



COBRA 2006

The construction and
building research
conference of the Royal
Institution of Chartered
Surveyors



University College London,
7-8 September 2006



COBRA 2006

PROCEEDINGS OF THE ANNUAL RESEARCH CONFERENCE OF THE ROYAL INSTITUTION OF CHARTERED SURVEYORS

**Held on Thursday 7th and Friday 8th September 2006
at University College London**

Joint Conference Directors
Stephen Brown
Stephen Pryke

Editor: Elaine Sivyer

COBRA 2006

Proceedings published by:

**The RICS,
12 Great George Street
Parliament Square
London SW1P 3AD**

In association with:

**The Bartlett School
University College London, WC1E 7HB**

**© RICS, The Bartlett School, UCL and the contributors
First published 2006**

ISBN: 978-1-84219-307-4

Which Governs – the Relationship or the Contract?

A. Anvuur, M. Kumaraswamy and G. Mahesh

Department of Civil Engineering, University of Hong Kong, 6/F Haking Wong Building, Pokfulam Road, Hong Kong; anvuur@hku.hk

According to the transaction cost economics literature, a firm's external contractual relationships must be 'fit for purpose'. What is a 'fit for purpose' contractual relationship should not be a normative decision, but an objective one, to be made with regard to achieving transaction cost efficiency, while defending the core competencies of the firm. Data from a Hong Kong case study are used to examine whether or not the client's choice of contractual relationship is 'fit for purpose' and also to evaluate the impact of such a choice. The findings suggest that maintaining a relationship of high quality as a strategic policy not only reduces recourse to the contract, but also improves the quality and predictability of project performance and is an antidote to ill-aligned contractual elements. These findings lend support to the growing trend towards relationship or relational contracting in construction.

Keywords: contractual relationship, form of contract, cooperation, 'fit for purpose'.

INTRODUCTION

This paper seeks to contribute to a better understanding of clients' choices of contractual relations and the consequences of such choices. The paper starts by examining the background to contractual relations in the construction industry. The theoretical basis for predicting what would be a 'fit for purpose' contractual relationship is then discussed. Data from a case study construction project are explored to explain the nature of and rationale for the choices made and the consequences thereof.

BACKGROUND

Construction has been identified as a complex systems industry, where organising-by-projects, temporary coalitions of firms and a heavy client involvement in the product life cycle are the norm (Dubois and Gadde, 2002, Shirazi *et al.*, 1996). Construction coping strategies - competitive tendering, arms-length contracts and industry 'communities of practice' allow these complexity dimensions to be addressed (Dubois and Gadde, 2002, Shirazi *et al.*, 1996). These are contained in standard forms of contract designed to reduce the costs associated with writing bespoke contracts (Thompson *et al.*, 1998). These coping strategies create a pattern of 'tight' and 'loose' couplings in construction contracts, which result in adversarial relationships and a focus on short-term productivity, while hampering innovation and learning. One cooperation strategy has been to introduce performance incentives, but their impact has been largely negative. Ashley and Workman (1986) found that although overall performance was marginally greater with their use, incentives created significantly more disputes and contractual disagreements. Emphasis is thus being placed on alternative forms of control that facilitate cooperative (i.e. trust-based) relationships. There have also been bold attempts to contractualise trust by including in partnering-oriented standard forms of contract, express terms that seek to prescribe and govern the behaviours of and relationships between contracting parties (e.g., ACA, 2000). While the legal status of such clauses has been questioned (e.g., Cornes, 1996) and their practical import is as yet unknown, cooperative strategies like partnering and alliancing are paradigmatic.

THEORY

Cox and Thompson (1997) are very critical of this trend where cooperative relationships are emphasised more or less as the *end* instead of a *means* to achieve organisational goals. They argue that the choice of a governing relationship must be an objective decision and must be complemented by an appropriate choice of form of contract. In other words, the contractual relationship must be 'fit for purpose'. The basis for predicting what would be a 'fit for purpose' contractual relationship takes its roots from Williamson's (1979) seminal work on the transaction cost economics framework. Williamson's work projected the notion of the firm as a nexus of contracts. The initial framework has been amended by Williamson (1985) and other researchers building on his work (e.g., Bradach and Eccles, 1989, Cox, 1996). The basic argument of this stream of thought is that one of three organisational forms, namely markets, hierarchies and relational contracting, is most efficient for the governance of a firm's transactions. Market, hierarchy and relational contracting map roughly onto price, authority and trust (Bradach and Eccles, 1989).

Three dimensions of transactions determine which one of the three organisational forms is most efficient. These dimensions affect the costs associated with writing, executing and enforcing contracts and are: uncertainty, asset specificity, and transaction frequency (Williamson, 1985). Hierarchies are more efficient than arms-length market transactions in situations of high uncertainty, high asset specificity and frequent recontracting. The uncertainties about future performance and contingencies complicate the writing of contracts, the high asset specificity may lead to opportunistic bargaining and, frequent recontracting is costly. In these situations an authority relation (i.e. hierarchy – e.g. vertical integration) is most efficient (Williamson, 1985). Intermediate levels of uncertainty and asset specificity lead to intermediate organisational forms such as quasi-vertical integration. Williamson referred to such governance structures as "relational contracting". In relational contracting, the costs consist of the investments necessary to build trust through commitment to a norm of reciprocity (Bradach and Eccles, 1989). Obviously, these costs must be less than the costs involved in writing, executing and enforcing contracts.

The transaction cost economics approach has been criticised for failing to explain a growing number of contradictory empirical observations (for a review, see Oberschall and Leifer, 1986). Cox (1996) amended Williamson's notion of asset specificity as related to sunk costs and the level of uncertainty in the market, to one related to the core competences of the firm, which it must defend in order to survive and prosper in the market place. Cox then goes on to define a continuum of relational contracting strategies namely, preferred supplier, single sourcing, network sourcing and strategic alliances. Cox and colleagues (Cox and Thompson, 1997, Thompson *et al.*, 1998: Fig. 6) propose and test, in the context of the construction industry, a model that matches this continuum of relational contracting strategies with a corresponding typology of contract types. Bradach and Eccles (1989) view such attempts to pitch price, authority and trust as mutually exclusive control mechanisms or as defining a continuum of governance structures, as misleading. Citing evidence from different business settings, they demonstrate that price, authority and trust are independent control mechanisms that can be combined in a variety of different ways. The evidence in the construction industry, and as discussed above, is equally compelling (see e.g., Eccles, 1981, Stinchcombe, 1985). Despite its limitations, the amended transaction cost economics approach provides a framework that facilitates an objective decision on which one or a combination of forms of control (i.e. price, authority and trust) is most efficient to achieve the goals of the firm, however ambiguous these may be.

A HONG KONG CASE STUDY

The data reported in this paper are drawn from a case study undertaken as part of a larger research project aimed at developing a management support system to aid the formulation of more effective and efficient construction procurement and operational systems. The fieldwork was conducted between April 2005 and May 2006. The data reported in this paper are extracted from the project documentation and semi-structured interviews with six project directors from the client, consultant and contractor teams, three senior project managers from the main contractor and client's in-house project management teams and, two subcontractors. The interviews were recorded and the resultant transcripts (numbering over 130 pages in total) were coded to reflect common themes and other emergent issues. Only data relating to the use and impact of contractual incentive arrangements, as well as other motivations for cooperation are analysed in this paper. The client in this project is a prestigious property developer that owns and manages prime office and retail space in Hong Kong.

PROJECT OBJECTIVES, SCOPE AND STRATEGIES

The project involved the redevelopment of an existing office tower in Hong Kong at a total construction cost of US\$82 million. The project's objectives were: to create a small grade 'A' office building; to complement and extend an existing luxury retail space; and also to provide more food and beverage space. Other client drivers included the need to provide assurance that construction costs are competitive and reflect the current market price levels and, to improve relationships with contracting partners through a partnering 'offensive'. The scope of works involved demolishing the existing office tower, supplementing the existing foundations and erecting a steel-cored superstructure tower (25 floors). This involved three separate and sequential contracts for the demolition, foundation and the superstructure works. Table 1 provides summarised details of the procurement and contractual arrangements in this project. All three main contracts were negotiated and let to the same main contractor under the JCT-based HKSAR standard form of building contract (private edition – with quantities). Formal partnering with a non-binding charter was adopted with the active involvement of the client, consultants, main and subcontractors.

Table 1 Project procurement and contractual systems

System	Demolition contract	Foundation contract	Superstructure contract
Procurement arrangement	Modified management contracting; No direct works by main contractor; All 3 subcontract work packages, for demolition, service diversion/ termination & provision of hoardings and protective deckings tendered competitively.	Traditional approach with no subcontract portions	A form of management contracting; Named* subcontract packages for structural steel, curtain walls, lifts & escalators and building services; 90 domestic and 22 provisional sum work packages progressively procured through competitive tendering.
Contractual measures that support arms-length relations	Traditional JCT form of building contract, with retention fund and performance bond	Traditional JCT form of building contract, with retention fund and performance bond	Traditional JCT form of building contract, with retention fund, performance bond and liquidated damages associated with 4 project milestones
	Negotiated lump sum fixed price and fixed duration contract	Negotiated fixed price lump sum contract	Indemnify client against all delay/disruption claims arising from or in connection with the foundation contract
Contractual measures that support cooperative relations	Nil	Client-controlled CAR/TPL for project Lump sum 'win or lose' on-time completion bonus Compensation for delay in services diversion in connection with demolition contract	Client-controlled Contractor's All-risks and Third Party Liability (CAR/TPL) insurance for project Negotiated GMP contract with sharing of savings from value engineering, procurement and the design development allowance, 60/40% between client and main contractor and, overruns at 100% to main contractor

Note: * Explained in text

PROJECT COMPLEXITY DIMENSIONS

The client required sectional completions to facilitate early hand-over of lower floors of the building to tenants to fit out as the works progressed. Three milestones, each related to the receipt of a temporary occupation permit (TOP), were established. Achieving these key dates was a priority for the client, communicated clearly to everyone involved and reinforced with liquidated damages clauses. The site is small and adjoins existing luxury retail and hotel space. The process for obtaining statutory approvals was very cumbersome, as some of the government departments concerned do not have statutory turn around times for dealing with submissions. The foundation works required that a new basement be constructed within an existing basement with an 8m head of water. When the existing office tower was first built, the adjoining street

collapsed into the site and there was a risk of history repeating itself. The final method and sequence of construction adopted was itself innovative in the Hong Kong context. The superstructure steel core was the first of its kind for the client and was off-centred so that many of the floors were cantilevered. These factors introduced a steep learning curve, reduced flexibility in methods of and access for work and transportation of materials, increased site safety risks and created coordination problems. An extensive structural redesign, made two months into the construction stage, coupled with the large numbers of tenant-induced change requests, exacerbated the coordination problems. These factors interacted and transformed the project into a complex and risky undertaking.

SELECTING A PARTNER

Three main reasons explain the client's decision to enter into single source negotiations with the main contractor. First of all, the main contractor has a reputation of being, perhaps, the best piling contractor in Hong Kong and was quite familiar with the ground conditions in that area. Secondly, the main contractor and the client belong to the same group holding company. The advantage to the client in being able to exercise some corporate leverage was thus very significant. Thirdly, the main contractor is committed to cooperation, adopts partnering as a corporate strategy on all its projects, and has worked successfully with the client on previous projects that also resulted in a significant sharing of savings. However, demonstrating the competitiveness of the main contractor's pricing against the market was still a major requirement for award. All the consultants consistently stated as part of their project goals, the need to project and maintain a good long-term relationship with the client. They all (except the M&E consultant) had a previous history of successful dealings with the client on one or more projects involving the GMP methodology. The client, main contractor and consultants were, therefore, reasonably familiar with the 'rules' of the game (e.g., regarding negotiations, the GMP methodology) and had built up some trust while working on an open book basis.

PROJECT OVERVIEW AND PERFORMANCE

Many of the problems encountered could have spelt disaster for this project, but all of them were resolved and in some ways have become major successes for the project team. There was a shared sense of interdependence, respect and trust amongst the team. This was reflected in the quantity and quality of project communications, problem-solving, prosocial behaviours and, consequently, in the project performance outcomes. The foundation contract was completed ahead of schedule. All the TOPs for the superstructure contract have been consistently achieved and the occupation permit, due in a few months, is considered reasonably in sight. The outturn quality of the works was adjudged very good, despite some disappointment with the quality of the initial designs. So far, no serious site accident or major disruption to adjoining businesses has been reported. With the GMP adjudication process in its early phase, it is difficult to speculate about the outturn construction cost. However, some significant but modest procurement savings have been reported. The project has been awarded a provisional platinum rating (the highest possible rating) in the Hong Kong Building Environmental Assessment Method (HK-BEAM) certification exercise and has won six other industry awards. Yet, there was a sense that the project's performance outcomes presented an incomplete picture of the level and impact of the teamwork experienced on the project.

INCENTIVES, MOTIVATION AND COOPERATION

INCENTIVE AND SANCTIONING SYSTEMS

The traditional form of contract supports arms-length contractual relations that only lead to contractual *compliance* (Thompson *et al.*, 1998). The fixed price lump sum

contracts create a conflict of motive between the client and main contractor (Bower *et al.*, 2002). Measures that allow some sharing of project risks and the associated pain/gain are considered as supportive of cooperative relations (Bower *et al.*, 2002, Thompson *et al.*, 1998). The foundation and superstructure contracts had a fair number of such measures, as indicated in Table 1. The client took out a comprehensive employer-controlled contractor's all-risks (CAR) and third-party liability (TPL) insurance for the entire project. This measure is also considered to support cooperative relations (see SFC, 2003). However, several factors associated with the intent, design, operation or outcome of these systems, raise doubts over what impact, if any, they have had on the cooperative behaviours of the project actors. Firstly, the client's objective in taking out the CAR/TPL insurance was to be the first beneficiary named on the policy. The liquidated damages were based on cost (i.e. overheads) and were not related to the probable loss in rental income.

The client also demanded guarantees on both the maximum cost and time for the project. This can be a recipe for disputes. However, conscious and deliberate choices were made by the main contractor (including some subcontractors) on the one hand not to claim on the provisions in the conditions of contract and, by the client on the other hand not to utilise the contractual safeguards. There was very little scope to create cost savings. The designs were 90% complete and the main contractor was engaged throughout that process. As such, all the value engineering was done pre-contract and the savings incorporated into the GMP. Post-contract, the structural redesign effectively removed any scope (i.e. available float) for design refinement and value engineering. About 60% of the value of the works fell under *named* domestic subcontractors. These are, essentially, nominated subcontractors, except that in this arrangement the client is not legally liable for their default. The design development allowance was very modest (less than 2% of the GMP). Added to this was the fact that the main contractor had no control over the change request (or architect's instructions) process.

NON-INSTRUMENTAL MOTIVATIONS

What then was the motivation for the high level of cooperation witnessed on this project? To start with, it is clear from the foregoing that the answer does not lie in the incentive and sanctioning systems used. There was consensus that the formal aspects of the partnering process – workshops, champions' meetings, and periodic evaluation – were often neglected. Perhaps, these findings speak of the lack of conceptual-definitional clarity on the entity of partnering (see Bresnen and Marshall, 2000a). There was a dominant client culture underlying the decision-making processes in this project. For the client's in-house project management team, delivering projects through cooperation was a way of working that they enjoyed. The GMP contract, with the open book approach, provided the mechanism to cooperate by unifying the motives of the client, consultants and the main contractor (Bower *et al.*, 2002). A distinctive feature of this project was the high number, frequency and long duration of meetings and all agreed that these had very little to do with the procurement or contractual arrangements. One project director, who was new to the team, concluded that in a sense the meetings had become self-sustaining and prevented people from just getting on with the job. While there was a general tendency for the in-house project management team to micro-manage, the benefits of participation were obvious. These meetings, undertaken in pursuit of ostensible goals, did not involve costs alone. Clearly, some members derived satisfaction from participating in these 'costly' activities (see Oberschall and Leifer, 1986: 246).

It appears, however, that the cooperation on this project related more to the fairness of the client's decision-making processes and outcomes. The consultants did not tender on fees and their remuneration was maintained at above market rates. Interim payment

certificates were honoured promptly (within 14 days). The change request system ensured that all subcontract variations were fully priced and agreed by the client, consultants, main and subcontractors before they were implemented and any additional sums due were progressively included in the subcontractors' interim certificates. The main contractor's profit margin and preliminaries were pre-agreed, fixed and then ring-fenced. The level of preliminaries was above the prevailing market rates. In addition, the high-risk subcontract packages were included as provisional sums. Clearly, with nothing to 'fight' for, the best marketing for the consultants, main and subcontractors was to do a good job, project and maintain a favourable image with the client in the hope of securing repeat business. This was held by all to be a major driver, as winning work is very expensive and difficult.

CONCLUDING OBSERVATIONS

Site and design constraints, TOPs and the changing business case for various tenant spaces transformed the project into a very complicated and risky endeavour. The project benefited from a high level of cooperation and all the project's targets were consistently met. It is clear from the foregoing that goal congruence and procedural justice concerns, rather than the desire to win incentives and/or avoid sanctions, were the overriding determinants of the high level of cooperation experienced on this project (cf. Bresnen and Marshall, 2000b). The evidence also indicates that there is more to cooperative interaction than transaction costs. The evidence generally supports Thompson *et al.*'s (1998) typology of contractual relationships, but also highlights the danger involved in constructing such rigid typologies. This project used a combination of arms-length and cooperative contractual instruments. The disconfirming effect of the traditional form of contract on the cooperative behaviours of the team is noteworthy. The presence of market prices helped this relationship by facilitating the development of trust. For this client, maintaining a good relationship with its suppliers was sufficient to secure their cooperation in providing a high quality of service to the end-users. This also removed the 'hit or miss' element associated with achieving the stated project objectives. As Bradach and Eccles (1989: 116) concluded, "human reason and social circumstance lead to much more complex forms of control".

ACKNOWLEDGEMENTS

Hongkong Land Limited, the consultant and constructor teams for the Landmark Scheme/ York House project are gratefully acknowledged for facilitating the case study reported in this paper. Grant HKU/7011/02E from the Hong Kong Research Grants Council is also gratefully acknowledged for supporting this research project.

REFERENCES

- ACA (2000), *PPC 2000: ACA standard form of contract for project partnering*, Bromley, Association of Consultant Architects (ACA).
- Ashley, D. B. and Workman, B. W. (1986), *Incentives in construction contracts*. A Report to the Construction Industry Institute (CII) Source Document 8, Austin, TX, The University of Texas.
- Bower, D., Ashby, G., Gerald, K. and Smyk, W. (2002), "Incentive mechanisms for project success", *J. Manage. Eng.*, 18(1), 37-43.
- Bradach, J. L. and Eccles, R. G. (1989), "Price, authority, and trust: from ideal types to plural forms", *Ann. Rev. Sociology*, 15, 97-118.

- Bresnen, M. and Marshall, N. (2000a), "Partnering in construction: a critical review of issues, problems and dilemmas", *Constr. Manage. Econ.*, 18(2), 229-237.
- Bresnen, M. and Marshall, N. (2000b), "Motivation, commitment and the use of incentives in partnerships and alliances", *Constr. Manage. Econ.*, 18(5), 587-598.
- Cornes, D. L. (1996), The second edition of the new engineering contract, *Int. Constr. Law Rev.*, 13 (Part 1 January), 97-119.
- Cox, A. (1996), "Relational competence and strategic procurement management: towards an entrepreneurial and contractual theory of the firm", *Eur. J. Purchas. Supply Manage.*, 2(1), 57-70.
- Cox, A. and Thompson, I. (1997), "'Fit for purpose' contractual relations: determining a theoretical framework for construction projects", *Eur. J. Purchas. Supply Manage.*, 3(3), 127-135.
- Dubois, A. and Gadde, L-E. (2002), "The construction industry as a loosely coupled system: implications for productivity and innovation", *Constr. Manage. Econ.*, 20(7), 621-631.
- Eccles, R. (1981), "The quasifirm in the construction industry", *J. Econ. Behav. Organ.*, 2, 335-357.
- Oberschall, A. and Leifer, E. M. (1986), "Efficiency and social institutions: uses and misuses of economic reasoning in sociology", *Ann. Rev. Sociology*, 12, 233-253.
- SFC (2003), *The integration toolkit guide: integrated project team*, London, Strategic Forum for Construction, UK.
- Shirazi, B., Langford, D. A. and Rowlinson, S. M. (1996), "Organizational structures in the construction industry", *Constr. Manage. Econ.*, 14(3), 199-212.
- Stinchcombe, A. (1985), "Contracts as hierarchical documents". In Stinchcombe, A and Heimer, C. (Eds.), *Organisational Theory and Project Management*, Bergen, Norway, Norwegian University Press.
- Thompson, I., Cox, A. and Anderson, L. (1998), "Contracting strategies for the project environment". *Eur. J. Purchas. Supply Manage.*, 4(1), 31-41.
- Williamson, O. E. (1979), "Transaction-cost economics: the governance of contractual relations", *J. Law Econ.*, 22(2), 233-261.
- Williamson, O. E. (1985), *The Economic Institutions of Capitalism*, New York, Free Press.

USEFUL WEBSITES

<http://www.strategicforum.org.uk>