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TOWARDS A RELATIONAL CONTRACTING FRAMEWORK IN THE AUSTRALIAN CONSTRUCTION INDUSTRY: AN INITIAL FRAMEWORK

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ABSTRACT: The Australian construction industry is characterized as being a competitive and risky business environment due to lack of cooperation, insufficient trust, ineffective communication and adversarial relationships which are likely lead to poor project performance. Relational contracting (RC) is advocated by literature as an innovative approach to improve the procurement process in the construction industry. Various studies have collectively added to the current knowledge of known RC norms, but there seem to be little effort on investigating the determinants of RC and its impact on project outcomes. In such circumstances, there is lack of evidence and explanation on the manner on how these issues lead to different performance. Simultaneously, the New Engineering Contract (NEC) that embraced the concept of RC is seen as a modern way of contracting and also considered as one of the best approaches to the perennial problem of improving adversarial relationships within the industry. The reality of practice of RC in Australia is investigated through the lens of the NEC. A synthesis of literature views on the concept, processes and tools of RC is first conducted to develop the framework of RC. A case study approach is proposed for an in-depth analysis to explore the critical issues addressed by RC in relation to project performance. Understanding the realities of RC will assist stakeholders in the construction industry with their investment in RC.

Keywords: Relational Contracting (RC); New Engineering Contract (NEC); Project Outcomes; Australia

1. INTRODUCTION

The construction industry is characterized as inefficient and adversarial in nature leading to serious concerns over increasing losses, a huge number of disputes and notable project failures [1, 2]. The pervasiveness of the continued use of traditional contracting in the construction industry, has led academics to investigate the characteristics, structures and mechanisms that can enhance the performance of projects [3, 4]. In an attempt to mitigate long-standing issues that lower its image, the construction industry responded by adopting less adversarial contractual arrangements where parties develop mutual objectives, cooperation and trust are bound together to manage relationships. The last decade has seen an unprecedented surge in relational contracting (RC) as an innovative approach to procurement [5] that has been accompanied by a parallel increase in scholarly work on the relationship phenomenon [6, 7].

While much of the past research has focused on identifying the benefits of RC [8, 9, 10, 11, 12] and critical success factors for adopting RC in construction projects [13, 14, 15, 16, 17, 18, 19, 20, 21], the impact of RC on project success is still somewhat nebulous despite being a major focus of research over the last three decades, especially in relation to the nexus between RC and overall project performance. The development of knowledge on how better project outcomes might be achieved may fill a void that has not been studied to date. Therefore, the aim of this paper is to propose a research strategy that would discover the reality of practices inherent in relational contracting and their efficacy on project outcomes. The fundamental question of this research project is whether the determinants of relational contracting lead to better project outcomes than do those of traditional contracting. Answering this question may be the key to providing a means for construction organisations to decide when and where to invest in the development of RC.

2. OVERVIEW OF PROCUREMENT IN AUSTRALIA

Traditional contracting continues to dominate the Australian construction marketplace despite the widespread criticism. Amongst many are State Government clients [22]. In New South Wales, Victoria and Queensland however there has been a tendency to shift away from the use of traditional methods and embrace design and construct, management contracting, construction management, alliancing and other hybrid contract forms for major infrastructure and building projects.

2.1 The Problem with Procurement Process

The construction procurement process has been heavily criticized for its fragmented approach toward the delivery of construction projects [23]. Client dissatisfaction is increasingly seen to be largely dependent upon the selection of the most appropriate procurement approach and this is often a primary cause of project failure [24]. Hibberd and Djebarni [25] reported that 89% of clients they surveyed were not satisfied with the procurement methodologies they were using and similarly, Franks [26] Nahapiet and Nahapiet [27] and Smith and Wilkins [28] reported projects procured using the traditional approach consistently failed to achieve the client's objectives in terms of time, cost and quality.

Bowen et al. [29] reported that very few industry professionals fully understood procurement systems and were thus unable to decide which system would be most appropriate for a specific project. Recently other researchers [30, 31, 32, 33, 34] have recognized that the selection of the most appropriate procurement strategy is difficult and have developed structured methodologies, tools and models to assist the selection of the most appropriate procurement path. Wilkins and Smith [35] suggested that successful procurement approaches would be more likely to be achieved by adopting a deeper mutual understanding of organisational and performance goals of all stakeholders in the procurement process.

Current procurement practices do not effectively encourage the integration, coordination and communication between participants; stakeholders have divergent goals and objectives which affect each discipline's ability to effectively, communicate [36]. Many practitioners and researchers considered the use of non-traditional procurement systems as the panacea for delivering clients' projects on time and within budget. It is obvious that a procurement strategy is needed to effectively coordinate and integrate individuals and groups so that inter-organisational communication and team building can thrive and become the norm [23]. Therefore, the procurement process needs to be re-structured to reduce the difficulties with procuring projects by turning collaborative approaches into a point of reference and a potential source of innovation.

2.2 Collaborative Procurement

The Latham [23] and Egan [37] advocated the use of collaborative relationships in order to overcome the problems with the process of procurement. Collaborative procurement requires the development of relationships between the various parties. There are many attributes to consider in developing relationship management to break traditional systems. The concept of trust, a relational variable, appears consistently in PPP and alliancing methodologies [38, 39, 40]. Davis [41] has also identified commitment and cooperation as being the most important characteristics required to develop relationships for collaboration. In addition, performance satisfaction and mutual goals are also important. 'Trust' is a critical consideration in any sort of relational based contracting arrangement and simply put, it is a belief in a promise from another and an understanding that an obligation will be fulfilled [42]. It overcomes intangibility inherent with procurement at the same time building interpersonal and group behaviors in project teams [42]. At the heart of relationship management is a predisposition to build and maintain long-term relationships between project stakeholders. Relationship management introduces value adding in proactive exchange [43]. Partners have a collaborative outlook and work toward common goals [43].

Indicators of a trust building environment may become evident through a willingness to customize and adapt existing processes to meet a client's needs [44]. Sharing confidential information also shows good faith and this action provides tangible evidence that stakeholders are willing to make themselves vulnerable and receptive to a trusting commitment [42]. As trust builds, stakeholders perform effectively and are seen as increasingly reliable and credible by their partners. Relationship approaches enable clients to minimise decision effort and reduce risk in a tendering scenario [45] and this in turn results in less emphasis on governance and reliance on contract documents.

Collaborative approaches such as partnering, public/private partnership and alliances work on the alignment of project objectives towards a common business objective [46]. Partnering is defined by Bennett and Jayes [47] as a "...management approach used by two or more organisations to achieve specific business objectives by maximizing the effectiveness of each participant's resources. The approach is based mutual objectives, an agreed method of problem resolution, and an active search for continuous measurable improvements."

Public-private Partnership (PPP) is defined by Duffield [48] as a contracting arrangement in which a private party takes responsibility for financing and long term maintenance or operation of a facility to provide long term service outcomes. While PPP contracts may assist in improving productive efficiency they is no guarantee that investments are optimal, and the off-budget treatment of future funding obligations related to some PPPs might even reduce the scrutiny applied to the investment [5] Private Finance Initiative (PFI) contracts on the other hand are arrangements where the public sector purchases quality services, with defined outputs from the private sector on long-term basis, and includes maintenance or construction of the necessary infrastructure [49].

The *Commission for Architecture and the Built Environment* (CABE) (2005) highlighted one of the drawbacks of PFI is its complex nature where initial stages of the process are usually extremely protracted. 'Alliancing' meanwhile, which has become popular in Australia, is defined as an agreement between two or more entities, which undertake to work cooperatively, on the basis of a sharing of project risk and reward, for achieving agreed outcomes based on principles of good faith and trust and an open-book approach towards costs [50]. The key difference between alliances and partnering is that alliances have a joint rather than shared agreement to risks. Alliancing members agree all their costs and then place these at risk, resulting the whole alliance entity reap

rewards together or not at all [51]. Partnering on the other hand practices shared risks where partners may gain benefits at the expense of other partners. The joint assumption of all risk in alliances is the key factor that ensures that the commercial terms of the arrangement are aligned with project objectives. The 'win-win' or 'lose-lose' outcome enjoyed by all alliance parties is the fundamental characteristic of alliance and drives the behavior of all parties. [52].

2.3 Call for Reform

The call for reform maybe understood through the wide range of construction reports written during the last 50 or so years in the United Kingdom. The Australian construction industry meanwhile also addresses an urgent need for a novel approach as means of improvement to the industry that are summarized in Table 1. As extensive as policy papers and recommendations made to the industry, the possibility of RC to address these issues has not been widely studied.

Table 1. Procurement Reform in Australia (1988-2009)

Year	Construction Reports and Procurement Policy Papers	Agenda
1988	*Strategies for Reduction of Claims and Disputes in the Construction Industry*	Recommendations for change in practices and attitudes.
1990	*"No Dispute"*	Recommendations to foster relationships for better performance and fewer disputes.
1993	*Construction Industry Project Initiation Guide for Project Sponsors, Clients and Owners*	Recommendations of good practice following Latham's report
1996	*Improving Security of Payment in Building and Construction Industry*	Recommendations of solutions to payment problems and implementation plan
1997	*Action Agenda: Building for Growth in 1999*	Sets out areas for improvement for construction industry
1997	*Construct Australia: Building a Better Construction*	Strategies for decision making
1998	*National Prequalification Criteria Framework*	Outlines essential criterias for strengthening the capability of the construction industry.
2000	*Principles for Best Practice Performance*	Encourage and reward better performance
2001	*Guidelines for Tendering*	Provide a framework for the effective, consistent and efficient management of tendering practices
2002	*Client Skills: Skills required by Government as the Construction Industry Client*	Recommendation to improve the efficiency and effectiveness of government procurement
2002	*Key Issues in Procurement through PPP*	Assist government professionals to maximize value for money through procurement
2003	*National Procurement Reform Principles*	To improve procurement practices and outcomes.
2006	*Developing the Government Procurement Profession*	Sets out standard for professionals for delivery value for money procurement
2008	*Building Government Procurement Capabilities*	To understand issues associated with developing procurement capability.
2009	*Guide to Leading Practice for Dispute Avoidance and Resolution*	Recommend strategies for industry key stakeholders to manage disputes more effectively.

3. OVERVIEW OF THE RC FRAMEWORK

The description of the theory and practice ingrained in the use of RC is investigated through the lens of NEC. For clarity, the factors identified have been reviewed under the following three (3) headings: relationship, processes, and tools. These categories emerged during the examination of the literature and therefore are used to provide a structure for the discussion and theoretical framework that follow.

3.1 Relationship

The literature reviewed strongly supports the of the success of NEC. As it operates over the longer-term, good faith and fairness are relational contract concepts that suit the NEC [53]. Similarly, the development of an equitable relationship between the stakeholders has been found to be necessary as equity promotes mutual motivation when win–win solutions are sought rather than the win–lose solutions that often result from traditional relationships [54]. NEC elements stem from

characteristics of mutual trust, fairness and cooperation, which are the key principles of relational contracting. In embracing these concepts, NEC requires contractors to adopt a rigorous, open-book administration process; resulting in greater cost-clarity and providing an audit-trail to justify out-turn cost and efficiency-related payments to the contractor.

A study by Matthews, Pellew, Phua, and Rowlinson [55] demonstrated that close cooperation between project teams made it easier to control time and cost performance. The level of cooperation can be related to the contract in use, and a British National Audit Office report [56] that cites the NEC, encourages early issue resolution and is non-adversarial. In relation to risk management, NEC requires the maintenance of a risk register. Parties work together to mitigate the cost and time effect upon identification of a triggered risk event. Benefits of NEC are not achieved quickly [57] and NEC workshops are used to cultivate the conditions for realizing the benefits of the contract. This further provides a beneficial forum for open communication, joint identification of, and commitment to, mutual goals such as early completion and limitation of cost growth [58]. The mutual exchange of ideas can lead to the development of shared expectations and vision [59].

3.2 Processes

Latham [23] stated that the revolutionary contract was developed to improve upon existing standard forms of contract by providing better flexibility; greater clarity and simplicity and a stimulus to good project management. NEC is claimed to be suitable for use on virtually any type of engineering and construction project due to its exclusion of discipline-specific matters [57] and avoidance of words denoting any particular discipline. Wright and Ferguson [54] meanwhile suggested that the NEC incentivizes good contract performance due specifically to its pricing mechanisms. One of the great benefits of the NEC is its flexibility. Whilst conventional contracting is represented by traditionally single-discipline forms of contract, as Broome [60] points out, a large number of projects are multi-disciplinary, involving civil engineering, building, mechanical and electrical works. NEC also includes a series of bolt-on secondary options reducing the need for re-drafting for specific circumstances [60].

Another positive attribute of NEC is its flexibility in embracing a wide range of procurement options. The contract includes six payment options including fixed price lump sum, target-sum, cost reimbursable and management contract options reflecting a full spectrum of risk allocation [61]. The NEC also uses its pricing mechanisms to incentivize contract performance. Broome and Hayes [62] in a comparative study indicated that the NEC is a dramatic improvement (in terms of clarity) over traditional contracting forms being used in the UK. Unlike traditional contracting, NEC is simple, clear, and written in ordinary language [63]. Wright and Ferguson [54] and Broome and Hayes [62] commented that the NEC was crafted to make contractual language simpler to read, increasing clarity, reducing confusion and disputes.

Barnes [64] asserted that the most important characteristic of the NEC is the stimulus towards the practicing of good project management. Every procedure has been designed so that its implementation should contribute to rather than detract from the effectiveness of management of the works. The actions required by the parties under the NEC are designed to be solution-oriented rather than problem-focused, in contrast to traditional contracting which pays very little attention to teamwork [59]. Salient features of the NEC include a requirement that a methodology must be agreed to determine any claim status that relates only to admissible cost as defined by the contract's Schedule of Cost Components [65] and compensation events are valued before they occur. Programming under the NEC is also a key requirement. Updating of the detailed programme to completion and current work status ensures all parties are made aware of potential problems early [63, 64].

The NEC also includes an early warning procedure, which requires either party to notify the other promptly if they become aware of anything which may impact the cost, delay the program, or impair performance [64]. Thompson et al. [63] explained that this is an extremely powerful incentive to ensure that the contract can be finalized faster than other contract forms. with regard to dispute resolution, Baird [65] stated that NEC is far less damaging to relationships and does not require expensive legal advice for its resolution. Risk-sharing in NEC is designed to be agreed in relation to a series of tiers of overspend and underspend. In the NEC Target Contract, risk sharing arrangements can be amended such that it effectively becomes a capped maximum price contract with incentives for the contractor to deliver the project at a final lower figure. This permits expenditure up to an agreed maximum sum on a project, whilst ensuring that the contractor is still driven towards the most efficient way of working.

3.3 Tools

The use of integrated teams is also acknowledged as being crucial to achieving improvements in quality, productivity, health and safety and cash flow, and in reducing project durations and risks [53] Integrated teams can complement the practice of early involvement by facilitating innovation during the design stage of the project, thereby increasing the potential for NEC benefits. However, this means that designers and specialist subcontractors must be allowed access to the client during this stage of the project. NEC workshops to facilitate the practice are now common across the upper tiers of the UK construction industry and –more recently launched in Middle East and in New Zealand.

4. FORMING THE PROPOSITIONS

A review of the extant literature provides a wealth of information that can be developed into a range of propositions for further investigation. The propositions

are based on the premise that relational exchanges are superior and improve working relationships between all project stakeholders, at the same time minimizing the incidence of disputes, as well as facilitating efficient and effective construction, simultaneously enhancing financial returns. The propositions of this study are set out below and provide indications as to how data should subsequently be collected.

4.1 ***Proposition 1:***

The determinants of relational contracting are critically important factors within which the spectrum of exchange relationships occurs.

4.2 ***Proposition 2:***

Each determinant of relational contracting exerts a considerable degree of influence on the state of conflict, and overall closeness of relationship as well as mutual expectations of project stakeholders.

4.3 ***Proposition 3:***

Where relational norms have developed in a project, there is a link between the length of relationship and performance outcomes.

4.4 ***Proposition 4:***

RC is superior to traditional contracting. The use of RC achieves improvements in cash flow, quality and project durations.

5. RESEARCH STRATEGY

A case study approach is to be adopted in the research because the focus of relationship exchanges is within a real-life context. Where the boundaries between a phenomenon and its context are not clearly evident, and where multiple sources of evidence are used, case study is the preferred strategy when the researcher has little control over events [66]. Case studies typically combine data collection methods such as archival searches, interviews, questionnaires, and observation [67].

The value of using a case study approach in this study is in addressing the determinants of relational contracting (as encapsulated under the NEC elements) by identifying the practices in real-world projects. In outlining which determinants influence performance, the case study approach will also help to contextualize this research by analyzing how these determinants relate to better project outcomes and finally affirming whether there actually is reconciliation with the relational theory.

Semi-structured interviews with twenty (20) established practitioners who are in decision-making roles in organisations associated with advising on procurement for construction projects will be conducted. The interviews will (a) integrate the perception of various stakeholders on the determinants of relational contracting identified from literature review (b) validate the determinants of relational contracting in Australia and (c) outline critical issues of relational contracting that may impact on success/failure in construction projects.

6. CONCLUSION

An investigation on the literature and the development of the RC framework generally present a positive view since its inception. It is interesting to note that there has been a considerable amount of published work advocating collaborative procurement as an alternative to traditional contracting. However, hardly any studies have established the validity of claims for the efficacy of the RC and its link with project success. Therefore, this justify the need for this research in testing the determinants of RC and it reconciliation with relational theory through robust industry validation.

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