whereas tribunal appointed experts, appointed pursuant to article 29 of the UARS, report on specific issues in writing, the model clause enables the arbitral tribunal to appoint technical advisors to accompany it and provide explanations orally or in writing on technical matters as the need arises. This is aimed at assisting the arbitral tribunal to comprehend the technical issues at stake and, thereby, make more informed decisions. The draft model clause also provides safeguards to maintain the principles of transparency, impartiality, fairness and due process.

2.4 Draft Model Clause and Guidance Text on Confidentiality

Neither the MAL nor the UARS provide for the confidentiality of the proceedings. The possibility of the parties agreeing to maintain the confidentiality of the proceedings may nonetheless be an important feature factored into when parties opt for arbitration as the method of dispute resolution. The draft Model Clause on Confidentiality is intended to provide, in principle, that information in the proceedings should be kept confidential but also to clearly set forth the exceptional circumstances in which disclosure may be justified. The draft Guidance Text on Confidentiality is intended to provide useful guidance to the parties and the arbitral tribunal in situations where disclosure of confidential information of intrinsic value is necessary for a party to present its case but the risk of the value of the information being undermined by disclosure to the other party needs to be minimized.

2.5 Draft Guidance Text on Evidence

The Guidance Text on Evidence is intended to provide guidance to the parties and the arbitral tribunal in the handling of electronic evidence. It provides a basic acknowledgement that the references to evidence in the provisions of the UARS does not preclude electronic versions of evidence as they are in medium-neutral terms and that an electronic communication or data message can serve an equivalent function to a paper-based equivalent. Additionally, it refers to the need for the arbitral tribunal to prescribe the form in which electronic evidence should be submitted but also cautions that migrating the data format may risk undermining the evidential weight of the information. Reference is also made to various digital technologies and technology-enabled services, including artificial intelligence and distributed ledger technology systems, that may be deployed to process electronic evidence but alongside their associated risks.

3 Stocktaking of Developments in Dispute Resolution in the Digital Economy[9]

The project on the stocktaking of developments of dispute resolution in the digital economy, known as the DRDE project, was launched in December 2021. It mandated the UNCITRAL Secretariat to explore the impact of

digital technologies and technology-enabled services on dispute resolution by compiling, analyzing and sharing relevant information. Such activities are carried out with a view to identifying normative gaps and updating existing UNCITRAL instruments or developing new ones, if necessary.

As it is work carried out by a UN body, ensuring comprehensiveness in terms of reflecting views and interests of various geographical regions in the project's implementation is essential. To this end, the UNCITRAL Secretariat embarked on an initiative called the "World Tour" in December 2022, in which it holds discussions in different parts of the world to seek inputs from experts on the ground and ensuring that perspectives of different regions are properly reflected. At the time this chapter is drafted, discussions have been held in Tokyo, New York, Guatemala City, Paris, Vienna, Abidjan, Singapore and Hong Kong.

Meanwhile, the UNCITRAL Secretariat issued two documents on the preliminary findings of the DRDE project for the Commission's consideration at its session in July 2023.[10] Having considered those findings, the Commission expressed its appreciation to the work carried out and requested the Secretariat to continue to implement the project to put forward proposals for possible legislative work with a focus on the topics on the recognition and enforcement of electronic arbitral awards and electronic notices of arbitration and their delivery for consideration at its session in 2024.[11] Diverging views were expressed as to the need for further work on legal issues concerning more advanced technologies such as artificial intelligence and distributed ledger technology systems. Nevertheless, there was support expressed for further exploratory work on dispute resolution on online platforms and distributed ledger technology systems (DLT), including blockchain systems, to be carried out. There was also acknowledgement that services enabled by artificial intelligence were rapidly evolving and reference was made to the need for further monitoring and development.

3.1 Electronic Arbitral Awards[12]

In the two documents mentioned above, the UNCITRAL Secretariat suggested that work on the topic of recognition and enforcement of electronic arbitral awards could take the form of an additional recommendation on or an international instrument supplementing the New York Convention

and amendments to the MAL. In response, the Commission, at the same session, requested that the Secretariat present legislative options in putting forward that topic as future work at the next Commission session in 2024. The UNCITRAL Secretariat will be presenting legislative options as requested based on its concluding findings through the implementation of the DRDE project, and the Commission is expected to decide whether to mandate one of its Working Groups to take on the work proposal.

During normal times, the process of making and delivering a paper-based award by an arbitral tribunal will likely not take more than a month. As such, one might consider that the time and cost saved by digitizing arbitral awards may not be very significant. However, the impact of digitizing arbitral awards should not be underestimated. The topic comes at a time when work is underway in response to calls for a further shortened time frame for making the award from the six months provided in the EARS, as discussed above, and when unnecessary delays are becoming increasingly intolerable. Digitizing the phase of making, delivering and enforcing arbitral awards may also contribute to enabling uninterrupted administration of dispute resolution in the event of a future crisis in which physical mail services may be disrupted, as experienced during the recent pandemic.[13]

The acknowledgement that there are advantages in digitizing arbitral awards seems to be shared. At the same time, it is also felt that those advantages can only be fully taken, if the obstacles, i.e., the legal uncertainties on the enforceability of such awards, were removed. As a rules-making body, UNCITRAL may play a role in removing those obstacles and the Commission's decision in this regard awaits to be seen.

3.2 Use of Artificial Intelligence[14]

Discussions on the use of artificial intelligence (AI) in dispute resolution have been met with a mix of enthusiasm on the significant benefits that the use of AI may potentially bring to dispute resolution on the one hand but also doubts and caution regarding the use of AI in dispute resolution on the other. One point regarding AI that is not called into question is that the technology is rapidly evolving. In the not-so-distant past, while AI was finding its way into dispute resolution as a useful tool in extracting information or making outcome predictions, one of the weaknesses of AI was

considered to be its inability to provide reasons.[15] However, as generative AI appeared on stage, such a weakness seems to have been overcome to a considerable degree. Issues on the use of AI in dispute resolution appear to have since converged on the question as to how to ensure human oversight. For example, a U.S. district court judge is reported to have incorporated a section titled "Mandatory Certification Regarding Generative Artificial Intelligence" into his judge-specific requirements. This additional requirement mandated all attorneys appearing before the court to submit a certificate affirming either: (1) no portion of any filing will be drafted by generative artificial intelligence; or (2) that any language drafted by generative artificial intelligence will be checked for accuracy by a human being.[16] The rationale of this requirement was highlighted to be the susceptibility of these platforms to hallucinations or tendency to "make stuff up" as well as the challenge of reliability and potential bias when relying on generative AI. While this requirement intended to address the concerns when generative AI was used by legal counsels, the need to ensure that generative AI is not used, or human oversight is properly exercised if used, will likely be more pressing in the context of decisions-makers, as judgements and arbitral awards, unlike written submissions, are not subject to review by other players involved in proceedings.[17] Human oversight is, of course, not the only remaining issue with respect to the use of AI in dispute resolution. The possible imbalance of resources between the parties on reflection that equality being a component of due process as well as confidentiality and data security concerns are also issues that cannot be overlooked. All together, these issues suggest that the use of AI in dispute resolution is an area that needs to be closely monitored.

3.3 Blockchain and Dispute Resolution[18]

DLT systems are referred to as having categorical distinctions. One pertains to the distinction between "permissionless" and "permissioned". A permissionless system is open to access from any computer with no restrictions, whereas access to a permissioned system is restricted. Another pertains to the distinction between "public" and "private". A public system is a system in which there is no specific entity(s) managing or controlling it, whereas a private system is managed and controlled by a specific entity(s). Blockchain systems on which cryptocurrencies are traded are referred to as being permissionless and public.

The use of blockchain systems has brought new issues into the realm of dispute resolution, especially when disputes arise from permissionless and public systems. On permissionless and public blockchain systems, as a result of users maintaining anonymity or pseudonymity, specialized mechanisms to settle disputes have emerged and the outcomes of such mechanisms are automatically materialized within the systems.

In conventional dispute resolution, identifying the parties to the dispute and the claim is considered fundamental. However, on permissionless and public blockchain systems, users maintain pseudonymity rendering disputes arising from transactions on such blockchain systems unsuitable for resolution through conventional dispute resolution such as arbitration. Presumably, it is for this reason that the specialized mechanisms for dispute resolution have emerged, as discussed in other chapters of this book.[19]

Disputes arising from transactions on permissionless and public blockchain systems may be high value. In addition, as discussed above, the outcome of a specialized dispute resolution mechanism may be materialized automatically on the system. Despite the direct and large impact that the outcome may have on the parties, it is evident that the abovementioned specialized mechanism does not follow the processes of conventional dispute resolution that are in place to ensure due process and fairness. This may raise doubts as to whether dispute resolution delivered through such a mechanism is justifiable.[20]

To ensure that dispute resolution through emerging mechanisms is legitimate, it thus seems that the basic parameters of dispute resolution may need to be identified with a view to measuring such mechanisms against those parameters.

4 Conclusions

For dispute resolution, the use of digital technologies and technology-enabled services is acknowledged to be a double-edged sword.[21] Despite this common acknowledgement, some mention that the drawbacks of using technologies in dispute resolution are often overblown, whereas others

point out that there is good reason to take a measured approach in embracing digital technologies as they may risk undermining the principles of due process and fairness, the very principles on which dispute resolution is based. In this context, UNCITRAL is expected to play an essential role in evaluating which of the traditional norms are unnecessary obstacles and which are necessary safeguards and, furthermore, in harmoniously removing unnecessary obstacles and developing safeguards to address new challenges. This, in turn, will contribute to establishing an enabling environment to take full advantage of technological advancement.

Addendum on further progress made as of October 2024

The fifty-seventh session of the Commission was held from 24 June 2024 to 12 July 2024. On 1 July 2024, the Commission considered the two projects in the area of dispute resolution discussed above – the work carried out by WGII on technology-related dispute resolution and adjudication, and the exploratory work carried out through the DRDE project – to mark the completion of a legislative project and the commencement of a new one.

Regarding the legislative work on technology-related dispute resolution and adjudication, based on the work carried out by WGII up to its session held during 12-16 February 2024,[22] the Commission adopted a set of four model clauses entitled the "UNCITRAL Model Clauses on Specialized Express Dispute Resolution (SPEDR)", comprising the Model Clause on Highly Expedited Arbitration; the Model Clause on Adjudication; the Model Clause on Technical Advisors; and the Model Clause on Confidentiality. Acknowledging the need for and usefulness of providing guidance to promote their best possible use, the Commission also approved in substance the explanatory notes, which would accompany the Model Clauses, to provide a detailed description on the objectives of the specific Model Clause as well as their associated risks, if any, and alternative approaches, where applicable, and tasked WGII to finalize the explanatory notes at its upcoming session. Considering that its description was too generic to provide effective guidance, the Commission concluded that the guidance text on evidence should not be included in the explanatory notes.[23] At its eightieth session held from 30 September 2024 to 4 October 2024, dedicating the first day of that session, WGII finalized the explanatory notes.[24]

As for the DRDE project, considering the notes prepared by the Secretariat on progress report and future work proposals,[25] the Commission mandated WGII to work on the recognition and enforcement of electronic arbitral awards and, subsequently, on electronic notices. The Commission provided WGII with a broad mandate to identify the issues and explore appropriate solutions to those issues without prejudice to the final form of the outcome, and requested the Secretariat to organize a two-day colloquium during the eightieth session of WGII with the aim of obtaining perspectives in order to further assess the issues with respect to electronic awards and further contemplate possible solutions for electronic notices of arbitration.[26] The Commission also requested the Secretariat to continue to implement the DRDE project to further monitor and explore relevant topics such as those on artificial intelligence and platform-based dispute resolution.[27]

Following the decision by the Commission to entrust WGII with a new mandate, a colloquium entitled "UNCITRAL Colloquium on the Recognition and Enforcement of Electronic Arbitral Awards", to which 20 experts from different regions were invited to contribute, was held on 1-2 October 2024 as part of the abovementioned WGII session. Considering the note on future work proposals prepared by the Secretariat, in which the possible forms of the legislative work identified were: (i) an international instrument such as a protocol to the New York Convention: (ii) amendment to the MAL; and (iii) a recommendation on the interpretation of the New York Convention,[28] as well as the inputs received at the colloquium, WGII heard diverging views on the approach to be taken in contemplating the form of the work. One view cautioned that any exercise to amend or supplement the New York Convention would send a negative signal that the Convention did not accommodate a liberal interpretation enabling the enforcement of electronic awards and risked undermining the role it played in international arbitration. Another view was that, as the form would be guided by the issues identified and the solutions to be provided, none of the legislative options under consideration, including the preparation of a protocol to the New York Convention, should be ruled out without considering the specifics.[29] Notwithstanding the difference of views, it is expected that WGII will make progress towards the common goal of providing certainty for and enhancing reliance on the recognition and enforcement of electronic arbitral awards.

Notes

1 The views expressed in this article are those of the author and do not reflect the official opinion of the United Nations.
2 See United Nations General Assembly resolution 2205 (XXI), https://uncitral.un.org/en/about/faq/mandate_composition.
3 This chapter was drafted in December 2023 and does not reflect the developments thereafter. Relevant updates on UNCITRAL's work up to October 2024 are briefly discussed in the addendum at the end of this chapter.
4 Knieper, Judith & Ngai, Wing Nga (Karen). "Introducing New Model Clauses for Specialized Express Dispute Resolution under the UNCITRAL Arbitration Framework" *Austrian Yearbook on International Arbitration* (2024).
5 See resolution 65/22 adopted by the General Assembly on 6 December 2010 on the adoption of the UNCITRAL Arbitration Rules as revised in 2010.
6 The Transparency Registry (https://www.uncitral.org/transparency-registry/registry/index.jspx) is kept by the UNCITRAL Secretariat and operates thanks to donor funding from the European Union and the German Federal Ministry for Economic Cooperation and Development (BMZ).
7 See A/CN.9/959, Proposal by the Governments of Italy, Norway and Spain: future work for Working Group II, in particular paras. 27-28.
8 Official Records of the General Assembly, Seventy-seventh Session, Supplement No. 17 (A/77/17), para. 225.
9 Takashima, Takashi & Pollero, Marianela Bruno. "UNCITRAL's Dispute Resolution in the Digital Economy Project" *Austrian Yearbook on International Arbitration* (2024).
10 See documents A/CN.9/1154 and A/CN.9/1155, Notes by the Secretariat on taxonomy and preliminary findings of the stocktaking of developments in dispute resolution in the digital economy. These documents are available at https://uncitral.UN.org/en/commission.
11 See Official Records of the United Nations General Assembly, Seventy-Eight Session, Supplement No.17 (A/78/17), para. 215.
12 The author wishes to thank Professor Pietro Ortolani of Radboud University for his valuable contributions to the DRDE project on this topic.
13 At its fifty-sixth session, the Commission authorized the Secretariat to finalize and publish the document entitled "COVID-19 and international trade law instruments: a legal toolkit by the UNCITRAL Secretariat", which analyzed how UNCITRAL instruments can be used to minimize or prevent the impact of the consequences of future global crises.
14 The author wishes to thank Professor Maud Piers of Ghent University for her valuable contributions to the DRDE project on this topic.
15 Scherer, Maxi. "International Arbitration 3.0 – How Artificial Intelligence Will Change Dispute Resolution" *Austrian Yearbook on International Arbitration* (2019) p. 503.
16 See https://www.mcguirewoods.com/client-resources/alerts/2023/6/texas-judges-mandate-generative-artificial-intelligence-provides-lawyers-job-security-for-now/.

17 Strong, S.I. "Rage against the machine: Who is responsible for regulating generative artificial intelligence in domestic and cross-border litigation?" *University of Illinois Law Review* (2023) p. 165.
18 See document A/CN.9/1155 paras. 22-43.
19 See Chapters 1 & 2 of this book, amongst others, for further examples. This has also been discussed extensively by Working Group II. See e.g. document A/CN.9/1091 para. 25 and also the recording of the UNCITRAL Colloquium on Possible Future Work on Dispute Settlement held at the seventy-fifth session of Working Group II. https://uncitral.UN.org/en/disputesettelementcolloquium2022.
20 See Professor Matthias Lehmann's discussion of this subject in Chapter 3 of this book.
21 *supra* at 8.
22 A/CN.9/1181.
23 Official Records of the United Nations General Assembly, Seventy-ninth Session, Supplement No.17 (A/79/17), paras. 90-92.
24 A/CN.9/1193, paras. 13-42.
25 A/CN.9/1189 and A/CN.9/1190.
26 Official Records of the United Nations General Assembly, Seventy-ninth Session, Supplement No.17 (A/79/17), para. 285.
27 *Ibid.* para. 284.
28 A/CN.9/1190, paras. 15-62.
29 A/CN.9/1193, paras. 68 and 72.