

CAN PROFESSIONALISM MAKE CONTRACT DISPUTES IN INFRASTRUCTURE PROJECTS DISAPPEAR?

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Despite general resignation that occurrence of disputes in construction projects is inevitable, it is possible to avoid or prevent them. That, however, requires anticipation and prediction of the series of events that might lead up to disputes and yet there is a general paucity of such information. The research reported in this paper sought to contribute to a better understanding of dispute-emergence mechanisms by exploring the series of factors that foster emergence of disputes in large infrastructure projects. To achieve that, a single case study methodology was adopted, focusing on a major dispute encountered in a large infrastructure project. Secondary qualitative data were collected and analysed using thematic analysis. This research highlights that a deficiency in professionalism facilitates dispute-emergence and highlights the need for upskilling construction industry professionals in the development and administration of construction contracts.

Keywords: contracts; disputes; professionalism; infrastructure

INTRODUCTION

It is a widely accepted view that the occurrence of disputes in construction projects is inevitable, more so in complex projects (Cheung and Yiu 2006; Hardjomuljadi 2020). These disputes are generally detrimental to a project as they usually affect the realisation of the project's main objectives (Fenn 2007). Seeds of dispute are sown the moment any one of the parties involved in a project feels dissatisfied (Rowlinson 2019), and the common causes of construction disputes include poor contract administration, ambiguous contracts, failure to meet contractual obligations, unrealistic allocation of risk, employer-imposed changes, unrealistic expectations, among others (Semple *et al.*, 1994; Allen 2011; Viswanathan *et al.*, 2020).

Despite their perceived inevitability and known detrimental effects, construction disputes, fortunately, can be managed by, preferably, entirely avoiding them or at least minimising their negative effects. To accomplish that, it is important to understand the events and conditions that cause the disputes and be able to anticipate and predict their occurrence (Fenn 2007; Tanriverdi *et al.*, 2021). Early prediction would make dispute avoidance more achievable although it would require a good understanding of the various factors along the trail of events and conditions leading up to a dispute-not

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just its immediate causes, as is usually the focus. That being the case, the aim of this paper/study is to provide a better understanding of dispute-emergence mechanisms by exploring the series of factors that foster the emergence of disputes in a large infrastructure project.

Disputes and Conflicts

Disputes on projects are generally undesirable as they drain critical resources away from the main objective i.e., completion of the project on time, on budget, and to the required standard (Fenn 2007). They are also often expensive and time-consuming to resolve - severely hindering the realisation of value-for-money - with the added effect of damaging stakeholder relationships, that are not always easy to build or mend (Fenn 2007).

As observed by Fenn *et al.*, (1997), disputes and conflicts are taken to be the same by some authors whereas others acknowledge the conceptual differences between them (conflicts and disputes). Conflict is defined by Gardiner and Simmons (1992) as “any divergence of interests, objectives or priorities between individuals, groups, or organisations; or nonconformance to requirements of a task, activity or process” and Fenn *et al.*, (1997) also asserts that conflict is universal and exists wherever interests are incompatible.

Reid and Ellis (2007) argue that there is no single definition for a dispute as it is a subjective issue that requires a common-sense approach based on facts, law, and consideration of policy. FIDIC (2017), however, indicates that a dispute arises when a claim is wholly or partially rejected by the other party, or if there is disagreement on the determination made regarding any claim. Much as the specific definitions of a dispute vary in literature, it seems that they all revolve around the idea of a disagreement between parties which requires extra effort and resources to resolve. Comparably, in this paper, a dispute is considered to arise when a determination made on a claim/assertion raised by one party, with respect to the performance of the contract, is invariably and formally rejected by the other party. A claim, in this case, is considered to be a request by any party for an entitlement they deem to be due to them under the contract.

Manifestation of disputes

Disputes in construction projects can arise from several sources as revealed by the different studies conducted on the subject. Common among the sources and causes of disputes covered in the literature are poor contracts, poor contract administration, changes in project scope, technical ineptitude of key stakeholders, opportunistic behaviour, among others (Semple *et al.*, 1994; Kumaraswamy 1997; Fenn *et al.*, 1997; Cheung and Yiu 2006; Allen 2011; Arcadis 2015; Viswanathan *et al.*, 2020; Arcadis 2021). Most of these studies on the manifestation of disputes, unfortunately, ignore the relationships that exist between the different factors that lead to disputes and mostly present them as independent variables. Love *et al.*, (2010), however, uses causal modelling to try to determine the underlying dynamics that influence disputes and asserts that a dispute cannot be attributed to a single variable.

The preceding paragraph alludes to the reality that the corpus on the manifestation of disputes in construction projects is vast, mostly pointing out and focusing on the various immediate sources and proximate triggers of disputes. So, what about the triggers of those triggers? - the root causes of disputes? How far back along the chain of events preceding a dispute's immediate source or trigger does the dispute have its

roots? There is a paucity of research answering these questions and, therefore, this study seeks to fill that gap by looking into the series of factors that foster the emergence of disputes in large infrastructure projects. It would also seem that the averment in Fenn *et al.*, (1997), echoed in Love *et al.*, (2010), that there is not much empirical evidence to back up the various theories presented regarding the causation of disputes, still holds true to this day. Tracing and mapping the roots of a dispute will enable the identification of various intervention points to halt the progress of the dispute's mechanism, effectively preventing the dispute. Much like removing a domino would stop a "domino effect", removing a factor(s) from a series of factors known to cause a dispute should stop, or at least delay, the dispute's emergence.

METHOD

The research was a cross-sectional qualitative study that adopted a single case study strategy and an interpretivist philosophy. This philosophy is subjectivist and generates descriptive theory to provide new and deeper understanding/interpretation of particular or categorical phenomena and contexts (Hallebone and Priest 2009; Saunders *et al.*, 2016). A single case study was selected due to the need to focus on and understand a specific dispute in a particular large infrastructure project to map its mechanism of emergence. A case study allows for a detailed investigation of a topic or phenomenon in its natural setting (Yin 2014).

The case study selected was a debt-financed public sector infrastructure project in a developing country that cost over 500 million US Dollars. It involved multinational stakeholders and was implemented under an EPC (Engineering, Procurement and Construction) contract and a Principal-Agent governance approach involving the Employer-composed of the responsible Government Ministry and a State-owned Implementing Agency; the Project Manager-appointed as the Employer's representative; the EPC Contractor-procured to design and construct the project. The case study was representative of the large infrastructure projects undertaken in the country, from its international stakeholders, procurement system and financing, to the governance approach used.

The study principally relied on secondary data obtained from a collection of 118 project letters, 13 progress reports, 7 expert review reports, 8 contract documents, and 5 sets of minutes of meetings, adding up to over 5,500 pages. The selection of the relevant documents was purposive, focusing on a high-value high-impact dispute identified by the Employer (client organisation). All data on the chosen dispute were acquired through reference-tracking to retrieve all available and accessible documents.

The data collected were analysed through reflexive thematic analysis, it being a flexible method suitable for analysing large qualitative datasets (Nowell *et al.*, 2017; Saunders *et al.*, 2016). This was justified by the fact that the study was characterised by large qualitative datasets. The thematic analysis involved familiarisation with data collected by reading, annotating and creating memos. The data were then coded to group data with similar meanings, followed by identifying emerging themes (dispute causes/factors) and relationships among the codes and then refining the themes identified. All this was organised in and facilitated by NVivo (Release 1.6.2), a computer-aided qualitative data analysis software (CAQDAS). Due to ethical considerations, all data are presented anonymously in this study.

FINDINGS

The Dispute

22 months after the case study project’s takeover by the Employer, a dispute arose over the Project Manager’s determination to extend the project’s defects liability period (DLP) by 12 months, following the Employer’s claim for a 24-month extension. As per the project’s contract, a dispute was deemed to arise when the Employer or Contractor raised a notice of dissatisfaction with the Project Manager’s determination on a claim raised by either party. In this case, the Employer and Contractor both expressed dissatisfaction with the determination. The dispute was eventually resolved (over 2 months later) through high-level negotiations, with the parties agreeing to a 12-month extension of the DLP. The impact of the dispute included the time lost while resolving it, the corresponding transactional costs and the strained relationship between the parties.

The analysis revealed 3 immediate causes of the dispute: differences in contract interpretation; delays in completing works (presented as the main reason for the Employer’s claim); and unfitness-for-purpose of the facility. Figure 1 below illustrates the mechanism of the dispute, showing the different series of factors that led to the emergence of the dispute.

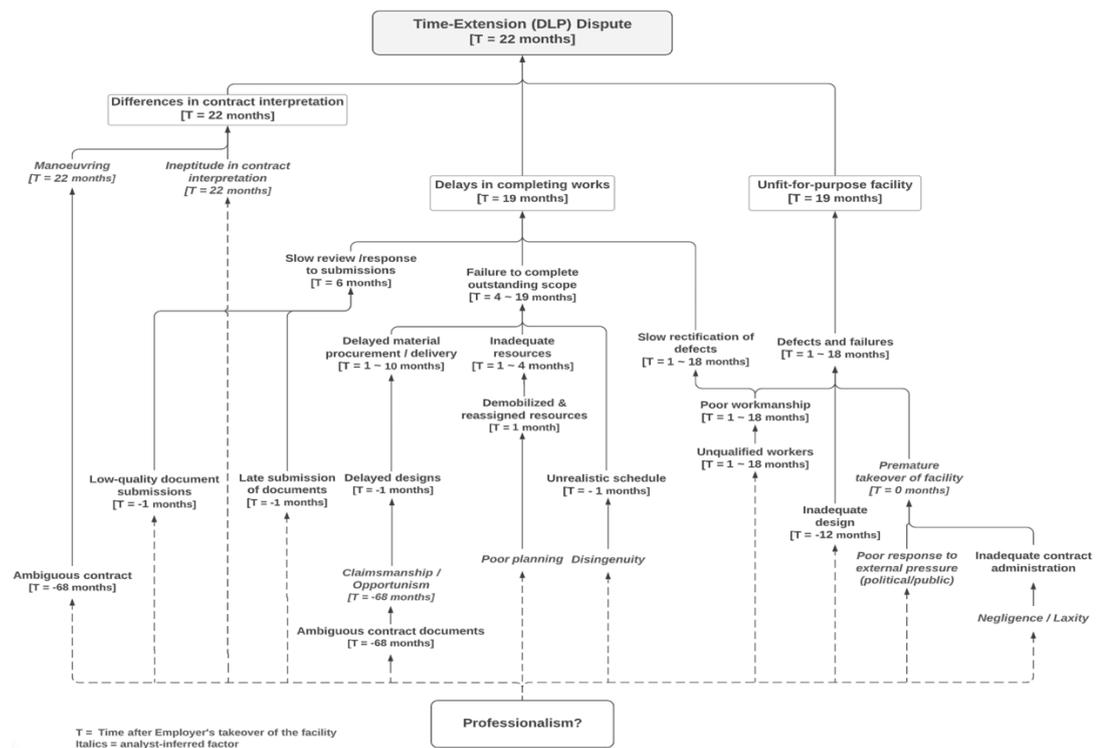


Figure 1: Mechanism of dispute-emergence

Differences in contract interpretation

The DLP extension was deemed to be a dispute as soon as the Employer and Contractor formally notified the Project Manager of their dissatisfaction with the determination on the Employer’s claim. Their dissatisfaction was based on varying interpretations of the contract to defend the different views they held. For instance, the Contractor argued that, by issuing the claim notice after the 6-month deadline set for completing the outstanding works at the time of project takeover, the Employer did not do so “as soon as practicable”, and the claim was, therefore, not valid. In fact, much as the contract specified that notices for claims by the Contractor should be

issued “as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance giving rise to the claim”, no such cut-off for “as soon as practicable” was explicitly placed on claims raised by the Employer—except that a claim notice for extension of the DLP should be before expiry of the DLP, which was so in this case. The contract, in that respect, was not explicit enough to preclude misinterpretation. The Contractor’s selective interpretation, nonetheless, can be put down to manoeuvring or ineptitude in contract interpretation. Clegg (1992) does maintain that contractual documents are usually problematic and ambiguous because they always need to be interpreted, and yet their interpretation is never free from bias or the influence of interests and the limitation of knowledge of the party interpreting them.

Delays in completing works

As a condition for issuing of the taking-over certificate, the parties agreed that the documented outstanding works—that were deemed to be minor at that time—would be completed within the following 6 months, as per the schedule proposed by the Contractor. Consequently, those works would have at least 18 months of the 24-month DLP that commenced after takeover. Unfortunately, the Contractor did not meet that deadline. The Employer’s claim for the extension of the DLP was on account of the Contractor’s failure to complete the outstanding scope works within the 6-month schedule, as well as the anticipated failure of the Contractor to complete all pending works (including rectifying defects) by the expiry of the DLP. The outstanding works included items such as submission of complete/approved contractor’s documents (O&M manuals, as-built drawings etc.), (re)commissioning of critical systems etc. The extension was sought to enable the completion of all outstanding works and provide adequate time for observing those works and rectifying all defects that would arise in that period.

The failure to meet the deadline, for some components, was attributed to delayed procurement/delivery of materials (most of which had long lead times); inadequate resources due to a reduction in the Contractor’s workforce as key technical personnel (and equipment) were demobilised/reassigned in the months immediately after the project’s takeover—all of which affected the Contractor’s capacity to execute the works. The Contractor, however, later expressed that the 6-month deadline to complete the outstanding scope of works was unrealistic and “not practically reasonable in view of the facts on ground”.

The procurement/delivery of materials was delayed predominantly due to the delayed design of some components. The designing of some critical facilities was started as late as 3 months into the DLP. This delay in design was a result of inadequate/ambiguous contract documents which were not explicit about the need for some components during the preparation phase of the project. The ambiguity enabled the Contractor’s misinterpretation of the contract as not including those components, thus their omission from the Contractor’s plans. The ensuing delays in procurement/delivery of materials, as well as re-mobilisation of personnel (sub-contractors/manufacturers) for the outstanding works, were also attributed to an 8-month travel restriction imposed due to a force majeure event.

Regarding the Contractor’s documents, delays were partly due to the low-quality work (failing to meet the Employer’s approval requirements), which necessitated several cycles of review and resubmission. The absence of these documents consequently delayed the (re)commissioning of their corresponding systems—for which they were a

prerequisite. The delays in completing the documents were also due to the Project Manager's very slow review and response to the Contractor's submissions-exceeding the 21-day timeline prescribed by the contract-with some responses/comments being provided up to 6 months late. This was partly ascribed to and compounded by the Contractor's last-minute bulk submission of documents for the Project Manager's review.

There were also delays in rectifying defects which were ascribed to poor workmanship, often meaning that repairs were ineffective, leading to persistence or recurrence of defects. The poor workmanship was due to the Contractor using unqualified semi-skilled workers to execute specialised tasks e.g., concrete treatment. Delays in defects rectification were also due to the numerous defects overwhelming the limited number of personnel available to address them. The closeout of some defects was also partly delayed by the absence of the Project Manager's experts who were meant to witness the recommissioning of some systems and satisfy themselves that the remedies applied were adequate. This was a result of poor coordination between the Project Manager and the Contractor, as well as the travel restrictions caused by the earlier-mentioned force majeure event.

Unfit-for-purpose facility

On top of the incomplete works, defects/failures emerged in some of the facility's major systems/components which rendered them-and, according to the Employer, the entire facility by extension-unfit to serve their intended purpose, thus necessitating their modification or replacement. This was pinned mainly on inadequate designs that did not consider some important factors/conditions. The modified or replacement systems/components would, therefore, need recommissioning and additional time for observation i.e., a DLP extension. The allegations of unfitness-for-purpose were vehemently contested by the Contractor.

In their defence, the Contractor pointed out that the facility was being used by the Employer and was, therefore, fit for its intended purpose. They added that the emergence of defects was expected and covered under the contract through the DLP provision as well as other safeguards like retention money and performance guarantees. Indeed, the emergence of defects alone may not get a project branded unfit-for-purpose provided the functionality requirements prescribed in the contract are met consistently. In this case, however, the Employer's intention, as per the contract, was "to develop, construct, commission, and operate the project, including all auxiliary structures and necessary equipment, in such a manner as to ensure their safe and efficient operation with at least 97% availability throughout their operating life". Since, due to the breakdown of systems and emergence of defects the facility did not consistently meet the 97% availability criterion, it was, technically, unfit-for-purpose by that standard. Yet, if the emergence of defects is expected, and their rectification-as is the Contractor's obligation during the DLP-may require the affected systems to be temporarily unavailable, would it not be paradoxical to always hold the contractor to such a high standard/criterion of availability during the DLP? Perhaps not, since the Employer's expectation was that defects after takeover would be "minor".

Considering the frequent reports of incomplete works and numerous defects (new and recurrent) throughout the DLP-which was meant for notification and rectification of defects identified after takeover-it is safe to infer that the project was taken over by the Employer prematurely. The contract prescribed completion of the facility ("except

for any minor outstanding work and defects which will not substantially affect the use of the facility for their intended purpose”) as a precondition for taking over. The Employer and Project Manager's consistent subsequent complaints during the DLP that works critical to the operation of the facility were not completed, indicate that the precondition was not met. This deviation from contract guidelines in issuing the taking-over certificate is a demonstration of inadequate contract administration. Cognisant (or not) of the incompleteness of critical works and the project's lack of substantial completion, the Project Manager's recommendation for the Employer to take over the facility can be construed as a breach of the duty of skill and care-negligence.

This, in turn, may be an indication of incompetence-in this case, the Project Manager's possible lack of appreciation of their decisions' wider implications on the performance of the project. To a lesser extent, the upheld deviations from contract guidelines also indicate laxity among the Employer's project management team, who, being expected to be familiar with the contract, should otherwise have identified and addressed the Project Manager's shortcomings. On the other hand, the project, being publicly funded and one of the country's flagship infrastructure undertakings-featuring prominently in its strategic plans-attracted significant political and general public interest. The resulting political and public pressure to swiftly commence operation of the facility (to start revenue generation and loan repayment) may have influenced the project management team's decision to make compromises in recommending takeover by classifying the outstanding works as minor and inconsequential to the basic functionality of the facility-hence the premature takeover. Reflexively considering all the afore-presented dispute-fostering factors, the fundamental causes of the dispute appear to be related to and/or rooted in professionalism-or a lack thereof. This supports the assertion in Love *et al.*, (2010) that a lack of professionalism may ultimately materialise as a dispute.

Professionalism

APM (2019) presents professionalism as "the application of expert and specialised knowledge within a specific field and the acceptance of standards relating to that profession", and, similarly, the Oxford Dictionary of English defines it as "the competence or skill expected of a professional". The fundamental principles of professionalism adopted in codes of professional conduct include (1) integrity - being honest, objective, impartial, and true to moral values; (2) competence - bearing relevant knowledge and expertise for any work undertaken; (3) responsibility - acting with skill, care and diligence. The contravention of these principles of professionalism seems to have initiated or catalysed the initiation of the series of factors that culminated in the dispute.

For instance, in proposing and agreeing to an unrealistic schedule for completing the outstanding works-the confidence and basis upon which the project was taken over-the Contractor was disingenuous, contravening the principle of integrity. Further, the Contractor's swift reduction of their available resources soon after takeover by the Employer may be construed as a disregard for and a lack of commitment to their agreed obligations and the established expectations to close out the outstanding work as soon as possible. This would contravene the principle of responsibility. But then again, it is reasonable and common for a contractor to partially demobilise their resources (equipment and personnel) from the site after takeover, given the significantly reduced scale of works. In that case, the absence of the required suitably qualified personnel may be chalked up to poor planning by the Contractor and a

general underestimation of the amount of work to be done. This lapse of planning and foresight, however, would not be expected from a contractor who was, by all accounts, procured based on their experience on similar complex projects. This contravenes the principle of responsibility.

Additionally, the Contractor's omission of scope behind the excuse of ambiguous contract documents bears the hallmarks of contractor "claimsmanship". Zack (1993) highlighted that a common claim game during bidding involves bidding of alternative items (materials or equipment) or alternative methods/techniques, and in some cases, bidding what is not specified to gain a competitive advantage or provide grounds for fair adjustment later in the project. The Contractor had the opportunity to seek timely clarification from the Employer regarding the ambiguous specifications but chose to be opportunistic by adopting an interpretation that enhanced profitability instead. This contravenes the principle of integrity. Table 1 summarises the link between professionalism and the upstream dispute-fostering factors in the dispute's mechanism.

Table 1: Relationship between professionalism and dispute-fostering factors

Cause of dispute		Breached principle of professionalism
Differences in contract interpretation	Ineptitude in contract interpretation	Competence
	Ambiguous contract (manoeuvring)	Responsibility, Integrity
Delays in completing work	Poor planning (underestimation of work)	Responsibility, Competence
	Disingenuity (preparing unrealistic schedules)	Integrity
	Low-quality document submissions	Competence, Responsibility
	Late document submissions	Responsibility
	Ambiguous contract documents	Integrity
Unfit-for-purpose facility	Inadequate design	Competence, Responsibility
	Negligence /Laxity	Responsibility
	Poor response to external pressure	Responsibility
	Unqualified workers (poor workmanship)	Competence, Responsibility

Professionalism is a, seemingly, clear-cut subject whose benefits and merits are known and whose values institutions of learning and professional bodies have striven to instil and encourage. However, this paper, in the foregoing disquisition, demonstrates that the principles and values of professionalism are still not always upheld in construction projects. The subject, therefore, cannot be taken for granted and measures should be purposefully taken to design and institutionalise (i.e., nurture, encourage and enforce) professionalism in construction projects. The measures could involve recognising and rewarding professionalism, requiring the affiliation of key project players to recognised professional bodies (that maintain oversight of members' knowledge, skills and conduct) and ensuring appropriate and consistent punitive consequences for unprofessional conduct.

CONCLUSIONS

To avoid/prevent disputes in infrastructure projects-or any construction project for that matter-it is essential to understand the series of events, factors and conditions that lead up to them to be able to anticipate and predict their occurrence. To that end, this study identified the immediate causes/triggers of a major dispute (extension of the defects liability period) in the case study project and proceeded to explore the series of events, factors and conditions that set off those causes/triggers. The study revealed 3

immediate causes/triggers of the dispute: differences in contract interpretation, delays in completing works and unfitness-for-purpose of the facility. Meanwhile, the dispute-fostering factors in the dispute's mechanism were observed to arise from deficiencies in 3 main areas: quality of contract, quality of contractor and quality of contract administration. Furthermore, the study identified that the series of dispute-fostering factors in the project were, ultimately, connected to violation of the fundamental principles of professionalism: integrity, competence and responsibility. So, can professionalism make contract disputes in infrastructure projects disappear? The answer, in the context of the dispute considered in this paper, is "yes!" It is safe to surmise that had the principles of professionalism been upheld consistently, the upstream factors in the dispute's mechanism might never have materialised and the "chain reaction" leading to the dispute would not have been initiated. That being said, it would not come as a surprise if the mechanisms of other disputes (on similar projects) have their roots connected to contraventions of the principles of professionalism.

Eventually, as our industry moves to "build back wiser", this research drives and reinforces the following:

- Enough time should be provided, earlier in the project development phase, to identify possible areas of ambiguity in contracts and effectively clarify them. The Employer's requirements, for example, should be as explicit as possible, with a clearly defined scope and performance criteria for fitness-for-purpose. This would help to prevent disputes rooted in ambiguous contracts.
- An Employer, particularly in the public sector, should have a working understanding of contract development and contract administration regardless of whether they appoint and delegate the role to an external party/representative. This will ensure that they can identify and address any weaknesses of their representative and, therefore, cannot easily be misled. In that regard, the Employer's in-house project management team should be supported and required to attain and continuously improve their competence in contract development and administration, as a minimum.
- Procuring a contractor is, arguably, the single most important task an Employer undertakes during a project's life cycle and should, therefore, be done based on appropriate and well-considered procurement assessment criteria, driven by clear and well-communicated objectives.
- Professionalism is a, seemingly, clear-cut subject but its principles and values are still not always upheld in construction projects. As such, measures should be deliberately put in place to institutionalise (nurture, encourage and enforce) professionalism in construction projects, such as recognising and rewarding professionalism while consistently penalising unprofessional conduct, and requiring the affiliation of key project players to recognised professional bodies. This is, especially, important in projects with international players whose competences and backgrounds are not always easily verifiable.

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