Arbitration in FIDIC Contracts and Mechanisms for the Settlement of Disputes Arising Therefrom

1. Ebrahim Sorkheh *: Faculty Member, Department of Private Law, Shahid Chamran University of Ahvaz, Ahvaz, Iran

*Correspondence: Sorkheh@aut.ac.ir

Abstract

Arbitration in FIDIC contracts is recognized as one of the most efficient dispute resolution mechanisms in international construction projects; a mechanism that, alongside institutions such as the Engineer, the Dispute Adjudication Board, and the Dispute Avoidance/Adjudication Board, establishes a multi-tiered and dynamic framework for the management of claims and disputes. This study, drawing upon theoretical approaches derived from contract economics, contractual governance, and alternative dispute resolution (ADR) theories, provides a comprehensive analysis of FIDIC mechanisms and their associated legal and institutional challenges. The findings indicate that the inherently incomplete nature of construction contracts and the existence of asymmetric information between the contracting parties strengthen the role of dispute boards as a "contract-completing" institution, and their decisions frequently prevent disputes from escalating to final arbitration proceedings. Nevertheless, challenges such as conflicts of interest involving the consulting engineer, divergences in the recognition and enforcement of interim decisions within national legal systems, and the absence of updated arbitration legislation in jurisdictions such as Iran continue to constitute significant obstacles to the effective operation of these mechanisms. By examining the interaction between dispute boards and arbitration, analyzing enforcement barriers, and evaluating the standards introduced by the 2017 FIDIC reforms, the present article proposes a set of legislative and institutional solutions aimed at enhancing transparency, neutrality, and the enforceability of decisions. The results of the study may contribute to improving the quality of contractual governance, reducing transaction costs, and enhancing the efficiency of dispute resolution in international construction projects.

Keywords: FIDIC; international arbitration; dispute resolution mechanisms; Dispute Avoidance/Adjudication Board (DAAB); enforcement of arbitral awards.

Received: 01 February 2026
Revised: 22 June 2026
Accepted: 29 June 2026
Initial Publication 17 July 2026
Final Publication 01 November 2026

Citation: Sorkheh, E. (2026). Arbitration in FIDIC Contracts and Mechanisms for the Settlement of Disputes Arising Therefrom. *Legal Studies in Digital Age,* 5(6), 1-15.

1. Introduction

Contracts, as fundamental instruments for regulating legal and economic relations, play a central role both within domestic legal systems and in international regulatory frameworks. A contract generally represents the mutual consent of the parties and serves as a mechanism for creating reciprocal obligations. Alongside this institution, arbitration has emerged as one of the most important alternative dispute resolution mechanisms, enabling disputes to be settled outside judicial courts by mutually agreed or appointed natural or legal persons (Born, 2021; Redfern & Hunter, 2023). The interaction between these two institutions—contract and arbitration—has acquired increasing importance, particularly in the field of international contracts.

Within this context, FIDIC contracts occupy a distinctive position. FIDIC, the International Federation of Consulting Engineers, is a professional and non-governmental organization that, since its establishment in 1913, has functioned as the principal authority for drafting standard conditions of construction contracts recognized worldwide (Fédération Internationale des, 1999; Fidic, 2017). Today, more than seventy-five national associations from different countries are members of this federation, and its contractual standards are widely applied in international infrastructure and construction projects (Bunni, 2013; Jaeger & Hök, 2010). Because these contracts are typically concluded between parties of different nationalities and legal systems, the inclusion of arbitration clauses has become both common and practically indispensable as the primary dispute resolution mechanism (Aceris Law, 2022; Gaitskell, 2005).

The international nature of FIDIC contracts has reinforced the significance of arbitration as a method capable of preserving neutrality, accelerating dispute settlement procedures, and ensuring enforceability of decisions across jurisdictions (Born, 2021; Redfern & Hunter, 2023). Nevertheless, challenges such as disputes regarding the validity of the main contract, interpretation of arbitration clauses, and obstacles related to enforcement of arbitral awards—particularly within the framework of the New York Convention of 1958 and the UNCITRAL Model Law—continue to complicate effective implementation (Uncitral, 2016; United, 1958; Wolff, 2019). These instruments establish specific conditions governing recognition and enforcement of arbitral awards and, in certain circumstances, including conflicts with public policy, authorize national courts to refuse enforcement (García, 2020; van den Berg, 2017).

To address such complexities, FIDIC has introduced a multi-tiered dispute resolution mechanism consisting of the Engineer's initial determination, referral to dispute boards, attempts at amicable settlement, and ultimately arbitration or recourse to national courts depending on party agreement (Dispute Resolution Board Foundation, 2020; Fédération Internationale des, 2017). This staged structure constitutes one of the distinguishing characteristics of FIDIC contracts compared with other international contractual models and aims to prevent escalation of disputes through early intervention and technical adjudication (Glover, 2012; Grout, 2021).

Despite the global prominence of FIDIC contracts, the Iranian legal system faces considerable challenges concerning arbitration, enforcement of international contracts, and dispute resolution mechanisms. First, arbitration legislation has not been comprehensively updated to align with evolving international standards. Second, the legal infrastructure necessary for the development of international arbitration remains incomplete. Third, FIDIC contracts have not yet achieved a firmly institutionalized status within Iranian law, and existing legal rules do not adequately respond to the specific arbitration needs arising from such contracts. These gaps highlight the necessity of conducting systematic research on FIDIC arbitration mechanisms and the legal as well as jurisprudential challenges associated with their implementation in Iran.

The present study aims to analyze dispute resolution mechanisms in FIDIC contracts, identify existing legal and jurisprudential challenges within the Iranian legal system, and propose legislative and institutional reform solutions. The findings may contribute to improving the effectiveness of arbitration in FIDIC-based projects and provide practical value for contractual institutions, governmental bodies, research centers, universities, scholars, and students engaged in international construction law.

2. Theoretical Framework

This study employs three principal theoretical approaches to analyze dispute resolution mechanisms in construction contracts: economic efficiency theory of contracts, contractual governance and claims management theory, and alternative dispute resolution theories. These perspectives operate complementarily. Economic efficiency theory emphasizes reduction of transaction costs and risk management; governance and claims management theory focuses on designing contractual mechanisms capable of controlling opportunistic behavior; and ADR theories provide institutional frameworks for dispute prevention, mediation, and arbitration (Glasgow & Smith, 2021; Tang et al., 2022; Williamson, 1985). The integration of these theories enables a comprehensive analysis of complex international contracts and the institutional role of dispute boards.

2.1. Economic Efficiency Theory of Contracts

Institutional economics and contract economics, particularly as developed by Oliver Williamson, conceptualize contracts as key instruments for reducing transaction costs, managing risk, and regulating uncertainty (Williamson, 1985). Williamson argues that economic actors operate under conditions of bounded rationality and may engage in opportunistic behavior; therefore, contractual governance structures must be designed to mitigate such costs and risks. The choice of an optimal governance structure—whether market-based, hierarchical, or hybrid—depends on factors such as asset specificity, transaction frequency, and uncertainty (Williamson, 2000).

From this perspective, economic institutions, whether public or private, should be organized in a manner that minimizes the costs of exchange and coordination (Coase, 1937; North, 1990). Complementing this approach, incomplete contract theory emphasizes that contracts are inherently incomplete because parties cannot foresee all future contingencies or because drafting comprehensive provisions would impose excessive costs (Hart, 1995). Consequently, residual decision rights acquire substantial importance, as they determine how unforeseen situations will ultimately be resolved.

This theoretical insight explains the institutional function of bodies such as dispute boards—including the Dispute Avoidance/Adjudication Board (DAAB) under FIDIC contracts—which effectively operate as "contract-completing institutions." When contractual provisions remain silent regarding particular events, these bodies fill interpretative gaps through technical and quasi-adjudicative determinations (Glover & Odams, 2020; Klein, 2000). Their role directly reflects institutional economic concerns about uncertainty, transaction costs, and post-contractual governance.

Incomplete contract theory further clarifies how allocation of decision-making authority and governance rights can enhance economic efficiency by balancing incentives among participants and limiting post-contractual opportunism. Accordingly, economic efficiency theory and incomplete contract theory are conceptually interconnected: the former concentrates on transaction costs, while the latter emphasizes cognitive limitations and unpredictability of future contingencies (Hart, 1995; Williamson, 1985). Their combined application provides a robust analytical framework for examining complex international engineering and construction contracts such as FIDIC agreements, particularly where dispute boards and arbitration mechanisms are designed to manage uncertainty and prevent costly disputes (Glover & Odams, 2020; Grout, 2021).

2.2. Contractual Governance and Claims Management Theory in Construction Contracts

In economic and contractual literature, "contractual governance" refers to the use of contracts not merely as simple legal agreements but as governance mechanisms that structure relationships between parties. Under this approach, contracts establish governance frameworks incorporating elements such as allocation of decision-making authority, incentive structures, and mechanisms designed to control opportunistic behavior (Tang et al., 2022; Williamson, 1985). This form of contractual governance is particularly significant in large and complex construction projects, where parties encounter uncertainty, changing conditions, and asymmetric information throughout project implementation (S. O. Cheung & H. C. H. Suen, 2002).

One of the most important governance mechanisms in construction contracts is the standing dispute board, particularly the Dispute Avoidance/Adjudication Board (DAAB). From a contractual governance perspective, such boards perform preventive and managerial functions rather than merely issuing final decisions. Their role extends beyond that of a passive adjudicatory body; through regular site visits and continuous interaction with the contracting parties, dispute boards reduce informational asymmetry, monitor performance, and create a transparent environment for effective claims management (Dispute Resolution Board Foundation, 2020; Glover & Odams, 2020).

From a claims management standpoint, studies indicate that when dispute boards are properly designed and actively engaged throughout the project lifecycle, they can identify and manage potential claims at early stages and prevent their escalation into major disputes (Grout, 2021). Contractual governance theory further suggests that the continuous availability of an institutional mechanism such as a DAAB encourages parties to refer issues earlier, thereby reducing uncertainty and limiting the economic and relational costs associated with large-scale disputes (Williamson, 2000). Early intervention not only lowers potential transaction costs but also preserves cooperative relationships between contracting parties.

Overall, contractual governance theory combined with claims management offers a powerful analytical framework for examining the role of dispute boards in complex construction contracts. It demonstrates that dispute resolution mechanisms are not designed solely for adjudication but function as proactive governance tools aimed at dispute prevention and active management, particularly in projects characterized by high risk, uncertainty, and informational imbalance (S. Cheung & H. Suen, 2002; Tang et al., 2022).

2.3. Alternative Dispute Resolution Theories

The literature on alternative dispute resolution (ADR) emphasizes the fundamental advantages of non-judicial dispute settlement mechanisms, particularly speed, technical specialization, confidentiality, and procedural flexibility (Glasgow & Smith, 2021; Redfern & Hunter, 2023). Dispute boards such as the DAAB may become involved from the commencement of a project, continuously monitor project conditions, and intervene authoritatively to prevent disputes or resolve them at early stages (Dispute Resolution Board Foundation, 2019b).

According to FIDIC guidance concerning dispute boards, these bodies operate at the intersection between ADR mechanisms and contractual adjudication: they possess both preventive functions and authority to issue binding interim decisions (Aceris Law, 2022; Fidic, 2017). Empirical reports demonstrate that regular participation of dispute boards on project sites facilitates early detection of emerging problems, reduces information asymmetry, and enables intervention before disagreements evolve into prolonged legal disputes (Dispute Resolution Board Foundation, 2019a). Construction law scholarship further indicates that the combination of advisory and decision-making roles transforms dispute boards into neutral yet active partners in project governance rather than passive adjudicators (Glover & Odams, 2020).

Nevertheless, critics of ADR mechanisms warn that poorly designed multi-tier dispute resolution systems—combining prevention procedures, interim adjudication, and arbitration—may inadvertently prolong disputes rather than resolve them efficiently (Committee et al., 2014). Studies also suggest that when dispute boards are insufficiently involved at the preventive stage or when interaction between parties remains limited, their capacity to prevent escalation diminishes and disputes are more likely to proceed to arbitration (Icca, 2017).

Accordingly, ADR theories conceptualize dispute boards not merely as alternatives to arbitration or litigation but as preventive contractual governance instruments that reduce risk, enhance transparency, and minimize the likelihood of large-scale disputes. However, effective implementation depends on proper design of multi-tier procedures, enforceability of interim decisions, and continuous engagement between parties and dispute boards.

3. FIDIC Literature and Dispute Resolution

Over more than a century, FIDIC contracts have evolved into global standards for international infrastructure and construction projects. Two major milestones in this evolution are the 1999 edition and the structural reforms introduced in 2017, each reflecting a distinct approach to claims management and dispute resolution (Fidic, 1999, 2017).

Under the 1999 edition, the FIDIC system relied primarily on the Dispute Adjudication Board while maintaining a significant decision-making role for the Engineer. The 2017 revision, however, emphasized dispute avoidance and transformed the dispute resolution structure by upgrading the Dispute Adjudication Board into the Dispute Avoidance/Adjudication Board (DAAB) with broader authority and preventive responsibilities (Bunni, 2013; Grout, 2021).

Consequently, the FIDIC framework incorporates three principal dispute resolution institutions. First, the Engineer issues an initial determination that remains binding unless revised. Second, dispute boards—both adjudicative and avoidance-oriented—issue binding interim decisions designed to maintain project continuity (Glover & Odams, 2020). Third, final arbitration functions as the ultimate forum for dispute settlement, typically conducted under internationally recognized arbitration frameworks (Born, 2021; Redfern & Hunter, 2023).

The concept of the “amiable compositeur” or equity-based arbitrator also appears in certain international construction contracts, allowing arbitrators to decide disputes according to principles of fairness rather than strict legal rules, although FIDIC permits such authority only through explicit party agreement (Born, 2021).

Empirical literature indicates that dispute boards significantly reduce arbitration costs, prevent project suspension, and shorten dispute resolution timelines (Dispute Resolution Board Foundation, 2020). Field studies reveal that a substantial proportion of disputes referred to dispute boards are resolved without proceeding to arbitration (Dispute Resolution Board Foundation, 2019b). However, the practical effectiveness of dispute boards depends heavily on professional expertise, institutional independence, and enforceability of interim decisions within national courts (Gaitskell, 2005). Enforcement challenges have received considerable scholarly attention, particularly because some jurisdictions do not recognize dispute board decisions as arbitral awards, thereby complicating enforcement procedures (Abdul-Majeed, 2017). Comparative analyses show that countries possessing modern arbitration legislation demonstrate greater willingness to recognize and enforce such decisions (Sprecher & Moser, 2018).

The review of the theoretical framework reveals several remaining research gaps despite extensive literature on FIDIC and dispute boards. First, the practical interaction between DAAB decisions and arbitration proceedings remains insufficiently examined; many studies describe institutional roles but lack empirical analysis regarding how interim determinations influence final arbitral outcomes. Second, enforcement of interim decisions across national legal systems remains under-researched, particularly concerning differences in public policy standards affecting recognition and enforcement under international arbitration frameworks (García, 2020; van den Berg, 2017). Third, although research indicates that expertise and independence of dispute board members significantly influence acceptance of decisions and reduction of subsequent challenges, empirical studies identifying the most effective professional criteria remain limited. Fourth, while the 2017 FIDIC reforms have been widely discussed doctrinally, long-term empirical evaluations concerning their impact on procedural efficiency, arbitration frequency, and enforceability are still emerging.

Accordingly, the present research seeks to address these gaps by focusing on the interaction between dispute boards and arbitration, enforcement barriers within diverse legal systems, and determinants of dispute board quality, while proposing judicial and regulatory reforms aimed at improving the efficiency of dispute resolution mechanisms under FIDIC contracts.

4. The Role of the Consulting Engineer in the Analysis of FIDIC Dispute Resolution Mechanisms

Within FIDIC contracts, the consulting engineer—acting as the employer’s representative—plays a central role in both project administration and dispute management. This role has been carefully defined and strengthened in successive FIDIC editions, including the 1999 Red Book and the 2017 revision (Fidic, 1999, 2017).

The Engineer serves as the first decision-making authority in contractual disputes. The Engineer’s determination operates as a binding initial decision until reconsidered or referred to the Dispute Avoidance/Adjudication Board (Glover & Odams, 2020). The contractual powers of the Engineer include interpretation and application of contract provisions, evaluation of claims based on project documentation, and issuance of interim determinations intended to prevent disruption or suspension of project performance (Bunni, 2013).

Where parties disagree with the Engineer’s determination, disputes may be referred to the DAAB or ultimately to arbitration. This hybrid dispute resolution structure reduces procedural delays and helps maintain project continuity. In practice, the Engineer functions not only as an initial decision-maker but also as a pragmatic and quasi-neutral institutional actor capable of preventing costly and prolonged disputes while safeguarding the uninterrupted progress of construction projects (Dispute Resolution Board Foundation, 2020).

5. Challenges of Conflicts of Interest

One of the most complex and sensitive challenges within the dispute resolution architecture of FIDIC (the International Federation of Consulting Engineers) contracts is the problem of conflicts of interest in the Engineer's role and, at times, within the Dispute Adjudication Boards and the Dispute Avoidance/Adjudication Boards. The Engineer, as the employer's representative, is expected to issue impartial determinations in accordance with the contract; simultaneously, however, the Engineer is also tasked with safeguarding the employer's interests. This inherent tension between impartiality and representation can generate significant consequences for project administration and for the overall effectiveness of the dispute resolution mechanism (Bunni, 2013; Jaeger & Hök, 2010).

Contractor doubts regarding impartiality have been repeatedly observed in large and international projects, particularly where substantial financial claims are at stake or where multiple stakeholders with diverging interests are involved. Such doubts can undermine confidence in the initial dispute resolution tier and increase the likelihood that disputes will be escalated to subsequent stages. Field-oriented analyses in international construction dispute practice indicate that, where the contractor perceives the Engineer as acting in favor of the employer, referrals to dispute boards and, ultimately, to final arbitration tend to accelerate (Redfern & Hunter, 2023). This dynamic effectively shifts the dispute resolution pathway from "early correction" to "early escalation," with adverse implications for project governance.

A related consequence is the increased propensity to refer disputes to the DAAB or to final arbitration. When the Engineer's determination is viewed as employer-biased, the counterparty is more inclined to seek rapid recourse to the dispute board or to arbitration (Born, 2021). This escalation can increase procedural duration and project-level transaction costs and may reduce the efficiency of the overall dispute resolution mechanism. In complex engineering and construction contracts, such behavior can produce a prolonged dispute cycle that, beyond financial cost, negatively affects long-term relational capital between contractor and employer (Williamson, 1985, 2000).

Complexity may also arise at the level of the Dispute Adjudication Board and the DAAB. In practice, perceptions of influence—whether through the Engineer's involvement in the project ecosystem or through the parties' appointment dynamics—can weaken the appearance or reality of independent decision-making, thereby affecting the legitimacy of issued decisions and generating downstream legal and practical challenges, including increased objections to board determinations and intensified scrutiny in later arbitration proceedings (Gaitskell, 2005; Glover & Odams, 2020). The literature suggests that dispute boards lacking sufficient independence are less capable of effective dispute prevention and early claims management (Dispute Resolution Board Foundation, 2020). Accordingly, three measures are often identified as vital for mitigating these risks: reliance on genuinely independent decision-makers at the first tier, adoption of transparent and well-documented procedures for determinations, and institutionalization of expert oversight together with continuous feedback loops between parties and the board (Dispute Resolution Board Foundation, 2020; Grout, 2021). These measures can strengthen party confidence and acceptance of determinations, reduce downstream disputes, and ultimately improve the efficiency of dispute resolution in international projects.

6. Binding Force of Decisions

Within FIDIC dispute resolution mechanisms, the Engineer's determination and the decisions of dispute boards play a critical role in managing disputes and preventing project disruption. In practice, however, the binding force of these decisions is subject to limitations and operational challenges (Fédération Internationale des, 2017; Fidic, 2017). Engineer's determinations are intended to operate as binding interim decisions until revised or referred to the DAAB. This interim binding effect is designed for two principal purposes: ensuring continuity of project performance by avoiding stoppages, and preserving the parties' ability to seek subsequent review through dispute boards or final arbitration (Born, 2021).

The impact of national legal systems on binding force is particularly significant. In some jurisdictions, dispute board decisions are not treated as arbitral awards and therefore require judicial support or specific court recognition to become enforceable. Comparative work indicates that jurisdictions with modern arbitration legislation tend to facilitate recognition and enforcement of such determinations, whereas less developed frameworks may create practical barriers that reduce the operational value of interim binding decisions (Sprecher & Moser, 2018; Uncitral, 2016).

The binding nature of Engineer and board decisions carries multiple advantages. It reduces disruption and costs by enabling project performance to continue under an operative interim determination, and it can enhance party confidence in the dispute resolution process by signaling procedural professionalism and functional credibility (Dispute Resolution Board Foundation, 2020). It also supports dispute prevention: interim decisions can prevent disputes from escalating unnecessarily to arbitration, which is particularly important in complex international projects where arbitration can be time-consuming and costly (Gaitskell, 2005; Glover & Odams, 2020).

Nonetheless, enforcement challenges remain material. Even where decisions are formally binding, a party may refuse to comply and instead push the dispute to arbitration. In addition, in some jurisdictions courts may decline to enforce dispute board decisions or subject enforcement to restrictive conditions, thereby reducing the efficiency of the system as a whole (Abdul-Majeed, 2017; Redfern & Hunter, 2023). These practical constraints highlight that “binding force” under FIDIC is frequently dependent not only on contractual drafting but also on the surrounding enforcement ecosystem, especially recognition and enforcement standards under transnational arbitration instruments (Global Arbitration, 2025; United, 1958; Wolff, 2019).

7. Structure of the Dispute Board

Under the FIDIC contractual regime, the dispute board—whether configured as a Dispute Adjudication Board or a DAAB—generally appears in two principal structural forms: a standing board appointed at the outset of the contract and remaining in place until project completion, and an ad hoc board convened only when a particular dispute arises. Board membership commonly consists of one or three individuals unless the parties agree otherwise, and members are expected to be independent and impartial in relation to both employer and contractor, with adequate technical and legal expertise in international construction contracting (Bunni, 2013; Jaeger & Hök, 2010). The project’s main contract typically includes a tripartite agreement involving the employer, the contractor, and the board members, defining the members’ obligations, independence parameters, remuneration, and term of appointment (Fidic, 2017; Grout, 2021).

Accordingly, the dispute board structure typically includes determination of the number of members, specification of competence and experience criteria, execution of a separate engagement agreement, definition of the appointment duration, clarification of fees and potential penalties, and safeguards for decisional independence. The structure is designed to allow continuous interaction between the board and the contracting parties throughout project execution, thereby enabling the board to function both as a preventive governance institution and as a dispute resolution body. In practice, however, concerns often arise regarding appointment dynamics—particularly where appointment influence is perceived to be concentrated on the employer side—which may compromise perceived independence and constitute a critical vulnerability in the board structure (Dispute Resolution Board Foundation, 2020; Gaitskell, 2005).

8. Dispute Board Procedure

The procedure before a dispute board (whether a Dispute Adjudication Board or a DAAB) under FIDIC contracts is designed as a structured, time-sensitive process. It begins with referral of the dispute to the board, which may be initiated by either party provided that any preliminary contractual steps have been satisfied. In several FIDIC formulations, the board is commonly required to issue its decision within a specified time window (often referenced as eighty-four days), unless the parties have agreed to a different timeframe (Fidic, 1999, 2017). After referral, the chair typically confirms the referral date, coordinates procedural scheduling, manages exchange of submissions and supporting documents, and determines whether meetings, site visits, and hearings are required. The board may proceed on a documents-only basis or conduct in-person sessions, request further documentary evidence, carry out site inspections, and, where necessary, receive expert input or witness testimony, before issuing a reasoned written decision. Under FIDIC, such decisions are intended to be immediately operative unless and until revised through subsequent steps in the dispute resolution process (Aceris Law, 2022; Grout, 2021).

A core procedural objective is speed and technical specialization with minimal disruption, reflecting the underlying purpose of avoiding project suspension and reducing the economic costs of prolonged disputes. The 2017 FIDIC edition further strengthens the preventive dimension by enabling the DAAB not only to decide disputes but also to provide ongoing advisory and monitoring functions across the life of the project, with the aim of controlling emerging disagreements before they crystallize into formal claims or arbitration (Fidic, 2017; Grout, 2021). In this sense, the dispute board procedure is best understood as an integrated sequence of referral, procedural organization, documentary exchange, targeted meetings or hearings as needed, expedited decision-making, and communication of outcomes, designed to ensure that parties are not forced into work stoppage or into long-running arbitration merely to address operational disagreements (Aceris Law, 2022).

9. Binding Force of Dispute Board Decisions

One of the defining characteristics of dispute boards—whether structured as a Dispute Adjudication Board or a Dispute Avoidance/Adjudication Board—under FIDIC contracts is the temporary binding nature of their decisions. Under Clauses 20 or 21 of the contractual framework, a board's decision becomes "final and binding" if no notice of dissatisfaction is submitted within the prescribed contractual period (Fédération Internationale des, 2017; Fidic, 2017).

For instance, in the 2017 FIDIC edition, the Engineer's determination is likewise treated as binding pending revision, and the DAAB is empowered to issue enforceable decisions unless a party formally challenges the determination within twenty-eight days. Despite this contractual binding force, comparative studies demonstrate that enforcement of dispute board decisions at the international level remains challenging. A principal difficulty concerns whether national legal systems recognize dispute board determinations as arbitral awards. Many courts treat such decisions as provisional adjudications rather than final arbitral awards, thereby requiring judicial confirmation or separate enforcement proceedings (Aceris Law, 2022; Sprecher & Moser, 2018).

Where a party refuses compliance, the opposing party may refer the non-performance itself to final arbitration or seek contractual remedies, including damages or penalties. The principal advantage of binding interim decisions lies in maintaining project continuity, reducing costs, and limiting premature recourse to arbitration. However, the practical effectiveness of this binding force depends heavily on national legal frameworks, judicial enforcement capacity, and cooperative conduct between contracting parties (Born, 2021; Wolff, 2019). Ultimately, the binding character of dispute board decisions should not be viewed merely as a technical contractual device but rather as a foundational element ensuring predictability, procedural efficiency, and stability of contractual relationships in international construction projects.

10. Mediation and Negotiation

Mediation and negotiation constitute two significant alternative dispute resolution methods emphasizing direct interaction, cooperation, and voluntary agreement between parties. In mediation, a neutral third party facilitates dialogue and assists the parties in reaching mutually acceptable solutions without issuing a binding determination. This process is particularly advantageous in complex, multi-party, or international disputes where long-term commercial relationships are at stake, as its primary objective is dispute resolution without damaging contractual cooperation (Glasgow & Smith, 2021).

Negotiation, by contrast, involves direct engagement between the parties without third-party intervention. Control over both process and outcome remains entirely in the hands of the parties, enabling flexible and creative solutions such as staged payment arrangements, modification of contractual scope, or adjustment of project delivery conditions. The informal, confidential, and adaptable nature of mediation and negotiation allows them to operate as the first tier within contractual dispute resolution structures, preceding referral to more formal mechanisms such as dispute boards or arbitration.

This preventive approach offers several advantages. First, it preserves commercial relationships by encouraging dialogue and voluntary agreement, thereby preventing escalation of conflict. Second, it reduces time and cost because negotiated or mediated settlements are typically faster and less expensive than arbitration or litigation, minimizing disruption to project execution. Third, flexibility allows solutions tailored to project realities, including timetable adjustments, redistribution of risks, or revision of contractual obligations. Fourth, early intervention prevents minor disagreements from developing into complex and costly disputes. Consequently, mediation and negotiation function as complementary preventive tools alongside formal dispute resolution mechanisms and play a vital role in effective governance of international construction projects (Glasgow & Smith, 2021).

11. Effectiveness of Mediation in International Projects

Mediation has gained increasing importance in international construction projects as an effective alternative dispute resolution method capable of reducing costs, delays, and adversarial tensions between contracting parties. Particularly in large-scale and multinational projects, mediation contributes to preventing project interruptions and avoiding prolonged disputes. Empirical analyses demonstrate that mediation procedures are generally faster and less costly than arbitration or court litigation while effectively addressing both financial and technical disagreements arising during project execution (Llp, 2023).

A major advantage of mediation lies in preserving professional relationships. Unlike arbitration, which may foster adversarial dynamics, mediation emphasizes collaborative problem-solving and win–win outcomes. This cooperative environment enhances parties' sense of ownership over the negotiated settlement and strengthens commitment to implementation of agreed solutions (Glasgow & Smith, 2021).

Flexibility and professional expertise of the mediator also constitute key factors contributing to effectiveness. Mediators possessing technical knowledge of construction projects and familiarity with contractual, financial, and engineering disputes can adapt mediation styles to the specific needs of the dispute. Evaluative mediation conducted by experienced specialists has proven particularly effective in shortening resolution timelines, reducing expenses, and increasing party satisfaction. Moreover, structured and strategic negotiation techniques can mitigate power imbalances between parties and facilitate equitable outcomes, accelerating decision-making processes (Cao, 2023).

In large infrastructure and sustainability-oriented projects, mediation plays a critical role in reducing project failure risks, protecting investments, and supporting successful project completion. Elements such as preparation, strategic alignment, good faith participation, continuity of engagement, commitment, and mutual confidence significantly influence the likelihood of successful agreement. Nevertheless, certain challenges remain, including cultural and legal differences, limited awareness of ADR mechanisms among contractors, and concerns regarding enforceability of mediated settlements. In some jurisdictions—particularly within public sector or governmental projects—lack of standardization and insufficient training have hindered broader adoption of mediation practices (Cao, 2023; Llp, 2023).

In conclusion, mediation represents a strategic and efficient dispute resolution instrument in international construction projects capable of reducing costs and delays, preserving long-term commercial relationships, and generating sustainable solutions. Full realization of its advantages, however, requires greater procedural transparency, improved stakeholder education, and strengthened supervisory and enforcement frameworks.

12. Problems of Mediation in Government Contracts

In government or public-sector contracts, the use of mediation faces significant challenges that limit the effectiveness of this dispute resolution mechanism. One of the most prominent issues concerns power imbalance between governmental entities and private-sector participants. Public authorities, by virtue of financial capacity, regulatory authority, and political influence, often occupy a structurally superior position. This asymmetry may enable governmental bodies to reshape settlement proposals in their favor or to employ mediation strategically rather than cooperatively. Such inequality can undermine mediator neutrality and reduce incentives for meaningful participation by private parties (Glasgow & Smith, 2021; Llp, 2023).

A second major challenge relates to enforceability of mediated settlements. In many public contracts, mediation outcomes lack automatic binding force unless supported by a separate written agreement or reinforced through applicable legal frameworks. Consequently, a governmental party may withdraw from implementation even after reaching consensus during mediation, particularly in projects involving strong public interests or political sensitivities. The absence of enforceability reduces confidence in mediation and risks transforming the process into merely provisional negotiation rather than definitive dispute settlement (Glasgow & Smith, 2021).

Transparency and public accountability represent an additional obstacle. Decisions involving public funds must often meet transparency standards to preserve public trust. However, mediation procedures are typically confidential. This confidentiality may create concerns among public stakeholders—such as taxpayers—who may perceive mediated agreements as lacking sufficient scrutiny or potentially compromising public interests.

Administrative structures within governmental organizations further complicate mediation processes. Public institutions frequently must comply with internal approval procedures, contractual oversight committees, or statutory authorization pathways before recognizing mediated settlements. These bureaucratic requirements can delay implementation and weaken private-sector motivation to engage seriously in mediation processes (Llp, 2023).

Finally, limited institutional awareness and cultural resistance toward mediation among certain public officials remain important barriers. Many government decision-makers prefer arbitration or litigation because these mechanisms appear more formal, legally definitive, and publicly defensible. Budgetary constraints and difficulties in securing qualified professional mediators—particularly in large public infrastructure projects—may also restrict the practical use of mediation.

13. The Role of International Arbitration as the Final Forum in International Contract Disputes

In international projects, particularly within construction and infrastructure sectors, international arbitration performs a decisive and indispensable role as the final stage of dispute resolution. Its primary advantage lies in the binding nature of arbitral awards, which provides legal certainty for contracting parties. Unlike intermediate mechanisms such as dispute boards—whose decisions may be binding but not always final—arbitration produces definitive awards subject only to limited review and governed by international enforcement regimes, especially the New York Convention (Born, 2021; Redfern & Hunter, 2023).

A further advantage of international arbitration is the ability of parties to appoint arbitrators possessing both legal and technical expertise. Construction disputes frequently involve complex engineering, design, and contractual issues that require specialized knowledge beyond ordinary judicial competence. The availability of technically qualified arbitrators enables deeper evaluation of technical claims and contributes to more accurate and credible outcomes (Born, 2021).

International arbitration also uniquely combines finality with cross-border enforceability. Arbitral awards may be recognized and enforced internationally pursuant to multilateral treaties, particularly the New York Convention, allowing enforcement across multiple jurisdictions. This feature is essential in international projects involving parties from different countries, as it ensures that successful claimants can enforce awards beyond the seat of arbitration (Icca, 2017; United, 1958).

From a risk-management perspective, arbitration functions as a strategic governance tool. The existence of a clear arbitration mechanism encourages contractual discipline and may deter escalation of disputes, while simultaneously providing a predictable pathway for resolving unavoidable conflicts. Nevertheless, arbitration is not without disadvantages. High procedural costs—especially where expert arbitrators or leading arbitral institutions are engaged—and potentially lengthy proceedings in technically complex cases remain persistent concerns (Born, 2021; Redfern & Hunter, 2023).

14. Enforcement of International Arbitral Awards (New York Convention 1958)

The Convention on the Recognition and Enforcement of Foreign Arbitral Awards of 10 June 1958, widely known as the New York Convention, constitutes one of the most effective instruments of international private law. The Convention obliges contracting states to recognize and enforce arbitral awards rendered in other jurisdictions subject to specified conditions (Icca, 2017; United, 1958).

Article III of the Convention requires each contracting state to recognize arbitral awards as binding and enforce them in accordance with domestic procedural rules while ensuring that recognition and enforcement conditions are not substantially more burdensome than those applied to domestic awards (Uncitral, 2016; United, 1958). Article V establishes limited grounds for refusal of enforcement, including invalid arbitration agreements, improper composition of the arbitral tribunal, violations of due process, or conflicts with the public policy of the enforcing state (García, 2020).

International analyses demonstrate the remarkable success of the Convention, now adopted by more than 140 states. Empirical data indicate that a substantial proportion of recognition and enforcement applications are granted under its framework (van den Berg, 2017). One of the Convention's major strengths lies in harmonizing judicial approaches across national courts, supported by global databases and comparative reporting initiatives that facilitate consistent interpretation (Global Arbitration, 2025).

Despite this success, scholars have noted limitations in practical application. Certain courts interpret Article V conservatively, especially in relation to public policy exceptions, thereby affecting enforcement efficiency (Cassimatis, 2019). Overall, while the New York Convention remains a cornerstone of international dispute resolution, its effectiveness ultimately depends on coherent judicial practice, alignment of domestic legislation with Convention standards, preservation of arbitral independence, and continued development of consistent jurisprudence across jurisdictions (Icca, 2017; United, 1958).

15. Analysis of Leading FIDIC Awards before the ICC

Analysis of leading international arbitration awards provides both theoretical and practical insight into the functioning of FIDIC dispute resolution mechanisms. A classic and influential example is the Parsons & Whittemore case before United States courts, in which the enforcement of a foreign arbitral award was confirmed, demonstrating the practical application of the New York Convention within national judicial systems. The decision emphasized that the public policy exception under Article V must be interpreted narrowly, allowing refusal of enforcement only where fundamental principles of justice or morality are violated (van den Berg, 2017).

From a theoretical perspective, scholarly analyses concerning recognition and enforcement of foreign arbitral awards also highlight the decisive role of domestic legal alignment with Convention obligations. Studies examining enforcement practices in jurisdictions such as Russia demonstrate that expansive interpretations of public policy may become significant barriers to enforcement, even within Convention-member states (Fedorov, 2020; Karabelnikov, 2006).

Doctrinal commentary further underscores the balance embedded within the Convention between arbitral autonomy—reflecting party autonomy in choosing arbitration—and judicial supervision exercised through limited enforcement review. Effective operation of the Convention therefore requires interpretative consistency among national courts to prevent fragmentation and legal uncertainty (Wolff, 2019).

Taken together, analysis of leading arbitral decisions confirms that although the New York Convention provides a powerful framework for enforcing international arbitral awards, its real-world effectiveness depends on judicial attitudes, reasonable interpretation of Article V exceptions, and continued development of reliable comparative jurisprudence. Without these supporting factors, legal and practical enforcement challenges may limit the Convention's intended uniformity and efficiency in international dispute resolution.

16. Challenges of National Legal Systems

16.1. Expansive or Strict Interpretation of "Public Policy"

Public policy is a legal concept that operates as one of the limited exceptions to the enforcement of international arbitral awards. National courts may suspend or refuse enforcement of a foreign arbitral award where there is a manifest conflict with the enforcing state's domestic public policy. Although the New York Convention is generally understood to require a restrictive interpretation of this exception, in practice national conceptions of "public policy" vary considerably, and this divergence is a major source of uncertainty and enforcement risk (United, 1958; Wolff, 2019).

Differences in public policy interpretation have both practical and theoretical dimensions. Procedurally, some courts treat breaches of due process or core procedural guarantees as public policy violations and therefore justify refusal of enforcement on that basis, whereas other legal systems reserve such refusal for only the most severe situations, such as manifest fraud or corruption in the arbitral process (van den Berg, 2017; Wolff, 2019). Substantively, certain judicial approaches expand public policy beyond foundational legal principles and include matters such as national economic policy, protection of state assets, or development objectives. This broader approach has been reported in a number of systems—particularly in Russian enforcement practice—where commentators describe it as an "expansive" deployment of the public policy exception (Fedorov, 2020; Karabelnikov, 2006).

The practical consequences of expansive public policy are serious. First, it increases the probability of refusal even in respect of awards that are fully legitimate under international arbitration standards, thereby reducing legal predictability. Second, it weakens confidence in the international arbitration system because parties can no longer assume that a valid award will be enforceable in the counterparty's domestic courts. At a macro level, this uncertainty increases the political and economic costs of cross-border investment and has contributed to calls for closer alignment of interpretations and stronger convergence in judicial practice (Born, 2021; Wolff, 2019). To mitigate these risks, commentators commonly recommend promoting a restrictive and enforcement-oriented reading of Article V through international guidance and interpretive tools, enhancing judicial training on core arbitration principles, and aligning domestic legislation with internationally accepted standards such as UNCITRAL-based frameworks so that public policy is not used as a generalized vehicle for economic or political concerns (Born, 2021; Uncitral, 2016; Wolff, 2019).

16.2. Misalignment of Domestic Law with International Standards

In many jurisdictions, gaps between domestic arbitration rules and international standards produce "legal insecurity" and diminish the enforceability of foreign arbitral awards. This misalignment can be observed across three main axes. First, substantive judicial intervention occurs where courts consider themselves entitled to revisit the merits of the dispute and assess the correctness or fairness of arbitral outcomes, exceeding the limited supervisory function associated with the principle of minimal judicial intervention. Such merit-based intervention erodes the efficiency and speed that arbitration is designed to provide (Born, 2021; Redfern & Hunter, 2023).

Second, the grounds for annulment or refusal of enforcement may be overly broad. Some domestic statutes or judicial practices interpret refusal grounds expansively, including formal or technical defects that are not typically treated as decisive in international arbitration. Divergent approaches to the formal validity of arbitration agreements or heightened evidentiary requirements can therefore lead to rejection of enforcement applications (Uncitral, 2016; Wolff, 2019). Third, incompatible procedural and formal rules may impose stricter local requirements—such as complex rules on service of process, deadlines, or appointment procedures—that delay enforcement or render it practically unattainable, thereby increasing costs and pushing parties back toward domestic litigation.

16.3. Judicial Interventionism

International practice generally endorses minimal judicial intervention: courts should intervene only in narrowly defined circumstances, such as fundamental jurisdictional issues, public policy, or manifest fraud. In practice, however, some courts interpret their powers broadly, re-examine evidentiary issues, challenge tribunal composition on grounds exceeding accepted international thresholds, or conduct de facto merits review. Such conduct undermines speed, finality, and enforceability—three of arbitration's central functional advantages (Born, 2021; Wolff, 2019). Comparative materials and analytic reporting emphasize that interventionist enforcement climates generate investment risk by weakening confidence in predictable dispute resolution.

16.4. Lack of Judicial Expertise

Adjudicating recognition and enforcement of foreign arbitral awards requires familiarity with concepts such as competence-competence, separability, and transnational enforcement standards. Where judges lack sufficient training or experience, inconsistent and unpredictable decisions become more likely, increasing legal risk and discouraging international investors (Uncitral, 2016; Wolff, 2019). Judicial interventionism combined with limited expertise tends to produce three practical outcomes: prolonged enforcement timelines, higher likelihood of judicial disruption of arbitral determinations, and incentives for forum shopping. Mitigating measures typically include specialized judicial training, establishment of dedicated arbitration chambers or specialist courts, broader adoption of UNCITRAL-aligned standards, and publication of coherent case law to improve consistency (Born, 2021; Wolff, 2019).

16.5. Judicial Protectionism

A further challenge in enforcing foreign arbitral awards is the emergence of "judicial protectionism" in some legal systems—particularly when disputes implicate strategic sectors such as energy, oil and gas, infrastructure, telecommunications, or state-linked contracts. In such contexts, national courts may adopt a conservative, sovereignty-oriented stance and prioritize domestic institutional interests over international enforcement commitments (Born, 2021). Analytical scholarship suggests this tendency often becomes pronounced where enforcement would impose substantial financial liability on the state or strategic domestic entities; courts may then interpret public policy or arbitration agreement validity in an expansive manner (Born, 2021).

Practice-oriented materials likewise document examples in which courts have relied on notions akin to "economic public policy" or "national interest" to restrict enforcement. Comparative discussion of Russian practice, for example, highlights patterns in which public policy exceptions are deployed broadly, contributing to enforcement unpredictability (Fedorov, 2020; Karabelnikov, 2006). Overall, the literature converges on the point that judicial protectionism—when inconsistent with international enforcement obligations—raises refusal risk and can weaken the legal security expected by international investors (Born, 2021; Karabelnikov, 2006).

17. Conclusion

The findings of this study demonstrate that arbitration within FIDIC contracts achieves maximum effectiveness when implemented within a coherent, multi-tier contractual governance framework in which the roles of institutions such as the Engineer and dispute boards are clearly structured and precisely defined. Through the staged mechanism extending from the Engineer's determination to final arbitration, FIDIC has developed a distinctive model for claims management and dispute prevention. This model aligns closely with modern theories of contractual efficiency, incomplete contracting, and participatory governance by emphasizing early intervention, technical evaluation, and gradual escalation rather than immediate adversarial adjudication. The analysis shows that interim decisions issued by dispute boards play a decisive role not only in reducing the financial and temporal costs of disputes but also in functioning as a practical equilibrium point between contracting parties, preventing escalation and preserving project continuity.

At the same time, the sustainability of these advantages depends on several critical institutional conditions. The independence and professional competence of dispute board members, clarification of the Engineer's dual role to avoid structural conflicts of interest, effective enforceability of interim decisions, and the existence of a judicial and arbitral framework compatible with international standards all emerge as decisive factors influencing the success of FIDIC dispute resolution mechanisms. Where these elements operate harmoniously, dispute resolution shifts from reactive conflict settlement toward proactive project governance, transforming arbitration into the final safeguard rather than the primary instrument of dispute management.

Within the Iranian legal system, however, a number of structural challenges limit the full realization of FIDIC's potential. Arbitration legislation has not kept pace with contemporary international developments, the legal status of FIDIC contractual mechanisms remains insufficiently clarified, and interim dispute board decisions do not consistently receive adequate recognition or enforcement. These deficiencies reduce predictability for international contractors and investors and weaken confidence in contractual dispute resolution mechanisms. Consequently, meaningful reform requires modernization of arbitration legislation, adoption of clear regulatory provisions concerning dispute boards, improvement of procedures governing the appointment and oversight of project engineers, and alignment of enforcement practices with internationally accepted standards governing arbitral awards.

Ultimately, this research suggests that the future effectiveness of arbitration under FIDIC depends upon an intelligent integration of theory and practice. On one hand, modern theoretical frameworks provide essential guidance for designing dispute resolution systems capable of managing uncertainty, balancing contractual interests, and minimizing transaction costs. On the other hand, institutional capacity building and legislative reform are necessary to ensure impartial implementation and effective enforcement of decisions. The convergence of these dimensions strengthens party confidence in dispute resolution processes, enhances project governance, and reduces legal and investment risks in international construction and infrastructure projects.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all who helped us through this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

Abdul-Majeed, M. (2017). The enforcement of DAB decisions under FIDIC contracts. *International Construction Law Review*, *34*(4), 285-304. https://doi.org/10.1680/iclr.17.00029
Aceris Law, L. L. C. (2022). FIDIC dispute resolution mechanism. https://www.acerislaw.com/fidic-dispute-resolution-mechanism/
Born, G. B. (2021). *International Commercial Arbitration* (3rd ed.). Kluwer Law International.
Bunni, N. G. (2013). *The FIDIC forms of contract* (3rd ed.). Wiley-Blackwell.
Cao, N. (2023). Perceptive Biases in Construction Mediation: Evidence and Application of Artificial Intelligence. *Buildings*, *13*(10), 2460. https://doi.org/10.3390/buildings13102460
Cassimatis, A. E. (2019). Public Policy under the New York Convention. *Journal of International Arbitration*.
Cheung, S., & Suen, H. (2002). A multi-attribute utility model for dispute resolution strategy selection. *Construction Management and Economics*, *20*(7), 593-604. https://doi.org/10.1080/01446190210157568
Cheung, S. O., & Suen, H. C. H. (2002). A multiattribute utility model for dispute resolution strategy selection. *Construction Management and Economics*, *20*(7), 557-568. https://doi.org/10.1080/01446190210157568
Coase, R. H. (1937). The nature of the firm. *Economica*, *4*(16), 386-405. https://doi.org/10.1111/j.1468-0335.1937.tb00002.x
Committee, I. B. A. I. C. P., Barreiro-Deymonnaz, R. E., & Galice, M. (2014). *ADR in Construction - Argentina*. https://www.ibanet.org/medias/ICP-ADRinConstruction-Argentina.pdf
Dispute Resolution Board Foundation. (2019a). Benefits of Dispute Boards. https://www.drbf.org/benefits-dispute-boards
Dispute Resolution Board Foundation. (2019b). *Dispute board statistics report*.
Dispute Resolution Board Foundation. (2020). *Best practices for dispute boards*.
Fédération Internationale des, I.-C. (1999). *Conditions of Contract for Construction (First Edition, "Red Book")*. FIDIC.
Fédération Internationale des, I.-C. (2017). *Conditions of Contract for Construction (Second Edition, "Red Book")*. FIDIC.
Fedorov, A. (2020). Particularity of Recognition and Enforcement of Foreign Arbitral Awards in the Russian Federation. *International Comparative Law Journal*, *12*(3), 45-68.
Fidic. (1999). *Conditions of contract for construction: Red book*. Fédération Internationale des Ingénieurs-Conseils.
Fidic. (2017). *Conditions of contract for construction: 2nd edition*. Fédération Internationale des Ingénieurs-Conseils.
Gaitskell, R. (2005). Dispute adjudication boards: Are they working? *International Construction Law Review*, *22*(2), 73-87. https://doi.org/10.1017/S0266087200000980
García, J. C. (2020). Interpretation of Article V of the New York Convention. *University of Miami Law Review*. https://repository.law.miami.edu
Glasgow, E., & Smith, M. (2021). Mediation and Alternative Dispute Resolution. In R. Wilmot-Smith & P. Darling (Eds.), *Wilmot-Smith on Construction Contracts* (4th ed., pp. 470-491). Oxford University Press. https://doi.org/10.1093/oso/9780198832805.003.0018
Global Arbitration, R. (2025). Enforcement under the New York Convention. https://globalarbitrationreview.com
Glover, J. (2012). Dispute adjudication or dispute avoidance under the FIDIC form? https://www.fenwickelliott.com/research-insight/articles-papers/dispute-adjudication-or-dispute-avoidance-under-the-fidic-form
Glover, J., & Odams, J. (2020). *FIDIC contracts and dispute boards: A practical guide*. Informa Law.
Grout, N. (2021). *Users' Guide to Dispute Boards under 1999 and 2017 Editions of FIDIC Conditions of Contract*. https://nigelgrout.com/wpcontent/uploads/2021/09/UsersGuidetoDisputeBoards.pdf
Hart, O. (1995). *Firms, contracts, and financial structure*. Clarendon Press. https://doi.org/10.1093/0198288816.001.0001
Icca. (2017). *The New York Convention of 1958: An Overview*. https://cdn.arbitration-icca.org
Jaeger, A. V., & Hök, G. S. (2010). *FIDIC - A Guide for Practitioners*. Springer. https://doi.org/10.1007/978-3-642-02100-8
Karabelnikov, B. R. (2006). The Supreme Arbitress Court of the Russian Federation Does Not Trust International Arbitration. *Arbitration: The International Journal of Arbitration, Mediation and Dispute Management*, *72*(2).
Klein, B. (2000). Contracting theory and the FIDIC approach to construction contracts. *Journal of Construction Law*, *12*(2), 50-60.
Llp, C. M. S. C. M. N. O. (2023). *Rebuilding Confidence: CMS International Construction Study 2023*. https://cms.law/en/gbr/publication/rebuilding-confidence-cms-international-construction-study-2023

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press. https://doi.org/10.1017/CBO9780511808678

Redfern, A., & Hunter, M. (2023). *Redfern and Hunter on international arbitration* (7th ed.). Oxford University Press.

Sprecher, L., & Moser, M. (2018). Enforcement of DAB decisions: A comparative study. *Journal of International Arbitration*, *35*(5), 623-648. https://doi.org/10.1093/jia/arx022

Tang, B., Zhou, G., Zhang, X., & Li, S. (2022). Contractual governance for dispute resolution and construction sustainability: Case studies from China. *Sustainability*, *14*(13), 7643. https://doi.org/10.3390/su14137643

Uncitral. (2016). *Model Law on International Commercial Arbitration with Guide to Enactment and Use*. United Nations.

United, N. (1958). *Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 10 June 1958)*. https://www.newyorkconvention.org/english

van den Berg, A. J. (2017). *The New York Convention of 1958: An Overview*.

Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. Free Press.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature*, *38*(3), 595-613. https://doi.org/10.1257/jel.38.3.595

Wolff, R. (2019). *New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards of 10 June 1958: Article-by-Article Commentary* (2nd ed.). Beck/Hart/Nomos. https://doi.org/10.17104/9783406759024