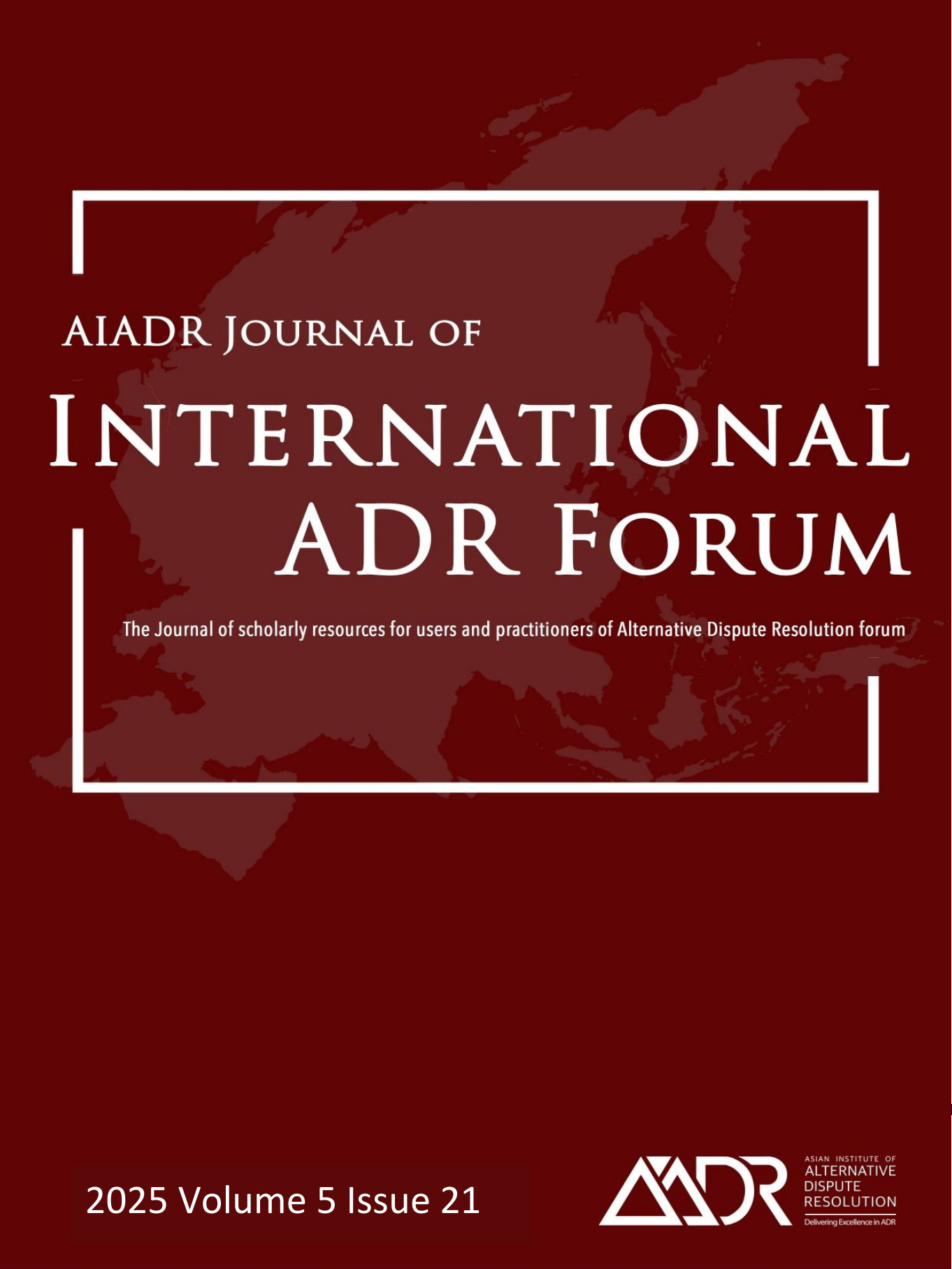




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Contents

Jurisdictional challenges of IT disputes resolution and IT technologies usage in arbitration.....	4
<i>By: Aleksei Korochkin, Phd.....</i>	4
Navigating the Conflict Between Foreign Investor Rights and the Host State's Sovereignty: India's Perspective	22
<i>By: Riya Goel</i>	22
The Role of ADR in Engineering & Technical Disputes	35
<i>By: The Secretariat from Asian Institute of Alternative Dispute Resolution (AIADR)</i>	35

Jurisdictional challenges of IT disputes resolution and IT technologies usage in arbitration

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ABSTRACT

Disputes in the sphere of information technologies (hereinafter – IT) have their own peculiarities. If we wish to resolve IT disputes in arbitration we should raise and answer a number of questions in advance.

I. Before submitting IT disputes to arbitration, we should consider the following questions

- **Should you implement a special pre-arbitration settlement procedure in the contract?**

There are a number of possible options. We can set in our contract negotiation, mediation, adjudication, etc. clauses. But considering IT disputes it may be necessary to try to resolve it by involving on its earliest stage experts, technical specialists, who better than lawyers can understand the roots of the difference and propose a solution for swift and fair dispute resolution.

For example, nowadays, according to the practice of the Intellectual Property Collegium of the High Court of the Republic of Belarus in almost every dispute aroused out of software contract judges scrutinizing technical experts' reports.

Unnecessary delay of the proceeding before state court or arbitration for appointing tribunal's experts and waiting for its reports can be prevented by incorporating in the contract pre-judicial expert determination settlement procedure. In IT-contracts we can set names of particular experts or even better a name of an expert organization, which can and able to prepare expert report in case of a dispute.

Possible clause can look the following:

«Any dispute, controversy or claim arising out of or relating to this contract, shall be firstly settled by preparation of an expert report with the involvement of an expert from [name of an expert organisation] within ____ days

*.
If the expert organization cannot provide an expert report within ____ days or after ____ days of preparation of a report one of the party will still express a disagreement with the report this party can submit the dispute to arbitration, according to arbitration clause set in article [...] of this contract».*

Depending on the nature of the dispute an expert can be replaced by neutral evaluator. In this regard, in the pre-judicial settlement clause can be incorporated mechanisms similar to SCC Express¹.

In order to make clear obligatory pre-judicial dispute resolution clause parties should remember that:

¹ <https://sccarbitrationinstitute.se/en/our-services/scc-express/>

- the language of the clause should be imperative;
- the parties should avoid ambiguous phrases that can be interpreted in two opposite ways;
- the parties should precisely name the way of alternative dispute resolution that they are going to use;
- the parties should establish the particular order in which the selected mechanism will be implemented or use model pre-judicial dispute resolution clause that has already elaborated and proposed by various arbitral institutions;
- it will be useful to set a provision that if one party deviate from the prescribed dispute resolution mechanism, the condition of the pre-arbitration stage will be considered as duly fulfilled;
- dispute resolution clause should be formulated in a way where party shall have a possibility to recourse to arbitration without obligatory consent of the opposing party.

Thus, in IT-contracts we should consider a possibility to implement pre-arbitration settlement procedure with an expert or neutral evaluator involvement.

One of the most decisive questions are:

- **Does your arbitration agreement exist and is it valid? and Where should you incorporate your arbitration agreement?**

On online-posted terms and conditions or in a specifically negotiated separate clause in the paper contract? Depending on the jurisdiction the validity of such an arbitration clause can be considered differently.

In relations between IT-services providers and its users arbitration clauses often incorporated in a «Terms & Conditions», which usually agreed by the user just by clicking «Accept» button.

In this scenario usually arise two questions:

- can the user's click on «Accept» button can be recognized as final stage of a conclusion of an arbitration agreement? and;
- if «yes», is the content of an arbitration clause valid and can be enforced?

Concerning the validity of an arbitration agreement in this article we intend

to just mention the basic rule. Firstly, you should choose appropriate arbitral institution. Secondly, find model arbitration clause on its site, copy it and paste into your «Terms & Conditions». For example, JAMS offers clauses, rules and procedures designed to meet the parties' needs in a variety of situations, including **smart contracts**².

The problem of existence of an arbitration agreement, concluded by the abovementioned chain of actions, is more complicated.

Incorporation of an arbitration clause in such kind of Terms can be considered as invalid way of conclusion of an arbitration clause in some jurisdictions and can lead to potential refusal in recognition and enforcement of an arbitral award.

For example, according to the second part of the Article 11 of the Law of the Republic of Belarus from the 9 of July 1999 №279-Z «On International Arbitration Court»:

«An arbitration agreement shall be concluded in writing. It shall be deemed concluded if it is contained in a document signed by the parties or concluded by means of an exchange of messages using mail or any other means of communication that ensures the written recording of the expression of the will of the parties, including the sending of a statement of claim and a response to it, in which, respectively, one party proposes to consider the case in an international arbitration court and the other does not object to this. A reference in a contract to a document containing an arbitration clause is an arbitration agreement, provided that the contract is concluded in writing and the content of the reference makes the said clause part of the contract».

If in the US consumer disputes arising from infringements of «Terms & Conditions» recognized as arbitrable, arbitrability of such kind of dispute in Hong Kong still under serious doubts³.

As we can see incorporation of an arbitration clause in online-posted

² <https://www.jamsadr.com/rules-smart-contracts>

³ <https://arbitrationblog.kluwerarbitration.com/2021/10/13/the-impending-binance-arbitration-a-primer-on-the-world-of-cryptocurrencies-derivatives-trading-and-decentralised-finance-on-the-blockchain/>

terms, without any further agreement in writing, can make such clause in some jurisdictions invalid and ineffective.

Thus, IT-service providers should be cautious implementing arbitration clauses in their terms & conditions and assess risks sensibly, keeping in mind legislation requirements and state court practice of its users' jurisdictions. Referring the potential disputes to arbitration think on the form and place of an arbitration clause taking into account relevant legislative requirements of the necessary jurisdiction(s).

The next questions are:

- **Where are you going to resolve an IT dispute? Should the standard arbitration procedure be adjusted in any way to suit your case?**

In the World Intellectual Property Organization (WIPO) Arbitration and Mediation Centre, in the Commercial Arbitration Court at Russian Chamber of Commerce or maybe better resolve these types of dispute in ad hoc arbitration with the agreed tailor-made procedure?

Depending on an arbitral institution and a set procedure the administration of the dispute resolution process can be significantly different.

According to Queen Mary University of London Survey «*Pre-empting and Resolving Technology, Media and Telecoms Disputes. International Dispute Resolution Survey*»⁴ among the most popular answers to the question «*How can technology improve international arbitration?*» were:

- more efficient e-disclosure and document review;
- e-case management/resolution software;
- reduce need for physical hearings or meetings;
- e-briefs/dematerialized submissions;
- online dispute resolution (ODR) mechanisms;
- e-learning training for potential users;
- e-hearings.

COVID pandemic improve arbitration in the most of the abovementioned points and various arbitral institutions go even further implementing in their arbitration rules very useful IT-disputes friendly mechanisms.

⁴ <https://www.qmul.ac.uk/arbitration/research/2016/>

For example, according to the Article 54 «Disclosure of Trade Secrets and Other Confidential Information» of the WIPO Arbitration and Mediation Centre Arbitration Rules:

*«...(b) A party invoking the confidentiality of any information it wishes or is required to submit in the arbitration, including to an expert appointed by the Tribunal, shall make **an application to have the information classified as confidential** by notice to the Tribunal, with a copy to the other party. **Without disclosing the substance of the information**, the party shall give in the notice the reasons for which it considers the information confidential.*

*(c) **The Tribunal shall determine whether the information is to be classified as confidential and of such a nature that the absence of special measures of protection in the proceedings would be likely to cause serious harm to the party invoking its confidentiality. If the Tribunal so determines, it shall decide under which conditions and to whom the confidential information may in part or in whole be disclosed and shall require any person to whom the confidential information is to be disclosed to sign an appropriate confidentiality undertaking.***

*(d) **In exceptional circumstances, ..., the Tribunal may, ... designate a confidentiality advisor who will determine whether the information is to be so classified, and, if so, decide under which conditions and to whom it may in part or in whole be disclosed.***

*(e) **The Tribunal may also, at the request of a party or on its own motion, appoint the confidentiality advisor as an expert in accordance with Article 57 in order to report to it, on the basis of the confidential information, on specific issues designated by the Tribunal without disclosing the confidential information either to the party from whom the confidential information does not originate or to the Tribunal».***

It is obvious that the abovementioned approach to confidentiality can attract lots of IT-users to transfer their disputes to arbitration.

From the other point of view IT-disputes may require its swift and effective resolution where unreasonable delay in award issuance may cause harm exceeding relief sought. In this scenario looks reasonable to use expedited arbitration instead of general procedure.

In cases where preserving the status quo is crucial during the dispute settlement procedure will be helpful to use emergency arbitration mechanism and timely obtain and enforce interim award requiring the provision of appropriate security.

Consequently, nowadays concluding IT-contract the parties may and, reasonably, shall incorporate arbitration clause there designate arbitration rules which suits the nature of the contract and potential disputes in the best way.

Can your case generally be submitted to arbitration? and Can all IT-disputes in general be suitable for arbitration?

As well as arbitration can be successfully initiated only with the existing arbitration clause all disputes there you cannot initially obtain the consent for arbitration of the opposing party cannot be resolved in arbitration. First of all, it is all disputes related to fraud of unknown person, digital assets thefts or disputes closely related to other types of criminal conduct etc.

Depending on national legislation and state courts practice of the particular jurisdiction as non-arbitrable can be recognized all types of IT-disputes (by referring all disputes to the exclusive competence of the state courts) or certain types of disputes (for example, IT-disputes with customers).

In this regard we can recall cases *Soleymani v Nifty Gateway LLC* and *Payward v Chechetkin*⁵. Both cases were initially resolved in USA by arbitration and then refused to recognize and enforce in UK, because it was consumer-business disputes. Both disputes were connected with token issues.

In some states, IT disputes shall be resolved only by state courts. Consequently, arbitral award on the IT dispute can potentially contradict to public policy of these jurisdictions.

⁵ <https://arbitrationblog.kluwerarbitration.com/2023/08/26/lawyers-crypto-and-public-policy-the-case-of-payward-v-chechetkin/>

In this chapter we also should mention the situations where effective resolution of IT dispute requires involvement of IT-expert or cross-examination of the core witness via videoconference software or raise special requirements for maintaining confidentiality, but arbitration rules or available facilities of the chosen arbitral institution cannot provide you such an opportunity. On this example we once again draw special attention to the question of proper choice of a suitable arbitral institution.

Some disputes can be recognized as unsuitable for arbitration due to circumstances of the specific case. In some jurisdictions, for instance, in Belarus, state courts can resolve dispute during 1-2 months. In case, when a delay in obtaining the final decision on the merits has paramount value the swift state court procedure looks much more suitable than lengthy arbitration procedure. Thus, in general we have to understand that arbitration is not a panacea for all IT-disputes.

II. Questions arising during the arbitration procedure.

Who will be your arbitrator? Can you find in the recommended list of arbitrators of a chosen arbitral institution at least three tech-savvy arbitrators who will not be afraid of the words «smart-contract», «blockchain» or «cryptocurrency»?

Before incorporating arbitration clause in your contract, you should check:

- are there any specialists, who can resolve potential disputes, arising out of your contract, professionally?;
- are these specialists included in the recommended list of arbitrators in the chosen arbitral institution or can be nominated for the disputes without such inclusion?;
- can these specialists be potentially available for your dispute regarding the issues of conflict of interest, neutrality, amount of the remuneration, workload, etc.?

In order to make the choice of a proper arbitrator easier all stakeholders should play their roles perfectly: arbitral institutions should publish areas of competence of their arbitrators and arbitrators should publish articles, present speeches and show their experience in the related IT areas.

After the beginning of the arbitration procedure parties should consider:

How are you going to raise and to counter jurisdictional objections?

One of the potentially problematic issue is **the arbitrability of IT-related disputes**. For example, in Belarus resolution of IT related disputes is a competence of the Special Collegium of the High Court of the Republic of Belarus. There is no legally established prohibition to resolve these disputes in arbitration as well as no any arbitration practice on this matter. Thus, arbitrability of such disputes in Belarus is under question.

The second controversial area is **compliance with the pre-arbitration settlement procedure. Can arbitration be initiated without following the mandatory pre-arbitration procedure?** If we prescribe in our contract that expert determination will be an obligatory pre-arbitration step, we can easily confront with jurisdictional objection submitting dispute to arbitration without prior expert involvement.

The next type of jurisdictional objection can arise when you set your arbitration clause in a publicly posted «Term & Conditions» in the jurisdiction, where arbitration clause shall be signed by both parties in one separate document in writing form. Legislative **requirement to the form of an arbitration agreement** should be checked depending on jurisdiction.

Concerning the jurisdictional objections, it is always better and easier to prevent them than to cure.

For prevention jurisdictional objections we should carefully design dispute resolution clause, coordinate its wording with the applicable model arbitration clause, arbitration rules and substantive law.

On the next stage we should behave in a prescribed by the contract manner. In case of raising objection, we should clearly determine its nature. Are they have any real grounds or submitted just with a purpose to delay the proceeding?

If we consider abusive jurisdictional objections, which were filed for delaying reasons, we should remember that is better to initially choose arbitral institution, which arbitration rules empowered arbitral tribunal to deal solely with any objections without necessity of suspending the proceeding. We should foresee how the tribunal will deal with the relevant objection, will tribunal bifurcate the procedure and suspended it for a year or resolve this issue quickly.

If we have reasonable and thoroughly substantiated objection, it is the sign that we have made a mistake on the earlier stages. During drafting a contract,

implementing conditions of a pre-arbitration clause or failing request for arbitration, etc.

IT-disputes have their own bunch of potential jurisdictional objection, which we should constantly keep in our minds and try to prevent it in advance.

The next bunch of questions relate to peculiarities of collecting evidence in IT-disputes:

How are you going to prove your case? Do you have a bunch of reliable IT experts in your field? Would you have an opportunity to bring this expert or, at least, his/her reports in arbitration in order to prove your position?

If the results of the dispute highly depend on the expert's opinion it is better to choose arbitration rules that favoured expert evidence and clearly and effectively determine this process.

For instance, the Article 25 «Tribunal-Appointed Experts» of the HKIAC Arbitration Rules 2024 prescribes very precise and effective features of collecting expert evidence process:

*«25.1 ... After consulting with the parties, **the arbitral tribunal shall establish terms of reference for the expert**, and shall communicate a copy of the expert's terms of reference to the parties and HKIAC.*

*25.2 The parties shall give the expert any relevant information or produce for his or her inspection any relevant documents or goods that he or she may require of them. **Any dispute between a party and such expert as to the relevance of the required information or production shall be referred to the arbitral tribunal for decision.***

*25.3 Upon receipt of the expert's report, the arbitral tribunal shall send a copy of the report to **the parties who shall be given the opportunity to express their opinions on the report**. The parties shall be entitled to examine any document on which the expert has relied in his or her report.*

*25.4 At the request of either party, the expert, after delivering the report, shall attend a hearing at which the parties shall have the opportunity to be present and to examine the expert. **At this hearing either party may present experts in order to testify on the points at issue**. The provisions of Articles 22.2 to 22.7 shall be applicable to such proceedings».*

An expert report is not the only tool for collecting and presenting evidence in IT-disputes. Other interesting means of collecting evidence. can be found in:

- the Article 51 «Experiments» of the WIPO Arbitration and Mediation Centre Arbitration Rules:

*«(a) A party may give notice to the Tribunal and to the other party at any reasonable time before a hearing that **specified experiments have been conducted on which it intends to rely**. The notice shall specify the purpose of the experiment, a summary of the experiment, the method employed, the results and the conclusion. The other party may by notice to the Tribunal request that any or all such experiments be repeated in its presence. If the Tribunal considers such request justified, it shall determine the timetable for the repetition of the experiments»;*

- the Article 53 «Agreed Primers and Models» of the mentioned Arbitration Rules states that:

«The Tribunal may, where the parties so agree, determine that they shall jointly provide:

*(i) **a technical primer setting out the background of the scientific, technical or other specialized information necessary to fully understand the matters in issue; and***

*(ii) **models, drawings or other materials that the Tribunal or the parties require for reference purposes at any hearing**».*

Hence, the choice of the arbitration rules can be varied also depends on the evidence, which can potentially play the most crucial role in the potential dispute.

III. Questions on enforcement - Where are you going to recognize and enforce an arbitral award?

Usage of IT raises lots of enforceability questions.

First of all, we should take a look on the possible grounds for refusal to recognize and enforce an arbitral award. Initially we should check any possible inconsistencies with the New York Convention. It is obvious that presence of any contradiction to the New York Convention will highly depends on particular jurisdiction and relevant state court practice.

Potentially we should remember that due to Article V (1) (a) of the New York Convention enforcement may be refused if agreement is not valid under the law to which the parties have subjected it and according to Article V(1)(b) of the New York Convention - if the party against whom the award is invoked was unable to present his case.

We should also remember that article V(1)(d) provides that recognition or enforcement may be refused if the arbitral procedure was not in accordance with the agreement of the parties, or, failing such agreement, was not in accordance with the law of the state where the arbitration took place.

And of course, we shall remember article V(2)(b) – and possible public policy consideration, for example, against arbitral award in cryptocurrency.

Nonetheless we have already mentioned some these ground in the previous lines, let's look on these grounds closer exclusively from the point of enforceability.

Article V(1)(a) of the New York Convention: validity of the arbitration agreement.

Usage of different blockchain transactions often based on the pre-established set of rules that typically named like «Terms of Use» or «Terms and Conditions». Reference of all disputes to arbitration can be incorporated in such terms. For example:

«...Except where prohibited by law, You agree that at the sole and exclusive discretion of Hedera that (1) any and all disputes and causes of action arising out of, relating to, or connected with these Terms, shall be resolved individually, without resort to any form of class action, and exclusively by final and binding arbitration under the rules of the American Arbitration Association and held in New York County, New York, USA; (2) the Federal Arbitration Act shall govern the interpretation, enforcement and all proceedings at such arbitration...»⁶.

Such types of disputes usually classified as consumer disputes and allowed to be resolved by arbitration in certain jurisdiction, for example, in the USA. However, for instance, in Kazakhstan an agreement to refer a consumer dispute

⁶ <https://hedera.com/terms>

to arbitration is permissible only after a dispute has arisen, and not at the stage of concluding a consumer contract ⁷. Consequently, arbitration clauses incorporated in «Terms of Use» can be potentially recognized invalid and unenforceable in Kazakhstan without subsequent approval of the customer after a dispute has arisen.

Article V(1)(b) of the New York Convention: inability to present the case.

In order not to cause inability of one of the parties to present its case, any usage of IT elements in arbitration ideally should be followed by two rules:

- the possibility of usage certain IT elements shall be corresponded to arbitration rules of the particular arbitral institution or to the agreement of the parties and;
- each party can be equally technically able to use such elements during arbitration proceedings.

Inability to have stable Internet connection, to use any videoconference software, for example, due to sanctions related restrictions, or inability to have access to the platform with the case materials can definitely be a ground for objections to recognize and enforce of the arbitral award on the ground of the Article V (1) (b) of the New York Convention.

For the proper example, can be taken the Article 13.1 of the 2024 HKIAC Administered Arbitration Rules:

*«Subject to these Rules, the arbitral tribunal shall adopt suitable procedures for the conduct of the arbitration in order to avoid unnecessary delay or expense, having regard to the complexity of the issues, the amount in dispute, **the effective use of technology**, information security, and environmental impact, and provided that such procedures ensure equal treatment of the parties and **afford the parties a reasonable opportunity to present their case**».*

In our opinion, accessibility of different technical tools for each party can be discussed during initial procedural conference and prescribed in the Procedural Order №1, or, ideally, in the arbitration agreement.

Article V(1)(d) of the New York Convention: the arbitral procedure drawbacks.

⁷ https://online.zakon.kz/Document/?doc_id=35401048&pos=6;-106#pos=6;-106

Inconsistencies of arbitration procedure with the arbitration agreement can provide a basis for objections in recognition and enforcement also on the basis of Article V (1) (d) of the New York Convention.

For example, we can consider a question of enforceability of recognition and enforcement of the arbitral award, which was prepared with AI assistance. It is obvious, that choosing the arbitrator we choose his/her brain, experience and our qualities, but not the qualities of the artificial intelligence software.

Despite the fact that all well-known challenges of the awards on the ground that tribunals delegate its powers to tribunal's secretaries failed⁸, we cannot predict how state courts in different jurisdictions will assess AI assistance in award writing. In our opinion, the usage of AI during the preparation of the arbitral award can be easily justified in cases, where arbitration rules initially prescribe such possibility and parties express their consent to use these arbitration rules.

Article V(2)(b) of the New York Convention: public policy rules.

Even if all procedural aspects of usage of IT elements in arbitration conducted in accordance with the applicable arbitration rules and parties' consent, one ground for refusal in recognition and enforcement will always remain. This ground is inconsistency with public policy rules.

From jurisdiction to jurisdiction the contradiction with public policy rules can be found in different IT-related aspects. For example, in the People's Republic of China can be problematic to enforce an award granted debt in cryptocurrency: *«In the Award, it was decided that Gao shall compensate Li with the fiat currency (CNY) equivalent of the “BTC value”. The Award, which granted the Claimants the redeemed value of the cryptocurrencies Gao held in possession for Li and supported the exchange of the cryptocurrency with fiat currency, if enforced, would have facilitated circulation of Bitcoins in PRC which is against the spirit of the Notice, as well as the Announcement which prohibits exchange services between tokens and fiat currency, and therefore would disrupt the “integrity and security” of the finance system and in turn, the public policy of PRC»*⁹.

One more potential contradiction to the public policy rules can be found in the

⁸ <https://arbitrationblog.kluwerarbitration.com/2023/08/08/green-light-for-secretaries-to-assist-in-drafting-arbitral-awards-so-long-as-tribunals-call-the-shots-nothing-new-under-the-belgian-sun/>

⁹ <https://arbitrationblog.kluwerarbitration.com/2021/04/02/award-concerning-bitcoin-exchange-bit-too-risky-to-enforce/>

usage by an arbitral tribunal of artificial intelligence during the assessment of evidence and rendering an arbitral award.

For example, according to the Article 3 of the Law of the Republic of Belarus “On arbitration courts” The arbitral tribunal is also guided by the principles of the economic procedural legislation of the Republic of Belarus. Article 24 of Economic Procedural Code of the Republic of Belarus set the principle of directness of judicial proceedings. In accordance with this principle an economic court is obliged to directly examine all evidence in the case during the hearing of the case. It is obvious that usage of AI brakes directness of the judicial procedure. Consequently, we can predict that proven usage of AI during evidence assessment and arbitral award issuance can be considered as contradiction to the public policy rules of the Republic of Belarus.

Thus, during the course of arbitration procedure and preparation of the arbitral award arbitrators shall keep in mind grounds for refusal in recognition and enforcement of an award, as well as public policy rules of the jurisdiction(s), where the arbitral award will likely to seek enforcement.

Can an arbitral award be issued in the electronic form and would it be enforceable?

Nowadays UNCITRAL Working Group II: Dispute Settlement considers the question of enforceability of electronic awards¹⁰. In this regard we should note the following.

Due to the requirements of the Article IV 1 (a) of the New York Convention to obtain the recognition and enforcement the party applying for recognition and enforcement shall, at the time of the application, supply the **duly authenticated original award or a duly certified copy thereof**. So, verification of an electronic award by the state court considering the application on recognition and enforcement seems rather challenging.

Imagine that this practical aspect will be resolved in a positive way, the success of the consideration of the application of recognition and enforcement of an electronic award will depend on legislation and state court practice of the definite jurisdiction.

¹⁰ https://uncitral.un.org/working_groups/2/arbitration

For instance, in accordance with the Article 40 of Law of the Republic of Belarus “On arbitration courts” an arbitral award shall be made in writing. At the same time part five of the Article 22 of the Law of the Republic of Belarus “On the electronic document and the electronic digital signature” prescribes that, if the law requires a document to be in writing, then the electronic document and its copy are considered to comply with this requirement. Consequently, we can predict that electronic form of an arbitral award should not contradict to Belarussian public policy rules.

To sum up, enforceability of the enforceability of electronic arbitral awards generally will highly depend on both the issue of compliance with the application requirements and with the public police rules.

The last, but not the least question on enforceability is

Can all wishes of IT-companies to arbitration procedure be recognized and enforced in every state?

Necessity to save trade secrets and sensitively confidential data force IT companies to spend lots of money for maintaining confidentiality of such kind of information. In this regard, Arbitral institutions wishing to increase their attractiveness to IT companies seeking to adopt their arbitration rules to the IT companies’ needs. So, the abovementioned Article 54 “Disclosure of Trade Secrets and Other Confidential Information” of the WIPO Arbitration Rules prescribes a rule of so-called “inbound confidentiality”.

A default rule of confidentiality can definitely act as a significant enticement for technology companies to opt for international arbitration¹¹.

At the same time, in some jurisdictions usage inbound confidentiality rules during arbitration procedure can be considered as infringement of the broadly used in national procedural legislation principle of adversarial procedure.

For example, Article 19 of Economic Procedural Code states that

“The persons participating in the case have the right to know about each other’s arguments before the start of the trial. Each person participating in the case is guaranteed the right to present evidence to the court considering economic cases and to the other party to the case, and is also provided with the right to file motions, express their opinions

¹¹ <https://arbitrationblog.kluwerarbitration.com/2022/07/14/arbitration-tech-toolbox-technology-related-dispute-resolution-tailored-rules-at-uncitral/>

and arguments, and provide explanations on all issues arising during the consideration of the case related to the presentation of evidence”.

Depriving one party with the right to be familiar with the information, presented by another party during the arbitration procedure, can also raise grounded objections on its inability to present its case (Article V (1) (b) of the New York Convention) or contradiction of an arbitral award with public policy rules of particular state (Article V (2) (b) of the New York Convention).

In the same vein we can consider possible infringements of the previously discussed principle of directness in the situation, where the specially appointed confidentiality advisor report to the Tribunal on the basis of confidential information without its disclosure to the Tribunal.

One of last question is:

How arbitrators should use IT technologies during the arbitration process to issue an award, that can be recognized and enforced in any state?

In my opinion, there are two options. First option is to refuse to use IT solution if any party object to it or if one party keep silence, asked this party to express its consent with the usage of IT.

However, according to my own practice the best way is, if it not already regulated in the applicable arbitration rules, write the possibility of usage of IT technologies in the Procedural order №1 and ask parties to sign it in the very beginning of the arbitration procedure.

Conclusions

In general, we have to understand that arbitration is not a panacea for all IT-disputes.

However, if you want to submit your potential cases to arbitration, you should take into account the following observations:

- in IT-contracts we should consider a possibility to implement pre-arbitration settlement procedure with an expert or neutral evaluator involvement;
- IT-service providers should be cautious implementing arbitration clauses

in their terms & conditions and assess risks sensibly, keeping in mind legislation requirements and state court practice of its users' jurisdictions. Referring the potential disputes to arbitration think on the form and place of an arbitration clause taking into account relevant legislative requirements of the necessary jurisdiction(s);

- concluding IT-contract the parties may and, reasonably, shall incorporate arbitration clause there designate arbitration rules which suits the nature of the contract and potential disputes in the best way;

- the choice of the arbitration rules can be varied also depends on the evidence, which can potentially play the most crucial role in the potential dispute;

- in order to make the choice of a proper arbitrator easier all stakeholders should play their roles perfectly: arbitral institutions should publish areas of competence of their arbitrators and arbitrators should publish articles, present speeches and show their experience in the related IT areas;

- IT-disputes have their own bunch of potential jurisdictional objection, which we should constantly keep in our minds and try to prevent it in advance;

- during the course of arbitration procedure and preparation of the arbitral award arbitrators shall keep in mind grounds for refusal in recognition and enforcement of an award, as well as public policy rules of the jurisdiction(s), where the arbitral award will likely to seek enforcement.

Finally, the last question of this article should be:

What should we do further to make arbitration more friendly for IT disputes?

We must develop our legislation, develop our arbitration rules in this direction, for example, allow to conclude arbitration agreements and issue arbitral awards in the digital form, etc.

However, the most important is the presence of specialists who would have a deep understanding of these issues and who would not be afraid to be appointed as arbitrators in such cases.

Navigating the Conflict Between Foreign Investor Rights and the Host State's Sovereignty: India's Perspective

By: Riya Goel

Riya Goel is currently pursuing her LL.M. in Alternative Dispute Resolution at O.P. Jindal Global University. With a keen interest in Dispute Resolution, Intellectual Property Rights (IPR), and Corporate Law, she is also eager to explore emerging fields of legal practice. Riya has developed strong legal research and drafting skills, complemented by her attention to detail, professionalism, and collaborative spirit. Passionate about continuous growth, she actively seeks opportunities to learn from distinguished legal professionals. Beyond academics, Riya enjoys cooking and writing, which serve as creative outlets. Known for her approachable nature, she is always willing to support and assist others.

Abstract

In the context of global economic integration, India has emerged as a critical destination for foreign direct investment (FDI), balancing its need for economic development with preserving its sovereign regulatory powers. This research explores the inherent tensions between investor rights and state sovereignty, particularly in India, where Bilateral Investment Treaties (BITs) and investor-state dispute mechanisms have historically leaned in favor of investor protections.¹ However, India's experience with high-profile investor disputes, such as the Vodafone and Cairn Energy cases, has led to a shift in its policy framework. The 2016 Indian Model BIT reflects a recalibrated approach, seeking to balance protecting investor rights and maintaining the state's sovereign right to regulate in areas like taxation, public health, and the environment. This paper examines

¹ 'Primer on International Investment Treaties and Investor-State Dispute Settlement | Columbia Center on Sustainable Investment' <<https://ccsi.columbia.edu/content/primer-international-investment-treaties-and-investor-state-dispute-settlement>> accessed 12 March 2025.

recent policy changes, including sector-specific liberalization, tax reforms, and data sovereignty measures, as part of India's broader strategy to attract investment while safeguarding its regulatory autonomy. Through a case-based analysis, the study highlights how India navigates the complexities of global investment law regime, offering insights into the evolving landscape of international investment and the growing need for states to assert their sovereign rights.

Keywords: Bilateral Investment Treaties (BITs), Investor-State Dispute Settlement (ISDS), Fair and Equitable Treatment (FET), India's Investment Treaty Policy.

Introduction

The rapid globalization of economies has greatly increased cross-border capital flow, with foreign direct investment (FDI) being a vital driver of economic development, especially for developing nations such as India.² This surge of foreign investment has introduced additional complications in regulating the relationship between investors and host nations.³ The increasing conflict between investor rights, established in bilateral investment treaties (BITs) and other international accords, and a state's sovereign authority to govern its internal economy is one of these difficulties. This struggle is most evident in India, which, in the last thirty years, has adopted economic liberalization while attempting to preserve its sovereign authority over critical policy domains such as taxes, environmental protection, and public welfare.⁴ India's investment treaties, investor-state dispute resolution systems, and local policies have changed due to this problem. India signed multiple Bilateral Investment Treaties (BITs) to encourage foreign investment after the early 1990s economic reforms, which protected investor rights. However, a series of major 2000s disputes, mainly over

² 'Finance and Development' (*Finance and Development F&D*) <<https://www.imf.org/external/pubs/ft/fandd/1999/03/mallampa.htm>> accessed 12 March 2025.

³ Jan Kleinheisterkamp, 'Investment Treaty Law and the Fear for Sovereignty: Transnational Challenges and Solutions' (2015) 78 *The Modern Law Review* 793.

⁴ 'Policy-Challenges-2019-2024.Pdf' <<https://cprindia.org/wp-content/uploads/2022/03/Policy-Challenges-2019-2024.pdf>> accessed 12 March 2025.

taxation and retroactive regulatory changes, highlighted these treaties' concerns about India's regulatory independence. The Indian government established a Model BIT in 2016 which rebalance investor protection and sovereign rights.⁵ The conflict between safeguarding investor rights under Bilateral Investment Treaties (BITs) and maintaining a state's regulatory authority in the public interest (including health, environmental, and labor norms) is a major difficulty in international investment law.⁶ This tension arises from the necessity to reconcile two critical objectives: ensuring a secure and stable legal framework for foreign investors while simultaneously preserving the sovereignty of host states to enact regulations that promote the welfare of their populations and broader public interests.⁷

Research Question: How does India balance investor rights with its Sovereign right to regulate its economy?

Key Tensions Between Investor Rights and Public Regulation

The conflict between investor rights and public regulation is central to several issues in international investment law. This tension is evident in Bilateral Investment Treaties (BITs), including provisions protecting foreign investments while potentially limiting a host state's regulatory powers. For instance, Fair and Equitable Treatment (FET) clauses in BITs, such as Article 3(2) of the Netherlands-Venezuela BIT,⁸ have been interpreted broadly by arbitral tribunals to include protection against regulatory changes, thereby restricting the state's ability to introduce new public welfare laws. Similarly, indirect expropriation provisions, as seen in Article 5 of the US Model BIT,⁹ have raised concerns when tribunals interpret regulatory measures such as environmental restrictions or

⁵ India, *Model Text for the Indian Bilateral Investment Treaty* (2016).

⁶ Crina Baltag, Riddhi Joshi and Kabir Duggal, 'Recent Trends in Investment Arbitration on the Right to Regulate, Environment, Health and Corporate Social Responsibility: Too Much or Too Little?' (2023) 38 ICSID Review - Foreign Investment Law Journal 381.

⁷ David Gaukrodger, 'The Balance between Investor Protection and the Right to Regulate in Investment Treaties: A Scoping Paper' <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3147346> accessed 6 October 2024.

⁸ Agreement on Encouragement and Reciprocal Protection of Investments between the Kingdom of the Netherlands and the Republic of Venezuela (signed 22 October 1991, entered into force 1 November 1993) art 3(2).

⁹ United States Model Bilateral Investment Treaty (2012) art 5.

health regulations as expropriatory acts requiring compensation. In *Philip Morris v. Uruguay*,¹⁰ the investor challenged tobacco control regulations under the Switzerland-Uruguay BIT, arguing that they amounted to expropriation and violated FET, while Uruguay defended them as legitimate public health measures. Such cases highlight the complex balance between investor protections and a state's right to regulate in the public interest, often leading to interpretational disputes in investment arbitration.¹¹

The following elaboration breaks down the key tensions between investor rights and public regulation in international investment law: The fundamental conflict emerges when foreign investors assert that state restrictions constitute indirect expropriation, but the host state justifies these acts as valid regulatory measures. The problem is ascertaining when a government's regulatory measures transition from permissible rules serving the public interest to indirect expropriations necessitating compensation. **For Example,** A state imposes stricter environmental regulations on a foreign mining company, requiring it to reduce emissions or invest in costly equipment. The investor may claim that these new regulations have made the investment unviable, resulting in an effective “taking” of their property, even though the state did not seize it outright. Secondly, a government introduces a law that bans certain chemicals known to harm public health. A foreign company that produces or relies on those chemicals for manufacturing might claim that this is a takeover, while the government will argue that protecting public health justifies the measure and that compensation is not warranted.

India's Approach: It is a complex issue, given the balance between India's desire to attract foreign investment and the need to regulate in the public interest. India's approach, particularly in the context of Bilateral Investment Treaties (BITs) and investment arbitration, has evolved significantly.¹² **In the case of Cairn**

¹⁰ *Philip Morris Brands Sàrl, Philip Morris Products SA and Abal Hermanos SA v Oriental Republic of Uruguay*, ICSID Case No ARB/10/7, Award (8 July 2016).

¹¹ David Gaukrodger, ‘The Balance between Investor Protection and the Right to Regulate in Investment Treaties: A Scoping Paper’ (OECD 2017) <https://www.oecd-ilibrary.org/finance-and-investment/the-balance-between-investor-protection-and-the-right-to-regulate-in-investment-treaties_82786801-en> accessed 6 October 2024.

¹² Simon Hartmann and Rok Spruk, ‘The Impact of Unilateral BIT Terminations on FDI: Quasi-

Energy v. India (2020),¹³ the Permanent Court of Arbitration (PCA) in The Hague sided with Cairn Energy. The tribunal ruled that India's retroactive tax violated the fair and equitable treatment (FET) requirement in the India-UK Bilateral Investment Treaty (BIT) and indirectly expropriated Cairn's investment. The panel's finding that retroactive legislative changes violate investors' reasonable expectations is rooted in the Fair and Equitable Treatment (FET) standard commonly found in Bilateral Investment Treaties (BITs). Investors rely on the legal and regulatory framework in place at the time of their investment to make informed decisions, and sudden, retrospective changes can undermine their confidence and financial planning. Arbitral tribunals have interpreted FET to include stability and predictability, meaning that host states should not introduce regulatory shifts that disproportionately harm investors without due process or legitimate public policy justification. For instance, in **Occidental v. Ecuador**,¹⁴ the tribunal held that a retroactive tax law change breached the investor's legitimate expectations under the US-Ecuador BIT. Similarly, in **Tecmed v. Mexico**,¹⁵ the tribunal emphasized that abrupt and unforeseen regulatory shifts could violate the FET obligation if they lack transparency and due justification. Thus, retroactive legislative changes create legal uncertainty, disrupt business operations, and may be seen as unfair, leading to potential BIT claims for compensation. The panel weighed India's sovereign taxing rights against Cairn's investment interests using proportionality. It was found that Cairn was unfairly burdened by the retroactive tax policy and that India's asset freeze and dividend seizure did not serve its public interest aims. The panel called India's retroactive legislation arbitrary and unreasonable, notably under international investment law.¹⁶ **In the case of Vodafone International Holdings BV v. India (2020)**,¹⁷

Experimental Evidence from India' (2022) 18 The Review of International Organizations 259.

¹³ Cairn Energy PLC and Cairn UK Holdings Limited v. The Republic of India, PCA Case No. 2016-7 (Award, 21 December 2020)

¹⁴ Occidental Petroleum Corporation and Occidental Exploration and Production Company v Republic of Ecuador, ICSID Case No ARB/06/11, Award (5 October 2012).

¹⁵ *Tecnicas Medioambientales Tecmed SA v United Mexican States* (Award) ICSID Case No ARB(AF)/00/2 (29 May 2003).

¹⁶ 'The Cairn Energy v. India Saga: A Case of Retrospective Tax and Sovereign Resistance against Investor State Awards' (*Kluwer Arbitration Blog*, 2 July 2021) <<https://arbitrationblog.kluwerarbitration.com/2021/07/02/the-cairn-energy-v-india-saga-a-case-of-retrospective-tax-and-sovereign-resistance-against-investor-state-awards/>> accessed 5 October 2024.

¹⁷ Vodafone International Holdings BV v India (2020) PCA Case No. 2016-35 (Permanent Court of Arbitration, 25 September 2020).

the Permanent Court of Arbitration (PCA) sided with Vodafone, ruling that India breached the India-Netherlands Bilateral Investment Treaty. The panel found that India's retroactive tax violated international investment rules, including FET and indirect expropriation. The panel stressed legal clarity and non-retroactivity in tax rules, notably for foreign investors. Investors have a reasonable expectation that the legal environment will not alter significantly which endangers their investment. The panel emphasized reasonable expectations as essential to the FET norm. Vodafone thought that the Supreme Court-interpreted Indian law would exclude its offshore transactions from taxes. The retroactive tax bill violated the FET norm by undermining this premise. The panel found that any legislation must be proportionate and not burden foreign investor. The Award differentiated between lawful regulatory actions and indirect expropriation, ruling that governments may impose taxes but must follow international investor rights. Retroactive tax law enforcement became indirect expropriation.¹⁸ India has substantially altered its strategy towards Bilateral Investment Treaties (BITs). **The 2016 Indian Model BIT**¹⁹ Demonstrates India's attempt to achieve a more equitable balance between investor protection and regulatory autonomy.

Key Provisions of the 2016 Indian Model BIT are:

- a. **Explicit Protection of the Right to Regulate:** The 2016 Model BIT includes provisions that explicitly protect the state's right to regulate in the public interest, including health, environmental protection, and social welfare. It provides that non-discriminatory regulatory measures taken to pursue legitimate public purposes cannot be considered expropriation. **Article 5.5 of the 2016 Indian Model BIT states, "Non-discriminatory regulatory measures by a Party or measures or awards by judicial bodies of a Party that are designed and applied to protect legitimate public welfare objectives, such as public health, safety and the environment, do not constitute expropriation under this Article."**²⁰

¹⁸ Runima Shastri, 'Conundrums of Model India Bilateral Investment Treaty Vis-a-Vis Dispute Resolution in India' (2020) 7 RGNUL Financial and Mercantile Law Review (RFMLR) 1.

¹⁹ India, *Model Text for the Indian Bilateral Investment Treaty* (2016).

²⁰ *Model Text for the Indian Bilateral Investment Treaty* (2016), art 5.5.

- b. **Narrower Definition of Expropriation:** The model BIT narrows the definition of **indirect expropriation**, focusing on situations where the state's measures have a severe economic impact on the investment, and making it clear that legitimate public interest measures do not constitute indirect expropriation. **Annex B of the 2012 US Model BIT** clarifies the circumstances under which indirect expropriation occurs. *"Except in rare circumstances, non-discriminatory regulatory actions by a Party that are designed and applied to protect legitimate public welfare objectives, such as public health, safety, and the environment, do not constitute indirect expropriations."*²¹
- c. **Exclusion of Taxation Measures:** India has sought to exclude taxation measures from the purview of expropriation and FET claims, especially following the Vodafone and Cairn disputes. This helps to protect India's ability to make fiscal policy decisions without fear of arbitration claims from foreign investors.²² **Article 2.4 of the Indian Model BIT (2016)** states: *"This Treaty shall not apply to any law or measure regarding taxation, including measures taken to enforce taxation obligations."*²³

1. Stabilization Clauses vs. Dynamic Regulation

Investment agreements include stabilisation provisions to protect foreign investors against legislative or regulatory changes in the host state. Dynamic regulation means the state may adjust laws and regulations to address new challenges, advances, or public policy objectives. Stabilization clauses violate a state's sovereignty by providing foreign investors greater control over domestic regulatory frameworks than local businesses or inhabitants. This may give foreign investors the perception

²¹ 2012 US Model BIT, Annex B, para 4(b): "The determination of whether an action or series of actions by a Party, in a specific fact situation, constitutes an indirect expropriation requires a case-by-case, fact-based inquiry that considers, among other factors: (i) the economic impact of the government action; (ii) the extent to which the government action interferes with distinct, reasonable investment-backed expectations; and (iii) the character of the government action. Except in rare circumstances, non-discriminatory regulatory actions by a Party that are designed and applied to protect legitimate public welfare objectives, such as public health, safety, and the environment, do not constitute indirect expropriations."

²² Prabhash Ranjan, 'India and Bilateral Investment Treaties—A Changing Landscape' (2014) 29 ICSID Review - Foreign Investment Law Journal 419.

²³ Indian Model Bilateral Investment Treaty (2016), art 2.4.

of preferential treatment, undermining legal equality. State sovereignty is used to govern the public good under Dynamic Regulation, which may conflict with investor expectations for legal stability. Investors may sue governments that prioritize the public interest above investor rights for violating Bilateral Investment Treaties or investment contracts.²⁴

For Example, A host state may seek to implement new legislation to restrict carbon emissions from companies to address climate change. Nevertheless, if an investor has a stabilization provision safeguarding them against new environmental restrictions, the state may be hindered from enacting this essential policy modification without incurring the risk of a claim for indirect expropriation or a violation of the stabilization agreement. Secondly, in reaction to a public health emergency, a state may seek to implement new health rules (e.g., levying taxes on sugary beverages to diminish consumption). An investor possessing a stabilization clause that prohibits the enactment of new laws may contend that the new tax infringes upon their rights, so obstructing the state's capacity to adequately tackle public health issues.

India's Approach: India has utilized stabilization clauses in investment contracts, particularly in the energy, mining, and infrastructure sectors, to assure foreign investors of a predictable regulatory framework. For instance, Production Sharing Contracts (PSCs) in the oil and gas sector, such as those under the New Exploration Licensing Policy (NELP), often contain stabilization provisions to shield investors from adverse changes in fiscal and regulatory policies. Similarly, long-term Power Purchase Agreements (PPAs) in the renewable energy sector have included clauses to safeguard tariff structures from government policy shifts, as seen in disputes like **Adani Power v. Gujarat Electricity Regulatory Commission**.²⁵ In the mining sector, stabilization clauses have been embedded in agreements with foreign investors to mitigate risks from changes in royalty rates or environmental regulations. These clauses, while attracting investment,

²⁴ 'Overcoming Challenges to Stabilisation Provisions in Long-Term Mining Agreements - Global Arbitration Review' <<https://globalarbitrationreview.com/guide/the-guide-mining-arbitrations/2nd-edition/article/overcoming-challenges-stabilisation-provisions-in-long-term-mining-agreements>> accessed 6 October 2024.

²⁵ *Adani Power Ltd v Gujarat Electricity Regulatory Commission* (2024) 10 SCC 150.

have also raised concerns about restricting India's sovereign right to regulate in areas like environmental protection and public interest. These clauses frequently give investors a predictable legal and regulatory environment throughout their investment. India has prioritized regulatory flexibility for public policy goals in recent years.²⁶ Many actions and reforms have been taken to reinforce the national ability to regulate, notwithstanding investment agreements' stabilization clauses. A notable example is **South Africa's termination of several BITs** and the enactment of the **Protection of Investment Act, 2015**. This reform aimed to reinforce the country's regulatory sovereignty by replacing traditional BIT protections with domestic legislation that ensures foreign investors receive fair treatment while explicitly preserving the government's right to regulate in the public interest. The Act notably excludes investor-state dispute settlement (ISDS) mechanisms, thereby preventing foreign investors from directly challenging regulatory changes through international arbitration, strengthening South Africa's ability to implement public welfare policies without external constraints.²⁷ India's approach to addressing the tension between stabilization clauses and dynamic regulation has been formalized through its **Model Bilateral Investment Treaty (BIT) 2016**²⁸.

Exclusion of Stabilisation terms: Numerous stabilization terms that were included in previous BITs have been excluded, indicating India's intention to preserve regulatory flexibility.²⁹ **In the case of Devas Multimedia v. Antrix Corporation (2020)**³⁰ The Permanent Court of Arbitration (PCA) ordered India to pay Devas Multimedia considerable compensation for violating the India-Mauritius BIT. The panel found that Devas had reasonable expectations from the Antrix contract and that the Indian government's unexpected termination violated them. The panel ruled that the state might regulate and act in the national interest,

²⁶ 'Regulatory Policy in India: Moving towards Regulatory Governance', vol 8 (2017) OECD Regulatory Policy Working Papers 8 <https://www.oecd.org/en/publications/regulatory-policy-in-india_b335b35d-en.html> accessed 12 March 2025.

²⁷ Annalise Nelson, 'Investments in the Deep Freeze? Stabilization Clauses in Investment Contracts' (*Kluwer Arbitration Blog*, 8 November 2011) <<https://arbitrationblog.kluwerarbitration.com/2011/11/09/investments-in-the-deep-freeze-stabilization-clauses-in-investment-contracts/>> accessed 6 October 2024.

²⁸ India, *Model Text for the Indian Bilateral Investment Treaty* (2016)

²⁹ Ranjan (n 22).

³⁰ Devas Multimedia Private Ltd. v. Republic of India, PCA Case No. 2013-09, Final Award (2020).

but only equitably, honestly, and without discrimination. Arbitrary cancellation and inadequate government explanation of contract annulment in the public interest. National security concerns are reasonable reasons for government actions, but the tribunal found that they should not be used to avoid contractual breach liability. The arbitration panel found the government's national security justification lacking in depth and support.

- 2. Public Health and Safety vs. Investment Security:** International investment presents a severe conflict between a state's obligation to safeguard public health and safety and foreign investors' rights. This contradiction is particularly visible in rising countries like India, where investment needs and public health concerns are high. To treat foreign investors fairly, states must balance citizen welfare with international investment treaty obligations. These restrictions may increase costs, limit market access, or lower profitability for investors. **For example:** To comply with the **World Trade Organization's (WTO) TRIPS Agreement, India's Patents (Amendment) Act, 2005**,³¹ Balances patent holders' rights with the need to offer inexpensive pharmaceuticals to its people. Section 3(d)³² Precludes the patentability of novel versions of recognized drugs unless they significantly improve effectiveness. The rule was created to prevent "evergreening," a method pharmaceutical corporations utilize to prolong their patent monopolies by making modest medication changes. Foreign pharmaceutical investors have struggled to get patents in India due to this clause. **In the case of Novartis AG v. Union of India (2013)**³³ Highlighted the conflict between India's public health aims and investor IP. Novartis sought a patent for an improved version of Gleevec, a cancer medicine, but the Indian Supreme Court denied it under Section 3(d) since the improvement did not improve its therapeutic performance. Novartis and other pharmaceutical corporations said this decision inhibited innovation and jeopardized their Indian investments. India, however, saw the verdict as essential for inexpensive life-saving pharmaceutical

³¹ *The Patents (Amendment) Act, 2005* (India).

³² *Patents (Amendment) Act 2005*, s 3(d).

³³ *Novartis AG v Union of India* (2013) 6 SCC 1 (Supreme Court of India).

availability. The case showed India's high priority of public health above intellectual property rights, which global health activists applaud but international investors worry about.

Investor-State Dispute Settlement (ISDS) in India's Model BIT: India's Model BIT (2016)³⁴ shows growing concern about ISDS challenging public health policies. ISDS claims are limited by the Model BIT, which requires investors to exhaust local legal options before seeking international arbitration. It also explicitly protects the state's power to control public health, safety, and the environment. However, This trend requires reconsidering investor rights and regulatory sovereignty.³⁵ India wants to adopt public health initiatives without expensive arbitration claims by restricting ISDS claims and emphasizing state regulatory power. This raises concerns that the new BIT framework may reduce investor rights and deter international investment.³⁶

Recent Policy Changes in India Aimed at Promoting Investment While Preserving Sovereignty

In recent years, India has made significant policy shifts to balance the dual objectives of promoting foreign investment and preserving its sovereign right to regulate the economy. The changing dynamics of the global economy, coupled with India's evolving domestic priorities, have led to a recalibration of its approach to foreign investment.³⁷ Recent defense sector liberalization has been a major change. In 2020, India increased defense industrial FDI from 49% to 74% automatically and up to 100% with government approval for contemporary technology projects. This reduced imports and increased domestic production via knowledge transfer and international alliances. India dominates the sector despite liberalization. The board and top executives must be majority Indian. For

³⁴ India, *Model Text for the Indian Bilateral Investment Treaty* (2016).

³⁵ Sanyukta Chowdhury, 'Investor State Dispute Settlement Provisions in India's Model Bilateral Investment Treaty: A Critique' (2019) 58 *Indian Journal of International Law* 327.

³⁶ Tanaya Thakur, 'Reforming the Investor-State Dispute Settlement Mechanism and the Host State's Right to Regulate: A Critical Assessment' (2020) 59 *Indian Journal of International Law* 173.

³⁷ 'Keeping a Distance: India's Approach towards Investment Treaties' (*Kluwer Arbitration Blog*, 20 October 2022) <<https://arbitrationblog.kluwerarbitration.com/2022/10/20/keeping-a-distance-indias-approach-towards-investment-treaties/>> accessed 6 October 2024.

national security, the government may authorize crucial technological expenditures. In critical sectors like defense, India combines foreign financing and technological expertise with sovereignty and self-reliance. India has promoted digital economy investment while preserving its sovereignty. India's e-commerce, digital services, and fintech sectors attract FDI. Personal Data Protection Bill and Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 require companies to store certain data in India. India wants to establish its digital sovereignty while attracting international funding and creativity in the fast-growing technology industry. In "managed liberalization," the state liberalizes markets while introducing regulatory frameworks to protect key resources like data.

Conclusion

The research presented in this paper highlights the inherent tensions between investor rights and state sovereignty within the framework of India's investment policies. Over the last few decades, India has sought to attract foreign direct investment (FDI) to drive economic growth, while simultaneously preserving its ability to regulate in the public interest. This dual objective has created a complex balancing act, as evidenced by high-profile disputes involving foreign investors and changes in India's regulatory environment. India changed its investment treaty strategy with the 2016 Model Bilateral Investment Treaty (BIT) to balance investor safeguards and sovereign rights. The 2016 Model BIT resolves numerous issues raised by Vodafone and Cairn Energy by specifically protecting India's power to regulate public health, environmental protection, and taxes. The pact limits expropriation and excludes taxes from investor claims, protecting India's fiscal sovereignty. Recent sectoral policy revisions show India's shifting approach. India has liberalized FDI in defense to promote international involvement but maintained protections for vital sectors. Data localization in the digital economy shows India's desire to claim digital sovereignty while attracting global technological investments.

The following Recommendations are:

1. India should continue to refine its BIT framework, ensuring that future agreements incorporate clauses that safeguard its right to regulate while providing adequate protection to investors. For instance, the **India-Brazil**

BIT (2020) explicitly protects India's right to regulate in areas like public health, environment, and national security, thereby limiting investor claims against legitimate regulatory actions. Post-2016 BITs like the **India-Kyrgyzstan BIT (2019)** exclude MFN clauses, preventing investors from cherry-picking favorable provisions from other treaties.

2. Encouraging foreign investors to resolve disputes within India's domestic legal framework, as stipulated in the 2016 Model BIT, can reduce reliance on costly international arbitration. In **Cairn Energy v. India**, the investor directly approached international arbitration under the old BIT. However, under the 2016 Model BIT, Cairn would first need to seek remedies through Indian courts before resorting to international arbitration. Similarly, the **India-UAE BIT (2017)** adopts this approach, allowing India to address disputes through its legal system before engaging in international arbitration.

In conclusion, India's approach to navigating the conflict between investor rights and state sovereignty reflects its broader strategic goal to remain an attractive destination for foreign investment while retaining the flexibility to regulate the public interest. This delicate balance will be critical as India continues to grow as a global economic power.

The Role of ADR in Engineering & Technical Disputes

By: The Secretariat from Asian Institute of Alternative Dispute Resolution (AIADR)

Chapter 1 : Introduction & Context – Why ADR is Crucial in Engineering and Technical Disputes

1.1 What is ADR? Brief Global Evolution and Definitions

Alternative Dispute Resolution (ADR) refers to a suite of processes used to resolve disputes without resorting to formal court proceedings. These include negotiation, mediation, arbitration, expert determination, and adjudication. The primary aim of ADR is to achieve faster, more cost-effective, and amicable outcomes. The practice of ADR isn't new. Its roots stretch back to 3,800 years ago in the ancient kingdoms of Syria (Smith, McCarthy, & Ho, 2024, p. 1). However, its widespread global adoption accelerated over the past 50 years, driven by dissatisfaction with the delays, costs, and adversarial nature of litigation and even arbitration (p. 1). The Covid-19 pandemic further accelerated interest in ADR due to the need for fast and low-cost dispute resolution.

In Malaysia, ADR mechanisms are institutionalised through the Construction Industry Payment and Adjudication Act (CIPAA) 2012, which allows for statutory adjudication. This provides construction parties with a quick resolution mechanism, aimed particularly at ensuring cash flow in ongoing projects (Smith et al., 2024, p. 10). Globally, institutions like the International Chamber of Commerce (ICC) and regionally, the Asian Institute of Alternative Dispute Resolution (AIADR), have played significant roles in promoting ADR in engineering and construction disputes.

1.2 Litigation vs. ADR in Technical Disputes

While litigation remains the traditional method of resolving disputes, it is often ill-suited for construction and engineering matters due to the technical complexity, time consumption, and costliness involved (Gamage & Kumar, 2024, p. 76). Litigation is also a public process, which means that sensitive commercial or project information is exposed to the public domain, something that can be highly detrimental to ongoing and future business relationships. In contrast, ADR provides a more private, flexible, and efficient approach. For example, negotiation, one of the simplest and most widely used ADR methods, resolves over 70% of construction disputes without requiring formal hearings or adjudication (Singh & Song, 2018, as cited in Gamage & Kumar, 2024, p. 78). Negotiation can be conducted informally or through structured dispute escalation clauses built into contracts (Smith et al., 2024, p. 3).

Mediation allows parties to be assisted by a neutral third party who facilitates the conversation but has no authority to impose a decision. The flexibility and confidentiality of mediation make it an attractive option for preserving relationships (Gamage & Kumar, 2024, p. 78; Smith et al., 2024, pp. 7–8). Arbitration resembles litigation but offers procedural flexibility and confidentiality. It also allows parties to appoint arbitrators with relevant technical expertise, which is critical in disputes involving engineering matters (Gamage & Kumar, 2024, pp. 79–80). Although arbitration has grown in cost and complexity in some cases (Saeb et al., 2021, as cited in Gamage & Kumar, 2024, p. 79), it remains more efficient than litigation in most technical disputes. Expert determination and adjudication offer more specialised, often faster alternatives, particularly suited to technical or time-sensitive matters (Gamage & Kumar, 2024, pp. 80–81).

1.3 Importance of Dispute Avoidance and Resolution in Engineering Practice

Disputes are a common feature of engineering projects due to their inherent

complexity and multi-stakeholder involvement. According to Kalogeraki and Antoniou (2024), disputes arise even under ideal project conditions due to the differing interpretations and interests of involved parties (p. 2). They further note that the most common causes of disputes include design errors, contract ambiguities, human behavior, and external factors like weather or political changes (p. 2). Gamage and Kumar (2024) cite Cheung and Yiu (2006), who developed the Dispute Triangle, consisting of contract provisions, triggering events, and the conflict itself, to illustrate how disputes evolve in construction and engineering (p. 76).

Importantly, disputes often lead to increased costs, delays, and damaged professional relationships. El-Sayegh et al. (2020) emphasize that adversarial relationships between project parties are among the primary contributors to project failures (as cited in Gamage & Kumar, 2024, p. 76). As a result, dispute avoidance is increasingly being integrated into project management through early engagement, clear contract drafting, and the use of dispute boards or standing neutral panels. Provisions in standard contracts like FIDIC and NEC help define responsibilities and offer predefined ADR pathways (Kalogeraki & Antoniou, 2024, pp. 3–4). The ARCADIS Global Construction Disputes Report 2021 found that the top cause of disputes was parties failing to understand or fulfill contractual obligations (Kalogeraki & Antoniou, 2024, p. 3). This highlights the importance of not only managing disputes once they arise but also preventing them through education, clear contracts, and well-established resolution frameworks.

1.4 High-Stakes, High-Complexity Nature of Engineering Projects

Engineering and construction projects are typically high-risk, high-reward endeavors. Projects are characterized by:

- Multi-tiered subcontracting structures
- Significant capital investment
- Technical innovation

- Time constraints
- Environmental and regulatory uncertainties
- These characteristics create fertile ground for disputes.

Smith et al. (2024) explain that construction disputes often involve multiple parties, layers of complexity, and difficult technical or legal issues (p. 7). Courts, though equipped to handle legal matters, may lack the technical expertise required to fully grasp the intricacies of such disputes. In these contexts, ADR provides a more appropriate venue for resolution. For example, expert determination is effective for issues that are primarily technical, allowing parties to appoint an expert in the relevant field to resolve the matter (Gamage & Kumar, 2024, p. 80). Likewise, adjudication, as provided for under CIPAA 2012, offers a time-bound decision that ensures payment and project continuity, while allowing parties to challenge the decision later through arbitration or litigation (Smith et al., 2024, p. 10).

Kalogeraki and Antoniou (2024) also highlight the importance of contract types and delivery methods selected during the design phase, as this can heavily influence the dispute resolution landscape later in the project (p. 4). In sum, engineering projects require dispute resolution mechanisms that are technical, fast, confidential, and relationship-preserving. ADR checks all these boxes, making it essential in this sector.

1.5 ADR as a Key Tool in Risk Management and Project Continuity

One of the most important advantages of ADR is its role in risk management and project continuity. Disputes can arise mid-project, and if left unresolved, they can lead to significant delays, cost overruns, and even project termination. ADR offers structured ways to resolve these disputes quickly, often without halting project work. Many standard form contracts, including those published by FIDIC, contain dispute escalation clauses that encourage resolution through negotiation and mediation before escalating to adjudication or arbitration (Kalogeraki & Antoniou, 2024, p. 4). These provisions help ensure that disputes do not derail project

progress. The principle of "pay now, argue later" in adjudication—prominent in the UK and reflected in Malaysia's CIPAA 2012—ensures that cash flow is maintained even during disputes (Smith et al., 2024, p. 10). The process is designed to issue a decision within 28 days, which is enforceable unless challenged in arbitration or court.

Another innovation is the "arb-med-arb" mechanism practiced in Singapore, where disputes begin in arbitration, are paused for mediation, and return to arbitration only if mediation fails. This hybrid ADR process helps resolve disputes with minimal disruption and cost (Smith et al., 2024, p. 9). Even if ADR does not lead to a final settlement, it helps narrow the issues, clarify misunderstandings, and preserve relationships. It reduces the overall legal costs and time associated with resolving disputes and is especially effective in cross-border and multi-party projects. ADR's flexibility also proved invaluable during the COVID-19 pandemic, where remote and hybrid models of mediation and arbitration ensured continuity of resolution efforts (Smith et al., 2024, p. 8).

1.6 Conclusion: ADR as an Engineering Culture Shift

ADR is no longer the "alternative" but rather a central pillar of dispute resolution in engineering and construction. It is embedded in legislation, standard contracts, and institutional practice. As a project delivery tool, ADR supports:

- Faster resolution of disputes
- Protection of working relationships
- Maintenance of cash flow
- Confidentiality and professionalism
- Engagement of technically competent decision-makers

It allows stakeholders to manage disputes without derailing progress. More importantly, ADR fosters a culture of collaborative problem-solving, which is

essential in large, complex, and high-stakes engineering environments. As Smith et al. (2024) summarize:

“ADR permits the parties to collaborate to find a solution and thereby preserve the commercial relationship” (p. 13).

Chapter 2 : Understanding Technical Disputes

2.1. Definition of Technical Disputes

In engineering and technical contexts, technical disputes refer to disagreements that require specialized, scientific, or engineering expertise to resolve. These disputes often center on technical standards, performance specifications, and the causation of failures (Labbé Arocca, 2021, p. 45). They differ from purely legal disputes because their resolution depends heavily on domain-specific knowledge rather than general legal reasoning. A key feature of technical disputes is their complexity. For instance, determining whether a bridge collapsed due to the chemical composition of the steel or due to unforeseeable environmental forces involves both material science and structural engineering assessments (Labbé Arocca, 2021, p. 46). Such disputes require parties and tribunals to interpret not just facts, but highly specialized rules and principles.

From a procedural standpoint, these disputes often blur the line between evidence and adjudication. As Labbé Arocca (2021) explains, when the technical issue is both too complex for a non-expert decision-maker to evaluate and directly decisive of the legal question, it ceases to be mere evidence and effectively becomes part of the judgment (p. 53).

2.2 Common Types of Technical Disputes in Practice

While technical disputes span many sectors, in engineering and construction they most commonly manifest as:

a. Construction Defects

Defects can arise from poor workmanship, substandard materials, or flawed designs. The resolution often requires expert forensic analysis to determine whether the defect stems from a design failure, construction execution error, or maintenance lapse.

b. Delay and Disruption

Delay disputes are among the most prevalent and expensive in the industry (Atanasov & Hussey, 2025, p. 2). They typically involve disagreements over factual matters (e.g., actual start/finish dates) and technical matters (e.g., choice of delay analysis methodology). Disputes escalate when contractual terms such as “reasonable time” remain undefined, leaving room for conflicting interpretations (p. 3).

c. Design Coordination Failures

Modern projects involve multidisciplinary teams—architects, civil engineers, electrical engineers, IT specialists—whose outputs must integrate seamlessly. A failure in coordination can cause interface mismatches, requiring expert assessment to determine causation and liability.

d. Equipment and Systems Performance Disputes

These arise when delivered equipment or systems fail to meet performance guarantees. Such disputes require performance testing, benchmarking, and sometimes simulation modeling.

e. Errors in Specifications or Testing

Specification errors can lead to improper construction methods or material selection, while testing errors may lead to wrongful acceptance or rejection of works.

f. Software–Hardware Interface Issues

As infrastructure systems increasingly integrate IT components, disputes arise over incompatibilities between software and physical systems, requiring both IT and engineering expertise.

g. Breach of Performance Guarantees or Service Levels

In cases where contractual guarantees (e.g., energy output of a renewable plant) are unmet, the dispute hinges on determining whether non-performance was due to design, operation, or uncontrollable external conditions.

2.3 Complexity from Cross-Disciplinary Input

Modern engineering projects require collaboration among professionals from multiple disciplines. In complex projects such as nuclear power plants or offshore oil installations, each stage may involve thousands of personnel and iterative processes that are impossible to fully capture in standard project schedules (Labbé Arocca, 2021, p. 51). This cross-disciplinary nature amplifies dispute complexity:

- Different terminologies and standards among disciplines can lead to misinterpretations.
- Varying professional priorities (e.g., safety vs. cost efficiency) can fuel

disagreement.

- Integration challenges—for instance, synchronizing mechanical systems with digital controls—often require hybrid expertise to assess.

Furthermore, as Atanasov & Hussey (2025) note, the absence of agreed-upon best practices for certain technical analyses (e.g., delay analysis methods) means that each discipline may favor different approaches, making consensus harder (p. 4).

2.4 Root Causes and Contributing Factors

While technical disputes are triggered by the substantive engineering or scientific issue, several procedural and communication factors contribute to their escalation.

a. Poor Communication

In Yemen's construction industry, poor communication has been identified as a primary cause of disputes, with ineffective information flow leading to misunderstandings and mistrust (Gamil & Rahman, 2023, p. 2730). Failures include:

- Untimely communication of key project changes.
- Use of inappropriate communication channels.
- Lack of adherence to agreed communication protocols.

Such communication breakdowns exacerbate technical disagreements by delaying recognition of problems and hindering early resolution.

b. Inadequate Documentation

Disputes over construction delays often stem from incomplete or unreliable project records—baseline schedules, progress reports, as-built data—which are essential for objective assessment (Atanasov & Hussey, 2025, p. 3).

c. Undefined Contractual Terms

Ambiguities in terms like “reasonable time” or “act or omission” provide fertile ground for differing interpretations, thus escalating disputes (p. 3).

d. Conflicting Expert Testimonies

When each party presents expert evidence supporting its position, decision-makers without relevant technical expertise may be unable to critically assess the conclusions, leading to reliance on procedural rather than substantive evaluation (Labbé Arocca, 2021, p. 50).

2.5 Use of Contractual Provisions to Pre-Empt Technical Disputes

Proactive contract drafting is a powerful tool for preventing or minimizing technical disputes. Key mechanisms include:

a. Detailed Specifications and Standards

Clear, unambiguous technical specifications aligned with recognized standards reduce interpretation disputes. For example, defining material grades, performance metrics, and test methods can avoid later contention.

b. Performance Guarantees with Clear Measurement Protocols

If a performance guarantee is included, the contract should also specify:

- Testing conditions and procedures.
- Acceptable tolerances.
- Responsibilities for conducting and witnessing tests.

c. Dispute Avoidance Clauses

Clauses establishing early warning systems, regular joint reviews, and structured communication channels can help identify and address potential disputes early (Gamil & Rahman, 2023, p. 2732).

d. Delay Analysis Protocols

Adopting recognized delay analysis methods and defining them contractually can prevent later disputes over methodology (Atanasov & Hussey, 2025, p. 4).

e. Warranties and Maintenance Bonds

These provide a framework for addressing post-completion performance issues without immediate resort to litigation.

2.6 Best Practices for Managing Technical Disputes

From the reviewed literature, effective management of technical disputes involves:

a. Embedding Technical Expertise in Decision-Making

As Labbé Arocca (2021) proposes, appointing technical experts as part of arbitration tribunals can align the adjudication process with the complexity of the dispute (p. 84).

b. Improving Communication Systems

Structured, documented communication channels; regular status meetings; and the use of project management information systems reduce misunderstandings (Gamil & Rahman, 2023, p. 2733).

c. Enhancing Record-Keeping

Using technologies such as BIM, drones, sensors, and blockchain to ensure contemporaneous and accurate data collection supports factual assessments (Atanasov & Hussey, 2025, p. 4).

d. Standardizing Analytical Methods

Agreeing in advance on methodologies for delay analysis, defect evaluation, or performance testing prevents procedural disagreements from overshadowing substantive technical issues.

e. Encouraging Collaborative Problem-Solving

Integrating dispute boards or joint expert review panels during project execution can address issues before they escalate.

Chapter 3 : Types of ADR Mechanisms in Engineering and Technical Disputes

We will now explore six core ADR mechanisms in the engineering sector — Negotiation, Mediation, Adjudication, Dispute Adjudication Boards (DABs), Expert Determination, and Arbitration — evaluating their processes, advantages, limitations, and real-world applications.

3.1 Negotiation

Negotiation is the most basic ADR process: voluntary discussions between parties to resolve a dispute without a third party imposing a decision (Gould, 2006, p. 2). It can be informal — such as engineers discussing a design issue over a meeting table — or formal, involving structured settlement meetings with lawyers and technical advisers. Many standard form engineering contracts, such as FIDIC Red Book and NEC4, mandate “tiered dispute resolution clauses” starting with negotiation. Typically, escalation begins with meetings between site representatives, moving up to senior executives if unresolved (Smith et al., 2024, p. 5).

a. Advantages in Engineering Contexts

- Low cost and speed: No procedural formality required; can happen immediately.
- Control remains with parties: Outcomes are mutually agreed.
- Direct technical engagement: Parties’ engineers and managers speak the same technical language.
- Relationship preservation: Maintains collaboration in long-term projects.

b. Limitations

- No neutral oversight: Risk of deadlock.

- Strategic delays: Parties may use negotiation to stall.
- Complexity limits effectiveness: Multi-party disputes with intertwined technical/legal issues may overwhelm the process.

c. Case Scenario

During Stage 1 of the Air Lakitan Irrigation Sub-Project in Indonesia, a construction claim arose regarding additional costs asserted by the contractor. The parties resolved the dispute through an integrative ("win-win") negotiation process that involved identifying and defining the issue, jointly understanding the problem, and generating and selecting a mutually acceptable solution. The resolution preserved working relationships, maintained project momentum, and avoided escalation to formal dispute mechanisms such as arbitration or litigation (Rozamurtina, 2011)

d. Suitability

Negotiation is best for early-stage disputes where relationships are intact and parties are motivated to resolve issues quickly.

3.2 Mediation

Mediation is a voluntary and confidential process in which a neutral facilitator — the mediator — helps parties reach an agreement without imposing a decision (Smith et al., 2024, p. 6).

Three main styles exist:

- Facilitative: Mediator manages the process, does not evaluate merits.
- Evaluative: Mediator offers non-binding views on merits.

- Transformative: Focuses on improving relationships and communication.

Mediations can be in-person, online, or hybrid. Since COVID-19, hybrid formats — combining in-person and virtual participation — have become common.

a. Advantages in Technical Disputes

- Confidentiality: Essential when IP or proprietary methods are at stake.
- Relationship preservation: Allows continued cooperation in design–build partnerships.
- Flexibility: Procedures tailored to parties’ needs.
- Specialist mediators: Parties can appoint mediators with engineering or scientific expertise (Holmes & Diamant, 2020, p. 3)

b. Limitations

- Non-binding unless formalised: Settlement enforceable only if converted into contract or arbitral consent award.
- Potential misuse: Parties may attend to gather intelligence.
- Unsuitable for clear liability cases: When decisive technical judgment is required, mediation may delay resolution.

c. Case Scenario

In a dispute over a newly constructed home in Japan, the homeowner sought mediation through the Central Construction Work Disputes Committee. Over the course of four months and two meetings, both parties agreed to mutually terminate the contract; of

the 1 million JPY already paid, 600,000 JPY were deemed to cover actual construction costs, while the remaining 400,000 JPY was refunded to the homeowner. In another case involving defective construction work, mediation again over two meetings lasting four months led to the contractor accepting a compensation obligation of 30 million JPY. These examples illustrate how structured mediation under Japan's MLIT framework effectively resolved disputes without resorting to formal litigation (Ministry of Land, Infrastructure, Transport and Tourism [MLIT], n.d.).

d. Suitability

Mediation works best for complex, relationship-sensitive disputes where creative solutions can meet both parties' interests.

3.3 Adjudication

Adjudication is a hybrid formal process, common in construction, that delivers an interim-binding decision (often on payment or technical claims) very quickly. It is typically governed by contract or statute, especially in the UK and Malaysia. The main idea is: an adjudicator (usually a lawyer or engineer acting as a one-person tribunal) gives a decision on the dispute within a fixed short time (often 30–100 days). This decision must be paid or complied with immediately, subject to later arbitration or court appeal. In the UK, the Housing Grants, Construction and Regeneration Act 1996 gives parties a statutory right to adjudication in construction contracts. Malaysia's CIPAA 2012 offers similar rights.

a. Advantages in Technical Contexts

- Speed: Keeps projects moving during disputes.
- Technical expertise: Adjudicators often have engineering or surveying backgrounds.

- Cash flow: Particularly suited to payment disputes, ensuring “pay now, argue later.”

b. Limitations

- Interim binding only: Can be reopened in arbitration or litigation.
- Short timeframe: Complex technical disputes may be difficult to present fully.

c. Case Example

In a notable adjudication under an NEC4 Option A contract for a major UK government facility, the main contractor faced a litany of contentious compensation events—over 200 in total—triggered by significant scope changes and ensuing programme disruptions. The client’s refusal to acknowledge entitlement to time extensions or preliminary cost reimbursement led the contractor to initiate adjudication. In a three-month proceeding featuring extensive technical and contractual submissions from both sides, the adjudicator ruled decisively in favor of the contractor. The decision granted a 295-day extension to the project’s completion date, recognized 280 days’ worth of preliminary cost entitlement in principle, rejected claims of concurrent culpable delay, and mandated that the government cover 80% of the adjudicator’s fees, thus upholding the contractor’s contractual rights and financial position. This case underscores the efficacy of adjudication as a swift, enforceable dispute-resolution mechanism—even against well-resourced government entities (Optimum Resolution, n.d.).

d. Suitability

Ideal for urgent disputes — particularly interim payment or programme issues — where immediate decisions are needed to keep work on track.

3.4 Dispute Adjudication Boards (DAB)

DABs are standing or ad-hoc panels, usually comprising 1–3 members, appointed under contracts (especially FIDIC) to monitor works and decide disputes during the project lifecycle (Smith et al., 2024, p. 10). A DAB is typically formed before work begins. The parties agree on one or three neutral experts (often engineers or lawyers with industry credentials). The Board visits the site periodically and meets with the parties, to learn project details as it goes. They review plans, follow progress, and offer guidance. As one industry source explains, a DAB is “a ‘job-site’ dispute adjudication device, typically comprising three independent and impartial persons selected by the contracting parties” (Chapman, P. H. J.). Because they become part of the project team, they gain deep technical insight.

DABs prevent disputes from escalating. If a disagreement arises, parties can immediately consult the Board. The DAB members have seen the project evolve and understand the technology and contract. They are often informed of potential conflicts in real time. If a dispute can’t be resolved informally by the parties (with the Board’s guidance), it can be referred to the DAB for a formal decision. In practice, the Board might issue a decision or recommendation. DAB decisions are often contractually binding. Under many forms, if either party rejects a DAB decision, they usually must wait until arbitration or litigation – the DAB decision stands in the interim. In some jurisdictions, parties even agree that a DAB decision is final (unless and until set aside by a future arbitrator). In any event, unresolved disputes after a DAB decision typically proceed to arbitration, where the DAB’s findings can be enforced.

a. Role

- Prevention: Regular site visits to spot issues early.
- Informed decisions: Based on ongoing familiarity with project details.
- Binding unless challenged: Depending on contract terms.

b. Advantages

- Continuity: Members are embedded in project context.
- Relationship preservation: Encourages cooperative dispute avoidance.
- Speed: Disputes resolved quickly without external proceedings.

c. Limitations

- Cost: Ongoing engagement of specialists.
- Enforcement issues: In some jurisdictions, enforcement may require arbitration.

d. Case Example

In the Indonesian gas pipeline construction project between PT Perusahaan Gas Negara (Persero) and PT CRW Joint Operation, the parties entered into a FIDIC-based contract. A dispute arose concerning variation valuations and the employer's obligation to compensate the contractor. This conflict was referred to a single

Dispute Adjudication Board (DAB), which ruled that the employer must pay the contractor for the valued variations. When the employer issued a notice of dissatisfaction, the contractor escalated the matter to arbitration. The arbitration tribunal ultimately upheld the DAB's decision, confirming it was binding under Subclause 20.4 of the FIDIC contract. This outcome exemplifies how DABs can provide swift, enforceable interim decisions that support project continuity and avoid protracted litigation (Hardjomuljadi, S. 2020).

e. Suitability

DABs work best on large contracts (smaller jobs may not justify the cost). They require a high level of cooperation (both sides must meet with the Board honestly). Implementation in some countries (like Malaysia) faces legal and cultural hurdles (Mustaffa, N. E. 2025), but the overall advantage is clear: DABs bring technical experts on board from day one, nipping disputes in the bud and giving parties confidence in quick, informed decisions

3.5 Expert Determination

Expert determination involves appointing a neutral technical expert to decide a dispute, often based on document review, testing, or site inspections. The decision may be binding or advisory, as agreed in the contract (Gamage & Kumar, 2024, p. 80). Expert determination is chosen when the dispute is mainly about technical facts or performance, not broad contractual liability. For example, questions like “Is the machine operating within specified tolerances?” or “What is the correct formula for the chemical mix under these specs?” can go to expert determination. The experts are often agreed in advance (even named in the contract). Process rules are very flexible: often only written submissions and limited hearings, as needed. Because there is no formal legal procedure, the process is typically fast – sometimes just a matter of a few meetings and a written

report.

Critically, expert determination is usually final. The parties pre-agree whether the expert's decision is binding (and on which issues). In practice, many expert determinations are "final and binding" by contract. Courts generally honor this bargain. For instance, in *Fletcher Constr. v. MPN Group* (NSWSC 1997), the court upheld an expert's decision as final and binding

a. Advantages

- Technical precision: Ideal for disputes centred solely on technical facts.
- Efficiency: No lengthy hearings required.
- Confidentiality: Keeps sensitive data private.

b. Limitations

- Limited challenge options: If binding, decisions are rarely overturned.
- Not suitable for legal disputes: Works best when law is not in contention

c. Case Example

In a large greenfield industrial process plant project, the owner experienced issues with its high-voltage electrical system during commissioning, which affected the operation of mechanical and thermal equipment. The dispute centered on whether the supplier had incorrectly specified or supplied the electrical equipment, or whether the issues resulted from improper installation outside their scope. To resolve the disagreement efficiently, both parties agreed

to appoint a common electrical engineer to conduct expert determination on the root cause. This process was selected for its technical rigor and the expert's specialized knowledge in electrical systems. The determination was intended to provide a final, binding resolution—though as commissioning progressed, the dispute expanded beyond electrical issues into full arbitration, involving multiple experts. This case highlights expert determination's utility in isolating and resolving complex technical disputes swiftly, particularly in engineering-heavy contexts (Exponent).

d. Suitability

Expert determination is ideal when the issue is purely technical or quantifiable. It requires that the problem falls squarely within the expert's expertise – otherwise the outcome may be contested. If parties have not pre-set an expert clause, they can still agree ad hoc on an expert when a dispute arises (though formalizing that quickly is important).

3.6 Arbitration

Arbitration is the most formal ADR method, akin to “private litigation.” It is widely used for large or international engineering disputes. The process: parties submit the dispute to an agreed arbitrator (or panel) who hears evidence and issues a final decision (an “award”). Arbitration is legally binding and enforceable in courts under national law, but it is conducted privately. Unlike negotiation or mediation, an arbitral award can be enforced like a court judgment. This is critical for high-stakes projects, especially cross-border ones. Under the UN New York Convention (ratified by 172 countries), foreign arbitral awards are generally enforceable worldwide. This global enforceability makes arbitration attractive for international engineering contracts (Oles, D. S. 2024). (By contrast, a local court judgment is hard to enforce overseas without special treaties.) Thus, parties

building overseas power plants or infrastructure often choose arbitration to ensure any award can be collected globally.

In arbitration, the parties have great freedom. They choose the number of arbitrators, the rules of evidence, and crucially, the arbitrators themselves. This means parties can select neutrals with deep technical knowledge. For example, engineers or scientists may serve as arbitrators (either alone or alongside a lawyer), because parties want someone who “understands engineering and science”. In fact, legal advisors often recommend drafting the arbitration clause to require that arbitrators have industry-specific expertise, e.g. mechanical engineering, software (Holmes, n.d). As one construction-insurance article notes, parties use arbitration so they can appoint “an arbitrator with a background or skill set suited to the nature of the dispute – for example, someone with architectural, engineering or construction experience (Wilder, A. M. 2024). In short, arbitration lets legal counsel and engineers get the right “judge” for the technical issues at hand.

Arbitration can be as flexible or formal as the parties want. They can agree to limit discovery, or allow wide document exchange; hold oral expert hearings or decide on papers; meet in London, Singapore, or by video. Typical large engineering arbitrations follow structured rules (e.g. ICC, LCIA, SIAC), but the parties can tailor procedure (e.g. fixing timelines, excluding certain objections). This means arbitrations can be much faster than court suits if managed well.

The downside is that arbitration can be expensive and time-consuming if not controlled. Because parties often treat it like litigation, they may do full discovery, hire multiple experts, and engage lawyers for years. In fact, commentators note that arbitration has become nearly as involved as court: one construction lawyer warns that parties “rarely achieve any cost savings” in practice (Wilder, A. M. 2024). Key factors: (a) arbitrators charge high fees for technical and legal work, and parties must split those costs; (b) many arbitrations fully replicate litigation procedures (depositions, document production, expert witness reports) which drive costs up (Wilder, A. M. 2024). If the issues are truly complex, an arbitration can drag on for 2–3 years or more.

a. Advantages

- Technical expertise: Arbitrators can be engineers, reducing need for basic technical explanations.
- Flexibility: Tailored procedures.
- Confidentiality: Protects IP and commercial secrets.
- International enforceability: Awards enforceable under the New York Convention.

b. Limitations

- Cost and time: Without management, arbitration can mirror litigation.
- Complexity: Requires skilled advocacy integrating legal and technical arguments.

c. Case Example

In *Pancaran Prima Sdn Bhd v. Iswarabena Sdn Bhd* (2020), the Federal Court of Malaysia considered whether an experienced arbitrator could rely on their own industry knowledge when deciding a case, even if the parties had not specifically raised that knowledge during the proceedings. The dispute involved a common practice in the construction industry—contractors including a 10–15% profit margin for managing nominated subcontractors. The key legal issue was the extent to which an arbitrator can use personal knowledge and expertise, and whether doing so could breach the rules of natural justice. Section 21(3)(b) of the Arbitration Act was central to this point, as it expressly allows an arbitral tribunal to “draw on its own knowledge and expertise.”

Iswarabena accepted that arbitrators are legally allowed to rely on their expertise but argued that in this case, the arbitrator acted unfairly. Their complaint was that the arbitrator relied on information (namely, industry norms about profit margins) that was not presented as evidence by either party. The Federal Court disagreed. It emphasised that the arbitrator was not a layperson—he was a qualified professional engineer and chartered arbitrator. Given his background, he was entitled to state that “in the Malaysian construction industry, it is almost a norm that when asked to indicate a ‘profit and attendance’ for managing a nominated subcontractor, most contractors would include a margin of 10–15%.”

The Court viewed this as a matter of general industry knowledge within the arbitrator’s area of expertise. Therefore, he could rely on it without first inviting the parties to challenge his view. Requiring proof of the 10–15% norm in every case would undermine Section 21 of the Act. Unless it can be clearly shown that an arbitrator’s understanding of a fact is plainly wrong, the courts should be very slow to overturn such findings. This case underscores arbitration’s ability to resolve engineering disputes by leveraging technical expertise effectively within due process constraints.

d. Suitability

Arbitration is the go-to for final, binding resolution, especially in international or high-value engineering contracts. It is best when parties need enforceable closure and are willing to invest time and money. It works well if the dispute spans legal and technical issues, since the tribunal (with counsel’s guidance) can handle both aspects. Many of the world’s toughest engineering disputes (e.g. cross-border power plant claims, offshore drilling disputes) end up in arbitration.

3.7 Comparison and Conclusion

ADR Method	Speed	Cost	Technical Suitability	Relationship Preservation	Enforceability
Negotiation	High	Low	Medium	High	By agreement
Mediation	High	Low-Medium	High (with expert mediator)	High	By agreement / Singapore Convention
Adjudication	Very High	Low-Medium	High	Medium	Interim binding
DAB	High	Medium-High	Very High	High	Binding or advisory
Expert Determination	High	Medium	Very High	Medium	Binding if agreed
Arbitration	Low-Medium	High	Very High	Medium	Final & binding

ADR mechanisms give the engineering sector a **customisable dispute resolution toolkit**.

- For urgency and project continuity: Adjudication or DAB.
- For preserving working relationships: Negotiation or mediation.
- For purely technical issues: Expert determination.
- For complex, high-value disputes needing enforceability: Arbitration.

Selecting the right ADR process early, and drafting contract clauses accordingly, can save millions in cost, months in time, and safeguard both relationships and reputations.

Chapter 4: Role of Engineers and Technical Professionals in ADR

In construction and engineering disputes, technical experts play critical roles in resolving conflicts outside court. Throughout the lifecycle of a project, engineers may advise one side, give expert testimony, or even act as neutral adjudicators or arbitrators. They help bridge the gap between complex technical facts and legal arguments. This section reviews how engineers and technical experts can serve in various ADR (Alternative Dispute Resolution) roles – as party representatives, expert witnesses, neutrals, and even as early-warning facilitators during a project. We will use real-world examples where possible to illustrate these roles.

4.1 Engineers and Technical Professionals as Party Representatives

a. Technical Advisors

While engineers acting as party representatives are often described as “technical advisers,” this underplays the strategic importance of their role. In practice, they contribute to almost every stage of an ADR process, from initial claim formulation to final settlement negotiation.

For example, in a dispute concerning the collapse of a prefabricated bridge section, the contractor’s engineering adviser reconstructed the sequence of events using sensor data, site photographs, and load test results. This reconstruction allowed legal counsel to establish that the collapse was due to a specification change imposed late in the design process, not faulty assembly. Without the engineer’s forensic approach, the legal team might have pursued an entirely different—and weaker—line of argument.

b. Claim Substantiation and Early Engagement

FIDIC-based contracts require claims to be substantiated with “all

particulars” (FIDIC, 2017). Engineers are uniquely placed to assemble these particulars in ways that meet contractual and evidentiary thresholds. Early engagement is critical.

Abdul-Malak and Tabbara (2023) mapped expert involvement across the claim lifecycle and observed that engineers brought in after legal proceedings have begun often face difficulties in recovering necessary technical evidence—because key records may have been lost or incomplete (p. 3). This underlines the importance of embedding technical professionals into the claim team from the outset.

c. Settlement Reality Testing

In settlement discussions, engineers can test proposed remedies against practical realities. For example, engineers can estimate the cost or feasibility of potential solutions during settlement talks. They might run cost–benefit analyses on different resolutions. For example, if a foundation is faulty, the engineer could estimate the time and cost to undercut and replace vs. to reinforce in place. These “technical realities” inform negotiation.

d. Common Pitfalls When Engineers Act as Representatives

While the contributions of engineers in representative roles are invaluable, they must remain vigilant against certain pitfalls that can undermine their effectiveness. One such risk is overstepping into excessive advocacy. Although representatives are permitted to advocate for their party—unlike expert witnesses—they should avoid allowing partisanship to skew the technical interpretation, as this can damage both credibility and persuasiveness. Another common challenge is the failure to communicate technical matters in legal terms. Legal teams often require technical explanations to be framed in a manner that supports the legal theory of the case, ensuring that the information is both relevant and strategically useful.

Additionally, representatives must take care to ground their assertions in verifiable evidence. Technical claims should be explicitly linked to reliable records, such as documented test results, engineering drawings, or authenticated data. Without these references, even well-reasoned arguments risk being disregarded in the adjudication process.

4.2 Engineers as Expert Witnesses

a. From Fact Finder to Educator

The primary purpose of expert evidence in ADR is to educate the tribunal or neutral. Bennett (2018) emphasizes that effective expert witnesses are not “hired guns” but independent professionals who explain technical matters clearly and objectively (p. 74). In a power plant arbitration, for example, the tribunal faced two competing delay analyses: one based on an “as-planned vs. as-built” method, the other on a “time impact analysis.” The claimant’s expert did not simply assert the superiority of one method but walked the tribunal through both, explaining their assumptions, limitations, and implications. This teaching approach was pivotal in the tribunal’s ability to assess the evidence.

b. Handling Highly Complex Issues

Labbé Arocca (2022) discusses “structural asynchrony,” where the technical issue is so complex and determinative of the dispute that it effectively becomes an adjudicative matter in itself (p. 47). In such cases, the tribunal may lack the technical depth to critically evaluate competing expert opinions. A notable example is found in disputes over the metallurgy of pressure vessels in nuclear plants. The tribunal may understand contract clauses on materials compliance but cannot independently assess the impact of microscopic grain structure variations on safety margins. Here, the expert’s role is to make the complexity digestible—using analogies, visuals, and step-by-step logic—without

oversimplifying to the point of inaccuracy.

c. Ethics and Procedural Fairness

Experts must disclose conflicts of interest, maintain transparency in their methodology, and avoid selective use of data. In *Jones v. Kaney* (2011), the UK Supreme Court removed immunity for negligent expert testimony, underscoring that experts must exercise “reasonable skill and care” (Abdul-Malak & Tabbara, 2023, p. 5). This has heightened awareness of professional liability in expert roles.

d. Presentation Format

In the evolving landscape of alternative dispute resolution, procedural innovations—highlighted by Bennett (2018)—have significantly enhanced the efficiency and effectiveness of expert involvement. First, employing written reports as evidence-in-chief allows live hearings to begin directly with cross-examination, thereby conserving valuable hearing time by focusing on critical interrogation rather than preliminary exposition (p. 78). Second, the technique known as expert hot-tubbing, where both parties’ experts testify together in real time, enables them to address each other’s points immediately and collaboratively—fostering clearer, more dynamic, and coherent presentations of technical issues (p. 80). Third, engaging in joint statements encourages experts to confer before the hearing to establish areas of agreement and isolate disputes, providing the tribunal with a distilled roadmap of contested matters. Together, these procedural formats not only streamline the process but also promote transparency, reduce duplication, and enhance the tribunal’s ability to assess expert evidence with clarity and confidence.

e. Common Weaknesses in Expert Testimony

In the context of alternative dispute resolution, even highly knowledgeable experts can see their credibility eroded if their testimony falls into common traps. One frequent weakness is the failure to explain underlying assumptions; without clearly stating the premises on which an opinion is based, the tribunal may view the evidence as speculative or incomplete. Another recurring issue is the overuse of technical jargon. While precision in language is important, excessive reliance on specialised terminology can alienate non-technical decision-makers, leading to misunderstanding or disengagement. A third pitfall lies in the lack of transparency in data sources; if the origin, reliability, or methodology behind the data is unclear, opposing counsel can easily cast doubt on the findings. Finally, an expert who adopts a defensive posture under cross-examination—whether through evasion, hostility, or over-explaining—risks undermining their own authority and the persuasiveness of their evidence. By contrast, a well-prepared engineer anticipates potential challenges, documents each stage of their analytical process, communicates complex ideas in accessible terms, and presents conclusions that are both technically sound and logically defensible.

4.3 Engineers as Neutrals

a. Why Engineers & Technical Experts make effective neutrals

In disputes where the core issues are highly technical—such as the stability of offshore platforms, tunnelling-induced ground subsidence, or failures in proprietary industrial processes—the appointment of a neutral with engineering expertise can significantly enhance both the efficiency and accuracy of the proceedings. Engineers, by virtue of their training and experience, possess the ability to interpret complex technical evidence, understand the practical implications of design choices, and assess

performance data in context. This capability is particularly valuable in mechanisms like Dispute Adjudication Boards (DABs) under FIDIC contracts, where the neutral is often called upon to make swift determinations on matters such as site conditions, variation orders, and compliance with technical specifications. A technically competent adjudicator can quickly grasp the operational realities of a project, enabling decisions that are not only legally sound but also grounded in engineering logic. This, in turn, supports timely dispute resolution, minimises costly project delays, and maintains the momentum of works without sacrificing fairness or due process.

b. Skills and Training Beyond Technical Expertise

While deep technical mastery forms the foundation of an engineer's credibility in alternative dispute resolution, those serving in neutral roles must also develop a complementary set of professional competencies to perform effectively. One crucial skill is decision writing—the ability to produce determinations that are clear, logically structured, and fully reasoned, so that the parties and, if necessary, any reviewing body can follow not only the outcome but also the reasoning behind it. Equally important is procedural fluency, which involves understanding and correctly applying the rules of the relevant ADR forum, whether these be institutional rules, such as those of the ICC or LCIA, or evidentiary frameworks like the IBA Rules on the Taking of Evidence.

This ensures that the neutral's conduct is consistent with due process and procedural fairness. In addition, active case management skills are essential for maintaining efficiency and equity—balancing the need to keep proceedings on schedule with the obligation to give each party a fair opportunity to present their case. Recognising these requirements, professional bodies such as the Chartered Institute of Arbitrators (CIArb), the Royal Institution of Chartered Surveyors (RICS), and the Society of Experts offer specialised training programmes that help technical professionals acquire the legal, procedural, and managerial

expertise necessary to transition successfully into neutral roles. Such training not only broadens a professional's capabilities but also enhances the legitimacy and quality of their decisions in the eyes of both the parties and the wider ADR community.

c. Risks of Technical Neutrals

Technical expertise, while invaluable in alternative dispute resolution, does not in itself eliminate the risk of bias or error. Neutrals must remain vigilant to ensure that their specialist knowledge enhances, rather than distorts, the decision-making process. One danger is over-reliance on personal experience, where a neutral draws too heavily on their own background knowledge and professional instincts instead of grounding conclusions firmly in the evidence presented. This can lead to decisions that, while technically plausible, lack a clear evidentiary foundation and may be vulnerable to challenge. Another risk is prejudging—forming provisional conclusions before all submissions and testimony have been heard, which can undermine both procedural fairness and the perception of impartiality. Additionally, communication gaps can arise when technical findings are not explained in terms that are comprehensible to non-technical stakeholders, such as lawyers, clients, or tribunal members without engineering backgrounds. Such gaps not only impede understanding but can also create the impression of opacity or bias. Effective neutrals consciously guard against these pitfalls, anchoring their determinations in the documented record, keeping an open mind throughout the proceedings, and translating complex technical concepts into clear, accessible language that supports informed decision-making by all parties involved.

4.4 Engineers' Role During the Project Lifecycle

a. Early Dispute Avoidance

Proactive involvement by engineers during the life of a project can play a decisive role in preventing disputes from arising in the first place. A key element of this is continuous risk assessment, where engineers systematically monitor technical risks—such as design deviations, unforeseen site conditions, or performance anomalies—that have the potential to evolve into contractual disputes if left unaddressed. Equally important is effective stakeholder communication, which requires translating technical developments or changes into clear and timely contractual notices, ensuring that all parties understand the implications in terms of cost, schedule, and compliance. Another valuable tool is early neutral evaluation, where an independent technical reviewer is brought in to assess contentious issues before they escalate into formal proceedings. This approach allows parties to receive an objective, evidence-based perspective on the merits of their positions, often leading to negotiated solutions that save time, preserve relationships, and keep the project on track. By combining vigilant monitoring, transparent communication, and timely intervention, engineers can shift the focus from dispute resolution to dispute prevention, aligning with the broader philosophy of proactive project management in ADR contexts.

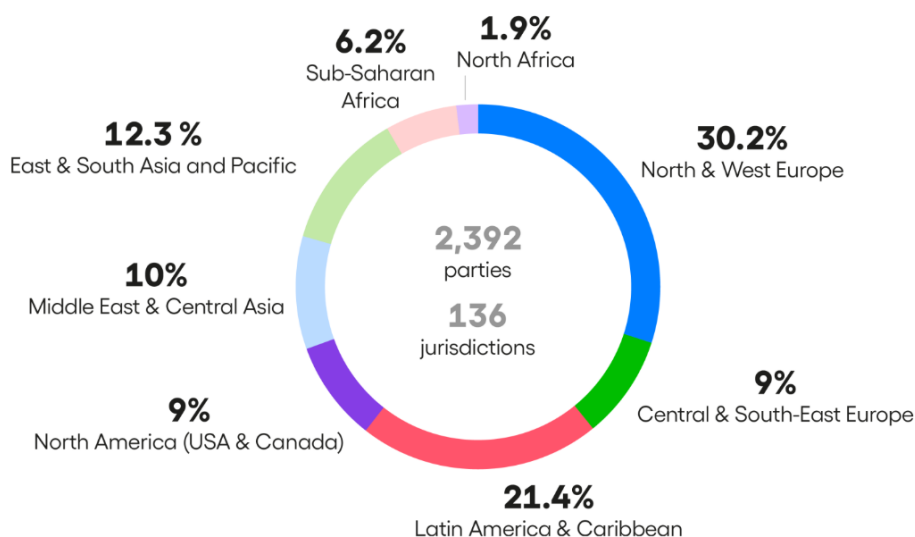
b. Documentation as a strategic asset

Engineering records are more than operational necessities—they are strategic assets in dispute resolution. Bennett (2018) stresses that well-maintained, contemporaneous records allow for quicker, more accurate determinations (p. 75). For example, in a dispute over delay claims in a hydroelectric dam project, the contractor's meticulously kept welding logs provided decisive evidence that delays were caused by late design changes rather than workmanship issues.

In conclusion, the participation of engineers and technical professionals in ADR is not optional—it is intrinsic to the fair, efficient, and accurate resolution of technically complex disputes. Their contributions as party representatives, expert witnesses, and neutrals, combined with their proactive role in dispute avoidance, shape the trajectory and outcome of cases across the construction and engineering sectors.

Chapter 5: Future Outlook and Trends in ADR for Engineering and Technical Disputes (Asia & Africa)

The Asia-Pacific and African regions are experiencing rapid infrastructure growth, leading to more complex engineering and technical disputes. Globally, ADR is adapting: for example, ICC's 2024 data show construction/engineering and energy as the top dispute sectors. Parties from East/South Asia and the Pacific comprised over 12% of ICC arbitration parties (with Middle East/Central Asia another 10%), and Africa (Sub-Saharan 6.2%, North Africa 1.9%) accounted for a significant share. These figures underline that Asia and Africa are key players in international ADR. The figure below (ICC 2024) illustrates the geographic distribution of parties in ICC cases, highlighting the Asian and African participation (ICC Dispute Resolution Statistics 2024):



It is against this backdrop that we would be discussing the future trends and outlook.

5.1 Technological Innovations in ADR

a. Online Dispute Resolution

The COVID-19 pandemic accelerated ODR adoption in Asia and Africa. For example leading ADR institutions have launched sophisticated ODR platforms. China's CIETAC offers an APEC-compliant ODR portal with bilingual interfaces, AI-assisted negotiation tools, video conferencing, and online signing of settlements. Hong Kong's eBRAM platform uses web-based case management with AI translation, e-KYC registration, secure videoconferencing and blockchain hashing for evidence integrity. Such platforms enable remote mediation and arbitration for cross-border engineering disputes (e.g. contract non-performance) with greater efficiency and security. (Asia-Pacific Economic Cooperation, 2024 March)

b. Artificial Intelligence (AI)

AI is being piloted to streamline ADR. A 2024 survey (Kluwer Arbitration Blog, 2024, May 8) of major arbitral institutions found that about one-third already use AI tools, mainly for internal efficiencies. Examples include auto-drafting case reports, preparing procedural timelines in seconds, and managing schedules in construction fast-track arbitrations. Some institutions employ ChatGPT and translation tools to assist in drafting and editing communications. Others have established in-house AI groups to explore dozens of potential use cases. Notably, one arbitration body issued "AI-related dispute" rules in anticipation of future cases as AI becomes more widespread. In practice, however, most courts and tribunals remain cautious, using AI chiefly to accelerate routine tasks (document review, issue-spotting, etc.). As AI evolves, it may also help in expert determination or analytical assistance in technical mediations.

c. Blockchain and Smart Contracts

Blockchain is gaining interest for evidence handling and dispute automation (Djamane, D. 2025). “Smart contracts” (self-executing digital contracts) can embed arbitration clauses that trigger instant disputes when conditions fail (e.g. non-delivery of equipment). The immutability of blockchain records helps authenticate evidence (e.g. time-stamping project photographs or specification documents) so that arbitrators can verify chain-of-custody and guard against tampering. Emerging “decentralized arbitration” platforms (like Kleros) allow token-based juror decisions with transparent voting, although they remain largely outside formal enforcement regimes. In the Middle East (Asia), arbitral centers in Dubai (DIFC-LCIA) and Cairo (CRCICA) are exploring blockchain for filings and secure communications. While Asia and Africa have yet to mainstream blockchain-ADR, pilot initiatives suggest that in future, engineers and lawyers may rely on blockchain for contract automation and evidence management in energy or infrastructure disputes.

5.2 Evolving ADR Mechanisms

Arbitration remains the predominant method for large, complex engineering and cross-border disputes. ICC reports highlight construction/engineering and energy as top sectors for arbitration (ICC Dispute Resolution Statistics 2024). In Asia, arbitration institutions regularly update their rules to meet industry needs (for example, SIAC’s 2025 Rules introduce “coordinated proceedings” for related multi-contract disputes). Countries are also refining arbitration laws: India’s proposed Arbitration and Conciliation (Amendment) Bill 2024 sets strict time-limits for tribunals and even an optional arbitration appeal tribunal (Yeap, A., Poon, K., & Pradhan, A. 2025). African jurisdictions are following suit – Nigeria’s Arbitration and Mediation Act 2023 incorporated the UNCITRAL Model Law and added modern features like emergency arbitration, arbitrator immunity, interim measures and even an award-review tribunal (Anjomshoaa, P. 2024). With

governments and courts increasingly pro-arbitration, many Asia-Africa disputes are now governed by updated international-model legislation. Arbitration demand is expected to grow further, especially as infrastructure and energy projects generate more claims.

While arbitration dominates contractual claims, governments and sponsors often encourage mediation as a faster, amicable option. UNCITRAL Working Group III has noted growing interest in investor-state mediation as an alternative to arbitration (T. T. T. Chiah, 2025). In some jurisdictions, authorities have issued guidelines promoting mediation for large infrastructure contracts to avoid heavy arbitration costs. As Asia and Africa develop ADR infrastructure, we may see more hybrid mechanisms (e.g. multi-tier clauses combining negotiation, mediation, expert determination, then arbitration) in project documents.

5.3 Demand for Specialized ADR Professionals

The technical nature of engineering disputes drives demand for neutral professionals with engineering backgrounds. Experienced engineers can quickly grasp project specifications, identify root causes of technical failures, and propose practicable solutions. This is explicitly recognized in Africa: for the West African Gas Pipeline project, engineers from Nigeria, Ghana, Togo and Benin played roles in dispute resolution, and the parties later chose the Ghana Arbitration Centre to adjudicate pipeline disputes (Nyante, D. K. 2024). African construction law groups therefore encourage training engineers in ADR. The East African authors note that “engineers’ ability to understand technical issues... enables them to identify the root cause of the dispute” and craft realistic agreements (Nyante, D. K. 2024). Similarly, in Asia projects, engineering experts frequently sit as tribunal members or mediators. As such, we can expect a continuing rise in accreditation programs for technical ADR professionals, blending legal training with engineering expertise. For example, the African Construction Law (ACL) association launched a Construction Law & Dispute Resolution academy (partnering with King’s College London) to train practitioners in FIDIC contracts and dispute resolution.

This is precisely where the Asian Institute of Alternative Dispute Resolution (AIADR) plays one of its most impactful roles. AIADR consistently delivers targeted professional development for technical experts through a robust programme of webinars, seminars, and specialised training courses designed to build both ADR knowledge and practical skills. These initiatives equip engineers and other technical professionals with the tools to transition effectively into neutral roles such as arbitrators, adjudicators, and mediators, while also deepening their understanding of procedural and contractual frameworks.

Beyond training, AIADR's membership offers a clear pathway to professional growth and recognition. Members gain access to continuous learning opportunities, mentorship from seasoned practitioners, and networking with a global community of ADR professionals. Importantly, AIADR's structured accreditation framework ensures that technical experts can achieve internationally recognised credentials, enhancing their credibility and marketability in both domestic and cross-border dispute resolution. By combining technical expertise with accredited ADR competence, AIADR members are uniquely positioned to meet the rising demand for specialised neutrals in complex engineering and infrastructure disputes across Asia, Africa, and beyond.

Chapter 6: Conclusion

As we have explored throughout this lecture, Alternative Dispute Resolution (ADR) is no longer a peripheral option in engineering and technical disputes—it is an indispensable component of effective project delivery and risk management. The engineering and construction sectors in Asia and Africa, driven by rapid infrastructure growth, are particularly well-positioned to benefit from ADR's flexibility, efficiency, and technical adaptability. Engineering disputes are often high-stakes, highly complex, and deeply technical. Traditional litigation, with its lengthy timelines, public exposure, and limited technical expertise, struggles to address these challenges. ADR processes—whether negotiation, mediation, adjudication, Dispute Adjudication Boards, expert determination, or arbitration—offer tailored solutions that integrate technical expertise, preserve relationships, and protect project continuity. The choice of mechanism should be strategic:

adjudication or DABs for urgent project-continuity needs, mediation or negotiation for preserving long-term collaboration, expert determination for narrowly technical issues, and arbitration for binding, enforceable outcomes in complex or cross-border disputes.

The role of engineers and technical professionals is central. Their involvement as party representatives, expert witnesses, neutrals, and proactive risk managers transforms ADR from a legal process into a truly multidisciplinary exercise. Engineers bring clarity to technical issues, credibility to findings, and practicality to solutions. For Asia and Africa—regions where infrastructure projects often involve cross-disciplinary, cross-border teams—building a pool of technically skilled ADR practitioners is not a luxury but a necessity. Looking ahead, several trends will shape ADR's future. Technological innovation is already redefining how disputes are managed. Online Dispute Resolution platforms, pioneered during the COVID-19 pandemic, are now sophisticated enough to handle complex, multi-party technical disputes across jurisdictions. Artificial intelligence is streamlining document review, scheduling, and case analysis, with potential to assist in technical evidence assessment. Blockchain and smart contracts promise new levels of evidence security, contract automation, and even self-executing dispute clauses.

Institutional and legislative reforms across Asia and Africa are creating more robust ADR ecosystems. Updated arbitration laws, pro-mediation policies, and hybrid ADR mechanisms are becoming standard in major infrastructure contracts. This evolution not only improves efficiency but also enhances enforceability and international credibility—key for attracting investment in large-scale projects. The demand for specialised ADR professionals will intensify. As projects become more complex, tribunals and mediation panels will require members who understand both the technical and legal dimensions of disputes. Organisations like AIADR and regional professional bodies are already responding with targeted training, accreditation, and networking opportunities. For engineers, this represents a significant career expansion—combining technical expertise with procedural competence to become trusted decision-makers and facilitators.

Ultimately, ADR in engineering and technical disputes is about more than

resolving conflicts. It is about embedding a culture of proactive problem-solving into the very fabric of project delivery. It is about recognising that disputes are inevitable, but how we handle them determines not only the outcome of a single project but also the trust, efficiency, and resilience of the entire industry.

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