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Assessment of the Effectiveness of the Dispute Adjudication Board: A Case Study of the Jakarta MRT Phase-1

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ABSTRACT

Construction dispute resolution is a major challenge in large-scale infrastructure projects, especially in complex and high-risk Design and Build contract systems. Before the implementation of the Dispute Adjudication Board (DAB), projects with traditional contracts in Indonesia showed high Variation Order values, around 15–20% of the total contract value, as well as a relatively long dispute resolution duration. Jakarta MRT Phase 1 was the first project in Indonesia to implement DAB based on the FIDIC Yellow Book, while also applying the fast dispute resolution mechanism in Indonesia through binding decisions. This study aims to assess the effectiveness of the DAB in improving the efficiency of construction dispute resolution through a case study of Jakarta MRT Phase 1. This study uses a qualitative descriptive method through a literature review combined with a case analysis of civil work packages CP101–CP106. It was found that the DAB was able to resolve 11 disputes without escalation to arbitration, and several were resolved through amicable settlement negotiations, with a low average Variation Order of 7.6% of the total initial contract price. These results indicate an increase in time efficiency and legal certainty, although there are still challenges in terms of national regulations and human resource capacity in the dispute management field. The study concludes that the implementation of the DAB in the Jakarta MRT Phase 1 project significantly enhanced dispute resolution efficiency by providing faster, binding decisions and reducing financial uncertainty, as evidenced by the low Variation Order value and the avoidance of arbitration.

Keywords: *Dispute Adjudication Board; Construction Dispute Resolution; Project Efficiency; FIDIC Yellow Book; MRT Jakarta.*

INTRODUCTION

The construction of the Jakarta Mass Rapid Transit (MRTJ) is an important milestone in the history of modern transportation in Indonesia (Dahlan & Fraszczyk, 2019; Firdaus & Pandin, 2021; Rukmana, 2018). The project is the first rail-based transportation system in Indonesia to combine underground and elevated sections in one ±16 km urban corridor, consisting of approximately 10 km of elevated track and 6 km of underground track. The construction of Phase 1 of the Jakarta MRT project stretches from Lebak Bulus to the HI Roundabout, including one depot, seven elevated stations, and six underground stations (PT MRT Jakarta, 2020b). This project consists of six main packages of civil works (CP101–CP106) and two packages of rolling stock work (CP107–CP108) (PT MRT Jakarta, a). The first phase of construction began in October 2013 and was completed in 2019, with financing sourced from a loan from the Japan International Cooperation Agency (JICA) through the Official Development Assistance (ODA) scheme.

The MRT Phase 1 construction project involves various parties in terms of funding mechanisms, planning, implementation, and operation (Barma et al., 2024; Danisworo & Latief, 2019; Dirgahayani et al., 2020). The parties involved include the Central Government, the Ministry of Transportation, the DKI Jakarta Government, PT MRT Jakarta, and JICA (PT

Lemtek Konsultan Indonesia, 2017). The distribution of responsibilities is adjusted to each stakeholder's role in fulfilling the planning and coordination functions at the planning stage through to implementation and operation. This project is the first to implement a system of three sub-level agreements, in which there is a continuation of grants and loan forwarding between the central government and local governments.

In addition to being the first large-scale underground transportation project in Indonesia, MRT Jakarta is also the first infrastructure project to implement the FIDIC contract system. FIDIC is the largest global international representative body formed from national associations of consulting engineers. In its development, FIDIC has issued various standard forms of documents and contract terms, including general conditions of contract for civil engineering construction projects since 1957. In any type of FIDIC contract document, the perception of equality and fairness between the two parties is the main principle. All of these documents are continuously revised and improved in line with developments in the construction industry (PT MRT Jakarta, 2021). To date, FIDIC has become one of the most balanced contract standards to implement.

In the MRT Jakarta project, two types of FIDIC contracts are used, namely the FIDIC Yellow Book (Design and Build) for civil construction work CP101–CP106, and the FIDIC Silver Book (Turnkey) for system and rolling stock work CP107–CP108 (PT MRT Jakarta, 2022). The selection of these contract types was part of the pre-construction study and served as a contract management strategy during implementation. At that time, MRTJ was the first MRT infrastructure project in Indonesia, and Indonesia was considered to have limited experience in preparing Detailed Engineering Design (DED). Therefore, more risk had to be allocated to contractors, making the FIDIC Yellow Book contract format for the civil work packages in this project the most appropriate option. In addition, FIDIC is an international federation whose contract terms and procedures are well understood by international contractors worldwide. By understanding the MRT construction contract, contractors are expected to be able to appreciate and comply with the decisions taken by PT MRT Jakarta regarding ongoing construction work.

Through the application of the FIDIC Yellow Book system, project planning and execution are integrated under the responsibility of a single contractor. This type of contract is a development from previous common practice, namely traditional contracts or the Design–Bid–Build (DBB) system, where the planner and executor work separately. In its implementation, there are many challenges, one of which is that this type of contract has not been widely used in government projects. This causes the government's point of view, especially that of examiners, to remain rooted in the traditional type of contract. Nevertheless, MRTJ is considered to have successfully implemented the FIDIC Yellow Book contract type, so the implementation of the contract system and sound project management enabled MRT Jakarta Phase 1 to receive the prestigious FIDIC Project Award 2021. This project is considered to have brought tangible change to the community and the urban environment, as well as providing an example of the successful implementation of FIDIC international contracts in Indonesia.

On the other hand, the development of construction services in increasingly complex projects requires a legal umbrella and business certainty in the field of construction services, especially in terms of protection for service users, service providers, construction workers, and

the construction service community. The complexity of large-scale infrastructure projects such as the Jakarta MRT highlights the importance of a dispute resolution system that is fair, efficient, and acceptable to all parties. Internationally, FIDIC first introduced the Dispute Adjudication Board (DAB), which has now developed into the Dispute Avoidance/Adjudication Board (DAAB), as a rapid dispute resolution mechanism before proceeding to arbitration. In 2013, when MRT Jakarta used the DAB as a dispute resolution mechanism, there were no Indonesian regulations in place governing such a body. Indonesia first had rules related to dispute boards in 2017 through the Construction Services Law No. 2 of 2017, which positions the dispute board as an alternative form of dispute resolution alongside mediation, conciliation, and arbitration (Rejah, 2023). At that time, there were no derivative regulations that further governed dispute boards. Over time, the implementation of dispute boards has developed significantly, so that in 2021 derivative regulations were issued through the Minister of Public Works Regulation Number 11 of 2021 concerning Procedures and Technical Instructions for the Construction Dispute Board (Directorate General of Construction Development, Ministry of Public Works, 2025).

In the FIDIC series, the role and appointment of the Dispute Adjudication Board (DAB) are described in detail in Clause 20 [Claims, Disputes and Arbitration] (Construction Development Agency of the Ministry of Public Works, 2013). The clause explains the general requirements of the dispute resolution agreement. Any dispute related to the execution of the work or the decision of the Engineer can be submitted to the DAB, which is obliged to give a decision within 84 days. DAB's decision is temporarily binding until there is an amicable settlement or an arbitration award (Ngay Dang, 2023). If either party is dissatisfied, they can file a Notice of Dissatisfaction within 28 days of the DAB's decision. This structure ensures that dispute resolution is carried out in a gradual, efficient, and professional manner before proceeding to the arbitration stage (Japan International Cooperation Agency [JICA], 2021).

Referring to international practice, the implementation of the DAB has proven effective in suppressing the escalation of disputes toward arbitration. Studies have shown that this mechanism is able to reduce the potential for disputes by 60–70%, with data indicating that only about 6% of DAB decisions are subsequently brought to arbitration, and of those, only 22% result in a different decision from the DAB. These figures demonstrate the effectiveness and credibility of the DAB as a technical- and professional-based dispute resolution mechanism (Arbitrators, 2024).

Prior research in the Indonesian context has explored dispute resolution mechanisms in construction. For instance, Shantyabudi et al. (2023) analyzed legal risk mitigation in construction contract disputes, highlighting the limitations of Law Number 30 of 1999 on Arbitration and Alternative Dispute Resolution, which lacks detailed provisions for mechanisms like the DAB. Another study by Rejah (2023) examined the legal framework for DABs under Indonesian law following the enactment of the Construction Services Law No. 2 of 2017, which formally recognized dispute boards as an alternative resolution method. However, at the inception of the MRT Jakarta project in 2012, no specific national regulations governed the DAB or Design and Build contracts, creating a regulatory gap.

When the Jakarta MRT project started in early 2012, Indonesia did not yet have a national regulation that specifically governed the Design and Build contract mechanism or the implementation of the Dispute Adjudication Board (DAB). Law Number 30 of 1999 concerning

Arbitration and Alternative Dispute Resolution lacks a detailed explanation of alternative dispute resolution. There is only one article that contains provisions on alternative dispute resolution, while the rest of the law consists of provisions related to arbitration (Shantyabudi et al., 2023). Through this study, the author seeks to determine the effectiveness of the use of the DAB in dispute resolution between service users and contractors under the FIDIC Yellow Book contract in the construction of the first CP101 to CP106 MRT civil work packages in Indonesia. This analysis is expected to provide a more comprehensive understanding of the extent to which the DAB settlement system is able to improve the efficiency of dispute resolution and support the governance of national construction projects that are more adaptive to international practices.

The novelty of this research lies in its focused case study analysis of the DAB's implementation within Indonesia's pioneering FIDIC-based mega-project. While previous studies have discussed DABs in theoretical or general legal terms, there is a lack of empirical assessment regarding their operational effectiveness, challenges, and outcomes in a specific, high-stakes Indonesian project context. This study therefore aims to fill this gap by evaluating the effectiveness of the DAB mechanism in the Jakarta MRT Phase 1 project. The objective is to assess how the DAB influenced dispute resolution efficiency, cost certainty, and project governance compared to traditional methods, and to identify the challenges encountered due to the nascent regulatory environment. The findings are expected to provide valuable insights for policymakers, project owners, and contractors in Indonesia, contributing to the development of more robust, efficient, and internationally aligned dispute resolution frameworks for future infrastructure projects.

METHOD

This study used a qualitative descriptive method by describing the characteristics of the implementation of the Dispute Adjudication Board (DAB) in the Jakarta MRT project, and a literature study approach and case study by examining the implementation of the FIDIC Yellow Book in the civil work package CP101–CP106 as an example of the implementation of design and build contracts in Indonesia.

The source of research data was obtained from secondary materials, with data collection carried out through library research, in which the author collected related references as benchmarks for the success of the use of the Dispute Adjudication Board (DAB) around the world and in Indonesia. All of the data were then juxtaposed with condition data on MRTJ and analyzed logically to assess the effectiveness of the implementation of the Dispute Adjudication Board (DAB) in resolving disputes in construction projects.

RESULTS AND DISCUSSION

The Dispute Adjudication Board (DAB) on the Jakarta MRT project was formed as an independent panel consisting of three professional experts. Its function is to provide a binding decision on disputes between PT MRT Jakarta and the main contractor during the project implementation period. In its implementation, MRT Jakarta implements the standing Dispute Adjudication Board (DAB) model, which is a council formed since the construction contract was signed and is active throughout the project. In the MRT Jakarta Phase 1 project, there are 11 contractual disputes submitted to the standing Dispute Adjudication Board (DAB) as

stipulated in the FIDIC Yellow Book. These disputes are related to changes in work (variation order) due to unpredictable field conditions, such as differences in geotechnical conditions and the existence of existing utilities. In addition, claims from contractors related to requests for extension of time, late payment due to the verification process by third party reviewers, and land problems, especially due to late land acquisition or not in accordance with the design plan, also include regulatory changes that affect the project and cause the need for design changes.

Before application Dispute Adjudication Board (DAB) in Indonesia, construction projects with a traditional contract system (DBB) tend to generate value variation order (VO), reaching 15–20% of total contracts (Nurmala & Hardjomuljadi, 2015). Meanwhile, in the Jakarta MRT project that uses FIDIC contracts and involvement third party reviewer In the process of evaluating and verifying claims, the variation order (VO) and claim can be significantly depressed by an average of 7.6% of the initial contract value. The decrease in value indicates an increase in the efficiency of contract management and a reduction in the potential for disputes that continue to the arbitration stage. This can be concluded by the absence of a decision Dispute Adjudication Board (DAB) that cannot be followed by both parties, so that this project has never advanced into the realm of arbitration or court. All decisions have been implemented and completed before the contract is completed.

Internationally, the Dispute Adjudication Board (DAB) mechanism has proven to be efficient in terms of time and cost resolution. A decision can usually be rendered in ≤84 days, much faster than arbitration (1–3 years) and can be shortened if agreed by both parties and the Dispute Adjudication Board (DAB). In its implementation at MRT Jakarta, the effectiveness of the Dispute Adjudication Board (DAB) is quite significant, as most issues are successfully resolved without escalating to arbitration. In addition, if there is a party who is not satisfied, it must submit a notice of dissatisfaction (NoD) in writing within 28 days from the decision of the Dispute Adjudication Board (DAB) and after that can be resolved amicably. However, there are several key challenges, including the absence of an explicit national legal basis for the Dispute Adjudication Board (DAB) at the beginning of the project, differences in legal and communication cultures between Indonesia and Japan, limited local experts who understand FIDIC and adjudication and lengthy administrative processes due to the large number of parties involved.

Table 1. Comparison of the Implementation of the Dispute Adjudication Board (DAB) mechanism

Aspects	**MRT Jakarta (Project Phase 1)**	**PT United Tractors** (A. Ma'sun & Mirnayani, 2024)	**Hong Kong MTR (Tung Chung Line Extension 2023)** (NEC, n.d.)	**Sydney Metro Northwest** (*GC21 Edition 2*, 2025)
Contract Type	*Design and Build* (FIDIC Yellow)	*Traditional Lump Sum (Owner-designer, fixed price)*	NEC4 ECC & NEC4 PSC	GC21 (Government Contract 21)
Types of DAB/Dispute Mechanisms	*Standing DAB*	*Engineers' decision* then negotiated, escalated to arbitration	*Adjudicator + Mediation + Arbitration (multi-tier W4 Option)*	*Adjudication* sesuai *security of payment act*

Aspects	**MRT Jakarta (Project Phase 1)**	**PT United Tractors** (A. Ma'sun & Mirnayani, 2024)	**Hong Kong MTR (Tung Chung Line Extension 2023)** (NEC, n.d.)	**Sydney Metro Northwest** (*GC21 Edition 2*, 2025)
Length of time Decision (*binding*)	84 days from the time the dispute was filed with the DAB (FIDIC, 2017)	There is no standard, Generally, > 90 days depending on internal escalation	55 days from the appointment of an adjudicator for *payment disputes*	10-28 days from submission to DAB
Variation Order	6,7%	16%	5-7% of the contract value	6% of the contract value
Key Challenges	- There is no national regulation on DAB in Indonesia - It is necessary to adapt the legal culture and human resource capacity in *dispute management*	- Limited flexibility to changes in field conditions - Lengthy claims and negotiation process	- High cross-contract coordination - Large project volume with many subcontractors - Strict enforcement of *tiered dispute clauses* in accordance with the law	Need for document readiness and quick response (as assessments are entirely document-based)
Dispute Resolution Effectiveness	Effective, increasing project time and cost certainty	Relatively low - medium, has the potential to cause tension	Highly effective, accelerating cash flow and preventing project stagnation	Effective, maintaining project cash flow and time certainty

Source: Processed from various sources (PT MRT Jakarta, 2022; Ma'sun & Mirnayani, 2024; NEC, n.d.; GC21 Edition 2, 2025)

In the application of the Dispute Adjudication Board (DAB) mechanism to various construction projects, there are significant differences between the MRT Jakarta Phase 1 project, the PT United Tractors project, the Hong Kong MTR Tung Chung Line Extension 2023, and the Sydney Metro Northwest. The MRT Jakarta project uses a Design and Build contract type based on the FIDIC Yellow Book, while PT United Tractors uses a Traditional Lump Sum Contract (fixed price). Meanwhile, the Hong Kong MTR refers to the NEC4 ECC and NEC4 PSC, and Sydney Metro Northwest implements GC21 (Government Contract 21) which is the Australian government's standard contract format.

These different types of contracts have a direct effect on the effectiveness of dispute resolution. Design and Build contracts such as the MRT Jakarta provide greater flexibility and integration between design and construction, so that potential claims due to differences in interpretation of design documents can be suppressed. In contrast, the Lump Sum system used by PT United Tractors tends to limit the negotiation space when there is a change in field conditions, thereby increasing the possibility of cost or time disputes. Meanwhile, the NEC4 model in Hong Kong and GC21 in Australia emphasizes the principles of collaboration and open communication between parties, which directly reduces the escalation of disputes to formal stages such as arbitration.

In terms of dispute resolution mechanisms, MRT Jakarta implements a Standing DAB system that was formed from the beginning of the project and is active throughout the implementation. This system allows for quick and consistent resolution of issues because the Dispute Adjudication Board (DAB) understands the dynamics of the project from the beginning. In contrast, PT United Tractors, which relies on engineer's decision mechanisms and internal negotiations, often faces delays in decision-making due to the absence of a definite deadline. The Hong Kong MTR adopts a multi-tier dispute resolution system through adjudication, mediation and arbitration, while the Sydney Metro Northwest uses rapid adjudication under the Security of Payment Act, which provides a time of certainty of only 10–28 days.

These differences in mechanisms also have an impact on project efficiency. MRT Jakarta, with a maximum decision deadline of 84 days, was able to maintain project continuity and reduce the value of variation orders and claims to 7.6%, much lower than traditional projects in Indonesia (15–20%). On the other hand, the adjudication system in Hong Kong and Sydney has proven to be faster and more adaptive with the variation order relatively like that of MRT Jakarta but has been supported by strong national regulations and a good culture of legal compliance. This will help accelerate the project's cash flow and prevent stagnation. In contrast, PT United Tractors' projects show lower effectiveness due to their reliance on internal negotiations without clear time limits, which has the potential to delay decisions and increase tensions between users and service providers.

CONCLUSION

The implementation of the Dispute Adjudication Board (DAB) in the Jakarta MRT Phase 1 project marked important progress in Indonesia’s construction dispute resolution system, improving time efficiency and cost certainty through binding decisions issued within 84 days and contributing to a relatively low average of 7.6% for variation orders and claims. This indicates that the DAB was effective in limiting dispute escalation and stabilising contract management, yet its overall utilisation and impact remained lower than international practice, largely due to the absence of comprehensive national regulations on the legal force of DAB decisions, limited human resources familiar with adjudication and the FIDIC system, differences in legal culture, and lengthy administrative procedures. Experiences from jurisdictions such as Hong Kong and Australia show that strong legal frameworks like security of payment acts and clear multi-tier dispute resolution systems are crucial to maximising adjudication’s effectiveness. Accordingly, Indonesia needs to strengthen its regulatory framework, enhance professional capacity in dispute management, and foster a more widespread adjudication-based dispute resolution culture so that the DAB can function as a primary instrument for efficient, fair, and globally competitive construction dispute resolution. Future research could examine comparative case studies of DAB implementation across multiple Indonesian infrastructure projects or empirically evaluate user perceptions (owners, contractors, adjudicators) of DAB outcomes to identify more detailed institutional and contractual reforms.

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