

DISPUTE AVOIDANCE FROM THE PERSPECTIVE OF PROCUREMENT METHODS: A CONCEPTUAL FOCUS

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ABSTRACT

Disputes are unavoidable in construction projects due to their complex characteristics and involvement of different parties, which can interrupt the smooth construction process. Hence, proper dispute avoidance strategies need to be implemented to avoid disputes beforehand. On the other hand, the previous researchers suggested that there is a link between disputes and procurement methods. Therefore, the current research investigates the disputes in the construction industry from the perspective of different procurement methods. A systematic literature review was carried out to identify the available procurement methods in the construction industry, disputes and dispute avoidance strategies and the features of the procurement methods from the perspective of disputes. Firstly, a total of fifty-two key research papers on the research area were employed to review. The literature findings revealed that the industry has moved towards collaborative approaches from the traditional procurement method with higher dispute frequency because as per the findings the likelihood of disputes seems less in the projects procured under collaboration. It further revealed that the inherent features of collaborative approach such as teamwork, relationships and mutual understanding give less prosper towards disputes. Therefore, the findings of the review conclude that the selection of collaborative procurement method at the early stages of a project can reduce the possibilities of disputes from the perspective of procurement methods.

Keywords: Construction industry; Disputes; Procurement methods.

1. INTRODUCTION

The construction industry is one of the major industries, which plays a vital role in the economy of any country (Illankoon *et al.*, 2019). It has become more competitive and complex due to the increasing demands of the employers and the global economic downturn (Farooqui *et al.*, 2012). A procurement method can be considered as a key stage that ensures the successful delivery of a construction project despite the challenges (Wang *et al.*, 2018) and the selection of procurement methods depends on the goals and objectives set forth, cost, time and quality (Lædre *et al.*, 2006). Further, the author pointed out that the methods used for the selection of procurement routes should be improved or otherwise it will overrun on cost, time and quality. Different types of procurement arrangements are available and each procurement method is consisted of advantages and disadvantages concerning the delivery of the project, dispute occurrence and selection of Dispute Resolution Mechanisms (DRM) (Mante *et al.*, 2012).

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The disagreements between the parties in a project may later turn into disputes (Illankoon *et al.*, 2019). Construction disputes have become a major impediment that affect the performance of a construction project, causing the contribution of various practices to avoid disputes (De Alwis *et al.*, 2016). The actions, or inactions of the employer, contractor or other consultants are the main reasons for disputes (Farooqui *et al.*, 2012). Disputes become expensive in terms of finances, personnel, time and opportunity costs, if they are not managed and resolved promptly (Farooqui *et al.*, 2012) while damaging the contractual relationships between the parties (Illankoon *et al.*, 2019). Hence, adherence to DRM is essential because the study by Li and Cheung (2019), indicated that a cleaner output of construction works could be obtained through efficient dispute management. Dispute management can be implemented at the early stage of a project to avoid and resolve the disputes effectively beforehand (Francis *et al.*, 2017).

The practice utilised in the industry when a dispute occurs is either Alternative Dispute Resolution (ADR) or litigation process (De Alwis *et al.*, 2016). However, according to the authors, the drawbacks of DRM in the practical application have paved the path to the dispute avoidance concept. Moreover, Mante *et al.* (2012) stated that the disputes in a project depend on how it is procured and also procurement method is a crucial factor considered in dispute avoidance (De Alwis *et al.*, 2016). Yusof *et al.* (2011) indicated that the traditional procurement method has the highest rate for disputes due to its key features and the other innovative methods like design and build, management and partnering methods have the capability of reducing the disputes. On the other hand, the working atmosphere of collaborative approach can be useful to avoid disputes (Elhag *et al.*, 2020). Therefore, a link of the relationship between the procurement methods and the occurrence of the disputes can be identified especially in terms of dispute avoidance.

Nevertheless, available literature on construction disputes tends to give more attention to dispute resolution than dispute avoidance (Naji *et al.*, 2020). Furthermore, the growth of complexity and competitiveness in the construction industry has gained a reputation for disputes in the last few years (Elhag *et al.*, 2020) and different types of procurement methods have also developed with the evolvement of construction procurement (Oyegoke *et al.*, 2009). Thus, with the time elapsed, the key features of each method may have varied as well as along with the occurrence of disputes and dispute avoidance strategies. Therefore, this research aims to identify the procurement methods used in the construction industry, dispute avoidance strategies to be implemented through the stages of a project and the features of the procurement methods from the perspective of disputes in order to avoid the possible disputes considering the procurement methods.

2. RESEARCH METHODOLOGY

Literature reviews in research are conducted for numerous purposes (Okoli and Schabram, 2010). Systematic literature review facilitates to conduct a study in a methodical manner minimising researchers' bias (Khallaf *et al.*, 2018). Further, the authors stated that it provides higher reliability in establishing frameworks and consistency in data collection comparatively to other literature review methods. Moreover, a systematic literature review enables the researchers for an explicit and reproducible to collect and combine the existing knowledge and to develop a research gap and provides suggestions for further research (Ahmed *et al.*, 2017). Therefore, adhering to this method, the current research reviews the procurement methods in the

construction industry, disputes, dispute avoidance strategies and dispute avoidance from the perspective of procurement methods considering the features of each method.

A comprehensive literature review was carried out based on systematic literature review by referring reliable sources. The research mainly focuses on relevant sources published within the study area related to procurement methods, disputes and dispute avoidance and the findings are aligned accordingly in the sections. A total of fifty-two (52) articles were employed for the study. Sections 3 and 4 provides brief introductions about procurement and disputes respectively. Thereafter, dispute avoidance strategies are identified through the stages of a construction project as in section 5. Subsequently the features of procurement methods, especially in terms of causes of disputes, frequency of disputes and dispute avoidance strategies in each are presented in section 6.

3. PROCUREMENT METHODS IN THE CONSTRUCTION INDUSTRY

The procurement method is a key method which creates the client's pre-conditions to ascertain the objectives of a project successfully, preventing project failure and dissatisfaction of the client (Ratnasabapathy and Rameezdeen, 2010). Various procurement methods have advanced along with the development of new concepts and technologies Chanudha *et al.* (2017) and Mante *et al.* (2012) recognised them as traditional, integrated approaches, management-oriented and collaborative/relationship-based methods. Ratnasabapathy *et al.* (2005) identified lump sum, measure and pay, and prime cost as the common variants of traditional method; design and build, package deal, turnkey, develop and construct, novated design and, build and concession contracts as in the integrated method. According to Rahmani *et al.* (2017), management-oriented method is mainly divided as management contracting and construction management while partnering, joint ventures, alliancing and voluntary agreements can be identified as arrangements of collaborative method (Ratnasabapathy *et al.*, 2005).

Earlier, traditional method was the only available option where the architect designs the building and the contractor bids for the project referring the drawings (Joseph and Jayasena, 2008). The report by the Chartered Institute of Building (CIOB, 2010) stated that the traditional method is the most understood process in the construction industry with its utilization over a long time period. Nevertheless, a high number of disputes can occur in this method due to its key features (Mante *et al.*, 2012). McDermotti and Khalfan (2012), stated that recently, novel procurement methods are implemented to achieve more integrated and organised processes. Moreover, Naoum and Egbu (2016), stated that alternative procurement methods like design and build, management contracting and construction project management are introduced to overcome the problems from lack of integration, separation of design from construction, improper communication, uncertainty, changes in environment and client's expectations. Furthermore, Elhag *et al.* (2020) emphasised the use of collaborative approach due to its benefits as improved relationships and communication, better productivity and decrease of disputes and litigation. Moreover, change in attitudes and emphasis on trust are the guiding factors of dispute prevention scheme in collaborative method (Mante *et al.*, 2012).

4. DISPUTES IN THE CONSTRUCTION INDUSTRY

Disputes can be considered as a major factor obstructing the successful completion of a construction project due to its high cost and time consumption (Naji *et al.*, 2020). Moreover, disputes are unavoidable because of the complexity, involvement of multi-parties in a project (Abeynayake and Weddikkara, 2013), poor preparation of contract documents, inadequate planning, financial issues and communication issues (Farooqui *et al.*, 2012). Disputes may arise from the commencement to the execution of works because both the parties constantly have to satisfy shared obligations on both sides and a single default case is sufficient to interrupt the balancing pendulum and the entire development (Pawar and Patil, 2014). Therefore, the findings by Farooqui *et al.* (2012), concluded that construction disputes shall be avoided and cautiously managed to obtain a smooth construction process as prevention of disputes is better than cure.

5. DISPUTE AVOIDANCE STRATEGIES

The disputes must be investigated thoroughly and as soon as possible to determine the causes of disputes and relate them to the pre-construction phase to reduce or eliminate them before the commencement of the construction (Naji *et al.*, 2020). De Alwis *et al.* (2016) identified briefing stage, pre contract stage and post contract stage as the major stages in a construction project in preparation of a dispute avoidance model for the Sri Lankan construction industry. Hence, here the dispute avoidance strategies from 21 studies are categorized according to the above mentioned phases in Table 1.

Table 1: Dispute avoidance strategies

Dispute Avoidance Strategies	Sources
Briefing stage	
Selection of most appropriate procurement method	[4], [19], [20]
Selection of collaborative approach/partnering as procurement method	[6], [7], [13], [16]
Specify the quality standards to follow	[4]
Assess the financial risks due to government policy changes	[4]
Pre-contract stage	
Proper preparation of contract documents	[2], [4], [19]
Intervention of an independent third party at the start of the contract [E.g.: Dispute Board (DB)/Dispute Resolution Board (DRB)/Dispute Adjudication Board (DAB)/Dispute Resolution Adviser (DRA)]	[1], [7], [8], [9], [10], [11], [12], [14], [15], [18]
Implementation of proper dispute clauses in the contract	[11]
Proper allocation of risks	[2], [3], [4], [7], [11], [21], [19]
Identify the link between the dispute's occurrence and pre-construction phase	[17]
Selection of contractors	[4]
Early contractor involvement	[13], [15]
Time management by the contractors	[4]

Dispute Avoidance Strategies	Sources
Post contract stage	
Proper administration of contract documents	[19]
Negotiating in an event of differentiating in matter	[3], [19]
Early notification and resolution of the dispute	[19]
Constructability	[13]
Lean construction/Supply chain integration	[13]
Stakeholder management alignment	[13]
Use ADR filter mechanisms	[3], [11]
Team building	[4], [6], [11], [15], [21]
Role of the parties	[4]
Study about occurrence and causes for disputes	[6], [15], [17]
Quality assurance	[4]
Improved relationships	[5], [6], [21]
Patch perceptions of fairness	[6], [11], [21]
[1] Abeynayake and Weddikkara (2013); [2] Cheung (2014); [3] Connerty (2006); [4] De Alwis <i>et al.</i> (2016); [5] Chan and Suen (2005); [6] Elhag <i>et al.</i> (2020); [7] Gebken and Gibson (2006); [8] Gerber (2001); [9] Hardjomuljadi (2020); [10] He (2010); [11] Jannadia <i>et al.</i> (2000); [12] Jones (2006); [13] McGeorge <i>et al.</i> (2007); [14] MohdDanuri <i>et al.</i> (2016); [15] Mosey (2019); [16] Mustaffa and Bowles (2004); [17] Naji <i>et al.</i> (2020); [18] Ong and Gerber (2010); [19] Thusharika and Abeynayake (2016); [20] Yusof <i>et al.</i> (2011); [21] Zhu and Cheung (2020)	

The findings imply that dispute avoidance may commence from the preparation of contracts and selection of procurement methods as well. Appointment of a third party like a DB, DRB, DAB or DRA at the start of the contract is the most significant dispute avoidance method identified by most of the authors. Other than that, a balanced allocation of risks is also given priority by the researchers as a dispute avoidance strategy and it is important because according to De Alwis *et al.* (2016), construction related risks are one of the main causes of disputes. Furthermore, the selection of suitable procurement method, taking actions to improve the performance as a team and examining the dispute causes and clauses in the contract have a considerable effect on dispute avoidance.

Mante (2015) also identified several sets of dispute avoidance strategies which utilise procurement and management of relationships and, management related processes of construction projects. The findings of Table 1 have highlighted the selection of the most suitable procurement method and on the other hand, several authors recognised the collaborative/partnering approach itself as a method of dispute avoidance. The strategies such as team building, improved relationships and communication are also identified as dispute avoidance strategies by the authors which are the special characteristics of the collaborative approach as identified by Elhag *et al.* (2020). Moreover, the early involvement of the contractor is also identified as a dispute avoidance strategy where the focus again moves towards procurement methods because in management oriented, design and build, and collaborative methods early contractor involvement is clearly visible as per Table 2. Therefore, it can be identified that the selection of the proper procurement method has a huge impact on dispute avoidance as per the findings. Moreover, the collaborative approach has a significant impact on dispute avoidance in

projects because most of the identified dispute avoidance strategies are recognisable as key features of the collaborative approach and several researchers recognised the method itself as a dispute avoidance strategy.

6. FEATURES OF THE PROCUREMENT METHODS FROM THE PERSPECTIVE OF DISPUTES

According to Rameezdeen and De Silva (2002), the construction procurement arrangements in the Sri Lankan context can be categorised as; separated systems (traditional method), integrated systems (design and build method), management-oriented systems and collaborative systems. Moreover, the features of the procurement systems may have different impacts on disputes and dispute avoidance. Therefore, the features of the procurement methods which are applicable in the Sri Lankan context, are illustrated in Table 2, elaborating the involvement of the parties, suitability of the method, early contractor involvement, causes of disputes, frequency of disputes and dispute avoidance strategies based on the literature findings.

Table 2: Features of procurement methods from the perspective of disputes

	Traditional method	Design and build method	Management oriented method	Collaborative/ Partnering
Involvement of parties	Contractor is selected after the design is completed (Rahmani <i>et al.</i> , 2017).	Contractor is responsible for both design and construction (Teon, 2014).	Entire process is managed by the contracted consultant (Rashid <i>et al.</i> , 2006).	Collaboration between the client and the project team (Mante <i>et al.</i> , 2012).
Suitability	Projects with separate responsibilities for design and construction (Rashid <i>et al.</i> , 2006).	Clients with less experience in design (Lesniak <i>et al.</i> , 2012). Projects with high priority in buildability (Naoum and Egbu, 2015).	Fast track projects (Sivkumaran and Perera, 2015) and projects with more commercial risk (Rahmani <i>et al.</i> , 2017)	High risk and high value projects (Rameezdeen and De Silva, 2002). Any kind of construction project (CIOB, 2010).
Early contractor involvement	✘	✓	✓	✓
Causes of disputes	1.The contractors tend to reduce quality by providing lack of buildability, forcing design alternations.	1.Dissatisfaction of the client with the quality and design of the final outcome. 2.Abortive work.	1.The absence of single point responsibility for design and construction (CIOB, 2010).	1.Unforeseen circumstances and drawbacks (Sinha and Jha, 2020).

	Traditional method	Design and build method	Management oriented method	Collaborative/ Partnering
	2.Contract variations (Elhag <i>et al.</i> , 2020). 3.Lack of communication. 4.Price competition. 5.Fragmentation (Mante <i>et al.</i> , 2012). 6. Separation of design and construction (CIOB, 2010)	3.Imprecisions in the client’s brief. 4.Conflicts between the brief and contractor’s proposal. 5.Valuation of variations. (Mante <i>et al.</i> , 2012).		
Frequency of disputes	Higher (Yusof <i>et al.</i> , 2011).	Less. (Mante <i>et al.</i> , 2012).	Less (Yusof <i>et al.</i> , 2011).	Less. (Mante <i>et al.</i> , 2012).
Dispute avoidance strategies	Implement alternative procurement methods as design and build and collaboration (Mante <i>et al.</i> , 2012).	Early involvement of the contractor (Elhag <i>et al.</i> , 2020). Implement collaborative method (Mante <i>et al.</i> , 2012).	Implement collaborative (partnering and trust) method (Mehany <i>et al.</i> , 2018).	The characteristics of collaborative method like social relationships, non-opportunistic behaviour, trust, faith, changing attitudes and respect among the participants (Elhag <i>et al.</i> , 2020; Mante <i>et al.</i> , 2012).

The tabulated data of numerous studies indicate that the features of procurement methods vary with the type of the procurement method. The involvement of the contractor in traditional method occurs only after the design is completed, but the design and build contractor contributes from the early stages in both design and construction, improving the buildability. The appointed contractor in management-oriented method manages the total process while increasing the opportunity for more fast track and high risk projects. Collaborative arrangement is especially suitable for projects with high value and risks. However, the findings imply that irrespective of the implemented procurement method, disputes may arise due to various reasons. The traditional method is recognised as the method with the highest frequency for disputes while other methods have comparatively a less frequency. The reason for an increased number of disputes in traditionally procured projects is due to the main features of the procurement process (Mante *et al.*, 2012) and as it is extensively subjected to variations, leading to an increase in cost and time extensions (Yusof *et al.*, 2011). As per Table 2, several causes of disputes are identifiable in the traditional method due to issues like less quality, variations, lack of communication,

separation of design and construction etc. In the design and build method as well disputes may arise with client’s dissatisfaction with quality, ambiguities in the client’s brief and the contractor’s proposal, variation issues and abortive work. The main reason for disputes in management-oriented method is the lack of single point responsibility and unforeseen circumstances in collaborative approach. However, most of the researchers identified collaboration as a procurement method to avoid disputes successfully considering its key features and as collaboration between the project participants is claimed to lead for fewer disputes (Osipova and Eriksson, 2011). According to Table 2, the implementation of collaborative approach was significantly highlighted as a dispute avoidance strategy to be adopted under each procurement type.

However, the selection of the most suitable procurement method that is the most satisfactory to execute the works can avoid disputes (Thusharika and Abeynayake, 2016). As the costs related to adversarial relationships in the construction industry have become more obvious, collaborative practices began to emerge and interest in informal and less adversarial dispute resolution procedures have developed (Musonda and Muya, 2011). As per the findings, considerable attention towards the selection of collaborative approach is given to avoid disputes beforehand because its characteristics like social relationships, non-opportunistic behaviour, mutual trust, faith, changing attitudes and respect among the project participants have increased the consideration towards it. Figure 1 presents the conceptual framework derived through the findings of the study.

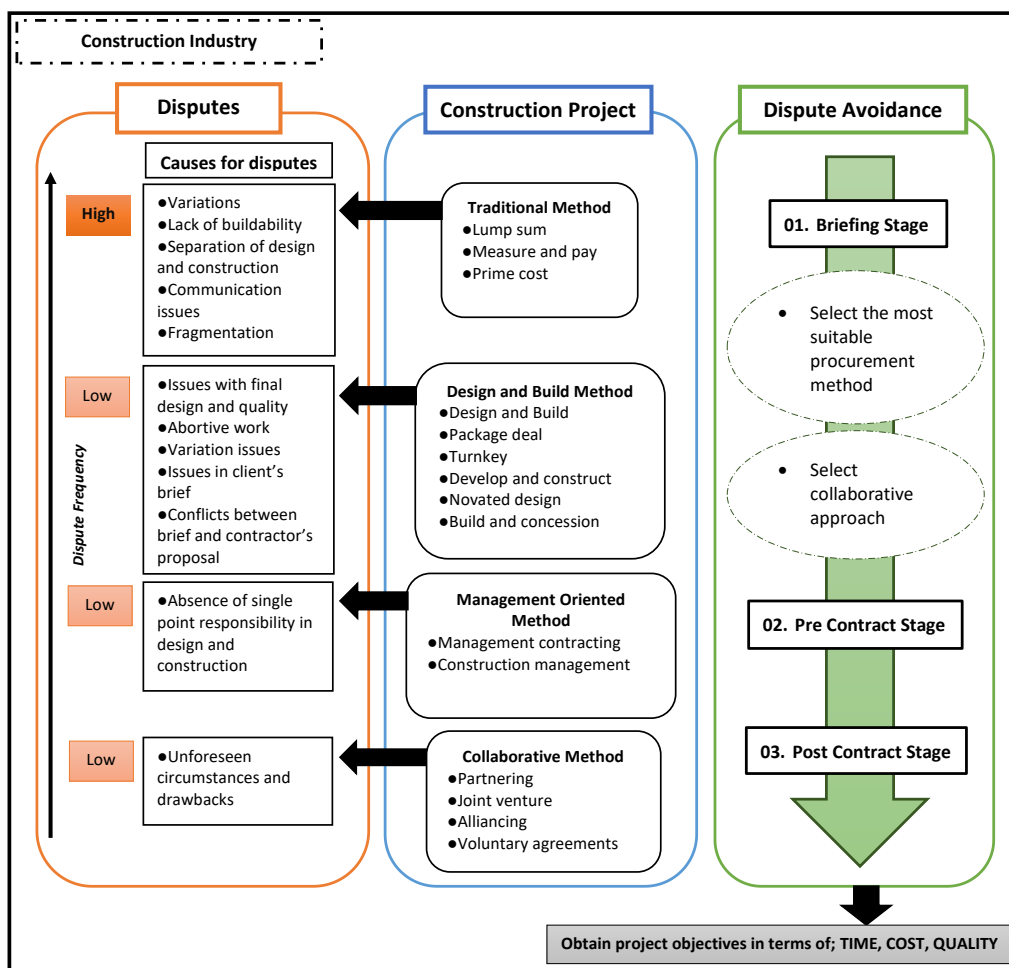


Figure 1: Conceptual framework for disputes from the perspective of procurement methods

As per the developed framework, dispute avoidance can be initiated irrespective of the adopted procurement method in order to ensure the successful completion of a project while obtaining the objectives in terms of time, cost and quality. The procurement method with the highest rate for disputes is traditional method and the lowest is the collaborative method. Each method has various kinds of dispute causes which vary with the procurement type mainly because of the features of them. The causes of disputes respectively to each method is presented in the framework. On the other hand, dispute avoidance may take place at three major stages of a construction project: namely; briefing, pre contract and post contract stages. However, this research aims to elaborate the concept of dispute avoidance from the perspective of the procurement methods. According to the findings, selecting the most suitable procurement approach at the briefing stage acts as a dispute avoidance strategy and collaborative approach was mainly highlighted as a significant method with the capability of avoiding disputes. Disputes are inevitable irrespective of the used procurement type. Therefore, the industry practitioners must rethink of adopting dispute avoidance strategies from the commencement of the project, especially in terms of selecting a procurement method. Figure 1 clearly illustrates the key causes of disputes in each procurement method and the importance of selecting collaborative approach at the briefing stage. However, the developed model only identified the contextual aspects of dispute avoidance from the perspective of procurement methods and further investigations are required to ascertain the connection.

7. CONCLUSIONS

Disputes are common in construction projects because of the complex and competitive characteristics and involvement of different parties. If the disputes are not avoided or managed properly, it may affect the performance and the final outcome of a project. Hence, in the present competitive environment in the construction industry, the possibilities for disputes should be reduced and proper mechanisms should be implemented to reduce them. However, attention towards dispute avoidance should be high due to the disadvantages of DRM. Procurement method is a key factor which contributes to the successful completion of a project. Previous research pointed out that the method of how a project is procured contributes to the disputes that arise. Therefore, this study was conducted to further study the disputes in the construction industry from the perspective of procurement methods. A systematic literature survey was carried out by referring to reliable resources in the area of the research. The research identified the relationship between disputes and procurement methods in terms of the frequency of occurrence of disputes in each procurement method, causes for disputes and suitable dispute avoidance strategies for each method. The findings implied that in the traditional procurement method, dispute frequency is high compared to the other alternative methods mainly because the design and construction are separated. However, the research findings depict that disputes can be avoided by adopting the most suitable procurement method. Implementation of collaborative approach was highlighted to avoid the disputes beforehand and the discovered dispute avoidance strategies as well were included with the special characteristics of this method. The key features of it like improved relationships and communication, early contractor involvement, trust and understanding have the capability of dispute avoidance. The ability of collaborative approaches to avoid disputes from occurring is identified and proved in this research through the findings of previous research. Therefore, this research suggests that effective ways of dispute avoidance should be considered beforehand in every construction project, mainly by

selecting a more collaborative procurement approach based on the findings. The findings of the study enable the industry practitioners to identify the features of the procurement methods which may cause and avoid the disputes and to recognise the dispute avoidance strategies which can be implemented throughout a construction project. The study can be further continued to develop a strategic framework to avoid disputes by investigating the causes of disputes and dispute avoidance strategies adopted in the projects procured under each procurement method, and the effects of disputes in each procurement method.

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