

## **Illustrating game playing in construction contracts: the negative impact of procurement strategies on construction projects. A proposal for research**

The difficulties that are experienced in the fragmented contracting supply chain of U.K. construction, and the negative effects, are well documented (Latham 1994; Egan 1998), as well as the frequency of cost and schedule overruns on construction projects. Certainty in cost and schedule predictions will likely be central to a client's decisions to proceed with the construction investment. As construction projects proceed, delays and cost additions are revealed towards the completion of the contract, resulting in difficult negotiations. Current solutions to these issues involve including contractual processes to deal with issues as they arise (NEC3) and making conflict resolution more accessible through adjudication and arbitration provision.

This study reports on a series of longitudinal interviews with construction managers, contract managers, quantity surveyors, project managers and project directors working on construction contracts, and interprets the issues experienced by those directly responsible for the delivery of projects. The interviews examined a broad research question of 'what is your experience' of the project and contract management challenge. The study found that much of the focus was on the negotiation between contractors and clients about issues relating to claims, outturn costs and schedule delays.

Over time, a coherent pattern of what might be happening emerged, as the researchers 'made sense' of the respondents' stories. The sense-making interpretation allowed for a hypothetical prediction to develop, one that charted the likely course of events in the often difficult and emotional negotiations that take place between tier 1 contractors and their clients, post-contract award. A repeating and predictive process of negotiation has been identified of what might represent an unconscious method to resolving the difficulties with: tendered forecasts, ubiquitous design changes and schedule delays.

Clients, contractors and their teams appear to employ asymmetric negotiation techniques of blame apportionment to create leverage over the other. The 'negotiation techniques' represent a potential explanation of how project uncertainties might be understood and resolved in modern construction contract practice. The primary data indicates that the approach identified might be common. The interview findings are presented as a 'story' of how the typical negotiation unfolds and offers a general hypothesis, and a series of sub-hypotheses. This forms an interpretation that explains the difficult inter-organisational relationships that are associated with U.K. construction project challenges. Rather than placing the blame with either party, the work exposes how flaws in the structure of U.K. procurement leads to problems for those managing the work, ultimately compromising the project investment. The hypothesis of the predictive 'negotiation' has yet to be tested statistically. The testing of those hypotheses is proposed.

**Authors:** John Heathcote – Associate, Crovetti Associates

- Lecturer and Researcher in Project Management at Leeds Beckett University
- Chair Association for Project Management's Value Management Group

**Keywords:** conflict, contracting, negotiation, procurement.



## INTRODUCTION

The underpinning strategic problem for the management of many projects might be the management of the uncertainty of the (capital) investment (Hamilton 2001, Maylor 2010, Davis 2017, Coates and Heathcote 2017). This is because the capital investment exposure for clients of construction projects is significant, and the observation of the variability in contract delivery outturns forms a central concern for investors and directors (both public and private) who initiate building projects (Pryke and Smyth 2006).

Competitive tendering to engage a contractor on good terms is the acknowledged method of addressing this concern and to maximise the returns expected from the project investment (Morris 1997, Morris et al 2010). Further contractual protection is also sought through the inclusion of contract clauses that transfer risk to the contractor, under the sometimes misplaced assumption that the contractor, deemed to be the expert, will be able to best manage the risk (Morris et al 2010, Egan 1998).

The competitive tender fails in its intention to guarantee a level of minimum performance at the most competitive price available because of a number of factors, chief being:

- The difficulty of predicting the outturn cost (Kahneman and Tversky 1979, Beuhler et al 1994);
- The tendency to bias estimates optimistically to achieve investment authorisation (Flyvbjerg et al 2009, Gray 2010);
- The need in a variable market for contractors to ‘win’ work, and to do that by underbidding and then seeking to redress this in subsequent claims as the work progresses, when the client is progressively more committed (Bresnen 2007).

To address this issue two main approaches, appear in the literature: to achieve greater control through additional processes aimed at sharing information, typified by the New Engineering Contract (2006) which introduced ‘Early Warnings’ (effectively these represent shared risk management), shared schedule programmes and a process for updating and making visible both dependencies between contractors in the supply chain and the client organisation (Eggleston 2006, Gould 2007). Secondly and in further support of cooperative approaches, Egan’s (1998) proposals for greater supply chain partnering sought to encourage the industry by estimating the gains that could be achieved from cooperative practices emulated by other industries.

However, the presence of the competitive contract means that contractors might remain obliged to underbid to win work, situation that potentially leaves them with an intrinsic conflict between the obligation to share information about the status of the project and the type and amount of information that can be shared whilst protecting their bargaining positions to recover the underbid contract through claims. Once skilled at this, it may become normal practice, as it offers a way to win work more predictably, though does so at the expense of the client. The clients may not frequently build and so competitive and adversarial tendering approaches are a natural and at times recommended approach to engaging a contractor.

Much emphasis has been placed on creating more cooperative practice in U.K. construction industry. Bresnen (2007) suggested that the presence of ‘partnering’ needed to be observed in practice, as it often was presented as rhetoric only, and adversarial competitive behaviours remaining dominant between client and tier 1 contractor and between tier 1 contractor and the supply chain. Cheung et al (2003) also saw partnering as being paid ‘lip-serve’ to, rather than



enacted, with attitudes remaining adversarial, indicating a cultural behavioural norm. Related to this, Bennett and Peace (2006) described ‘bullying’ of commercially weaker sub-contractors as being a feature of U.K. construction. In many cases ‘partnering’ was limited to the relationship between the client and tier 1 contractor (Chan et al 2003), with much of the work being completed by sub-contractors in the supply chain of the project who were outside the arrangement, meaning the majority of the project continued in an adversarial way.

Negotiation techniques have been categorised into two main groups, that of ‘asymmetric positional bargaining’ and ‘principled negotiation’ or ‘interest-based negotiation’ (Fisher et al 1999). The ‘bullying’ referred to by Bennett and Peace (2006) and adversarial behaviours observed in construction contracting by Bresnen (2007) show that asymmetric negotiation may hold sway, and this would have to be the case if competitively under-bid contracts needed to be made profitable by construction contractors.

Game theory (Dawkins 2006) predicted that in adversarial environments non-cooperative strategies would be outperformed by cooperative strategies. However, non-cooperative strategies dominate U.K. construction with wasteful losses for clients as a result.

While the waste and frustration of construction contracting is well documented and alternatives promoted, the reasons for the persistence of adversarial approaches and how those approaches enact themselves during construction, post contract letting, is less directly addressed in contemporary research.

This study captures longitudinally gathered unstructured interviews to illustrate how asymmetric negotiations, during the construction phase of the project, may form a common practice; one that allows contractors to address uncertainty of work continuity for them in their marketplace. The hypotheses, while forming the first stage of a sequentially proposed approach, make sense of the experiences of construction managers, contract managers, quantity surveyors, project managers, project directors and those directly tasked with the management of projects, by considering both the market drivers for contractors and the failure of cooperative partnering approaches.

## **FINDINGS**

The cumulative sense-made of the interview data has been collated into a ‘story-line’ that predicts how the ‘asymmetric negotiation’ will proceed on a competitively tendered contract.

The ‘story’ is presented as a series of numbered short paragraphs in *Table 1* but should be read as prose. The 35 points are separated as sub-hypotheses.

It is this paper’s proposition that these separated and related hypotheses should be tested using a Likert scale set of closed questions. Text in *italics* in this section is included *for further explanation* of the overarching hypothesis, and to maintain the ‘story line’.

Findings, Table 1: A partial example of the proposed quantitative hypothesis testing survey proposed.



**UK contracting in construction has progressed to a highly refined form of negotiation. It has done this to deal with a particular set of factors.**

1. Chief among these factors is the difficulty of accurately predicting the cost of a complex piece of work, even when it's highly specified, and especially when subject to some interpretation.
2. Also, construction engineering is a highly volatile market, first to suffer the vagaries of an economic downturn. When that happens to maintain some Cash-flow and ride out the downturn, contractors may well bid very low or to knowingly make a loss, just to get work coming in.
3. Further, as the upturn occurs tier one contractors can be left holding contracts priced when times were bad and find their cheap supply chain tier 2 subcontractors have left to pursue more lucrative newer contracts.
4. This desire of the tender-bid process for deterministic predictions (cost certainty) in probabilistic realities might lie at the root of the problem.  
*Contributing to this is the fragmented nature of some supply chains (SC). But also because much that SC can small businesses at tier 2 and 3, who don't use cost accounting but 'absorption accounting' (this is a method of estimating based on percentage uplifts from a base cost which typically will be the cost of materials).*
5. Consequently, the price bid for work involves some guess work.
6. Tier 2 subcontractors might allow as much as 40% margins to allow for this uncertainty. Tier 1 buyers might well be aware of this and seek methods to reduce it.
7. So, when a tender-bid is made, the tier 1 uses the estimates from its supply chain to 'take a guess' at the cost of the work.
8. They take a risk of course, and they are then highly likely to spend the rest of the contract focussed on removing that risk.  
*Now what follows may represent either a conscious effort or an unconscious situation. I doubt it's written down anywhere as a matter of strategic ploy.*
9. The 'fixed' price offered for work is likely to be a misconception in the mind of the client.
10. The contractor will be merely offering up a price-number that 'wins' their organisation the contract in a competitive bid situation. Not a price that necessarily reflects reality.
11. Though it's also trying to be 'credible', so would aim to be - not too low.
12. The rest of the contract becomes an ongoing measuring of the actual turn out cost, and an ongoing negotiation to arrive at a price with the client which can be reasonably justified and extracts as much profitability as possible.
13. For the client this is frustrating.
14. The contract price is a key factor in determining whether the project's business case stands up and supports the decision to go ahead with the project.
15. Where the tier 1 contractor is involved in this feasibility work focused on the viability of the business case, then the contractor may likely support the natural optimism in cost forecast that beset project estimates.
16. Once the contract starts the tier 1 contractor has a number of cards to play in the negotiation:
  - 16.1. The client is not aware this is being prepared for them;
  - 16.2. The contractor prepares the programme of work, so they can disguise actual progress;
  - 16.3. Much of the work is carried out by tier 2 sub-contractors (and tier 3), using absorption costing so that they are unsure of their actual costs and are vulnerable to having their margins squeezed. Or even removed completely;
  - 16.4. A drip feed of claims for extension and additional costs can be fed to the client, ideally faster than they can handle, building up a back log. The contractor has an advantage here because of point 16.2 (the programme report) above.
17. These claims will be mostly refuted by the client's project staff,
18. ..but they'll be re-issued and



19. ..never really go away.
20. Eventually a large cumulative claim of great complexity is arrived at.
21. It is increasingly presented to the client team as the contract nears completion.
22. The approaching completion can then be delayed as a bargaining gambit.
23. The project end is in sight, but commissioning is no longer guaranteed. And completion becomes a focus of client concerns. Tensions may increase now because of this uncertainty and because old refuted claims are re-made.
24. Pursuing any of this through formal legal routes like the courts, will seem expensive, and has the potential to attract unwanted publicity.
25. So instead, when the timing is right the contractor's directors will cut out the client project team and speak directly with the directors of the client organisation.
26. All the refuted claims will be re-presented. Because they are refuted the claims look large (and have not yet been presented to the client directors, by their own team, because they are not accepted as credible) and so the client project team may well appear incompetent before their own directors.
27. The project is likely to represent a highly visible capital investment for the client organisation, failure to deliver it would be an embarrassment, doubts about the running of the contract/project by the client organisation are likely to be personally damaging to the client's 'agents' so significant pressure to settle the claim has built up by this point.
28. Directors (who are skilfully placed in a pally, lurching, flattered position) can then be set up to 'Rescue' the project by settling at much less than the full claim,
29. ..say half.
30. But this may still represent mostly un-defendable claims, and therefore profit, (or some recovery of an underbid tender) for the contractor.
31. In this part of the negotiation the contractor is probing to find out what margin is left in the business case for the client. This may be a critical time for the contractor. Far from simply seeking to immorally profit from an unwitting client, the contractor may well have found the project cost them more than they had estimated. They are seeking to reduce losses and perhaps create something of a margin. It's hard to be sure, unless you are in the inside.
32. Where the settlement is within the client's business case these can be readily agreed.
33. Where the price-bid is too low for this to be the case, there is more impetus for the client organisation to resist. Then more legal means may be employed, such as Adjudication. (These however are expensive additions for the client too).
34. Many tier 1 contractors (in construction engineering especially) do not have much of anything in the way of engineering ability. All of it is sub-contracted out to the SC. So tier 1s can focus on this negotiation game.
35. Plus, they can play a similar game with the sub-contractors.

*Who are focussed on the work task, not the negotiation, and so are vulnerable to being 'played' in this way.*

## **DISCUSSION AND CONCLUSIONS**

A direct interpretation of the 'asymmetric negotiation' can only be achieved if a number of exogenous variables are discounted. It seems certain that these variables serve variously to mitigate or else exacerbate the difficulties of delivery. However, although they might influence



the delivery of the project, it is this paper's contention that they will not be able to fully mitigate the negative effects in the main findings. These exogenous variables include:

- the coordination and ability of the site agent/foreperson;
- the ready availability of contingency sums from the client;
- the market confidence in the supply chain;
- the degree of vertical integration or supply chain partnering in the tier 1 contractor.

Because each contract is 'bid', any reputational damage is reset at the start of each new project, meaning the impetus to continue in adversarial game playing of asymmetric negotiation *bluff* is not moderated. New entrants are able to present attractive winning bids that are also unachievable, but once contracted, the contractor has created the opportunity to 'make money' from generating claims on project that will bring them back up to a profit-making position. Similar circumstances occur in other markets with similar pressures. In effect, the under-bidding contractor is offering a 'loss leader' to create a firm relationship with a client who can then be exploited.

One possibility is that this behaviour leads to blacklisting, but such blacklisting effects of a bad contract outcome have the potential to smear both parties. Clients tend not to have lots of repeat work, meaning they have limited opportunities to make any blacklisting work.

Other sectors, notably auto-manufacturing, employ longer term partnerships with the tier 2 contract 'doers', that largely allows for a focus on the work, and combine efforts to reduce costs through genuine efficiency over the period of more than one contract. An example of which is: a production run. This led Egan (1998) to propose 'partnering' as a solution for the U.K.'s contracting ills in construction engineering. Arguably, this has led to a change in rhetoric but not in behaviour, or strategies (Cheung et al 2003)

It seems particularly important to say that this current state of affairs cannot be solely attributed to any imagined nefarious tendency of tier 1 contractors; this attribution was a feature of the respondents' interpretations. However, it should be noted that the pressures to bid work and single projects in a fragmented market that is subject to swings in the availability of work, plus low barriers to new entrants, are all significant structural factors creating this situation. This was a key observation of Latham (1994). Also influencing underbidding is the 'planning fallacy' and its attendant 'optimism bias' (Kahneman and Tversky 1979) and that effect of optimism bias of project business cases (Gray 2010; Flyvbjerg et al 2009). It may even be a measure of the industry's ingenuity/innovation that the asymmetric negotiation solution, illustrated in table 1, has been arrived at.

The dominant feature for professionals working in construction tends to be that of contract management, rather than construction engineering, somewhat illustrating the dominant nature of the risk transferring contract law paradigm in construction. Several alternative procurement approaches are available from other industries, where they are tried and tested. Egan (1998) made much of this and saw 'supply chain management' practices in other manufacturing industries as offering a ready solution. Its translation to in-situ construction can be said to have had limited effect (McMeeken 2008). Much emphasis has been placed on 'partnering' and it can be observed that this has been mostly corrupted to represent the traditional adversarial approach with a different rhetoric (Cheng et al 2000, Chan et al 2003, Chan et al 2006). This was also



evident in the respondent's comments. The 'stickiness' of the current method of procurement may be partly because a professional structure also supports this culture and 'the way things are done here'. It is interesting to note that the profession of Quantity Surveying is less an established profession outside of the U.K. and this may be an indication that the need for contract (re)negotiators is particularly apposite in U.K. construction contracts.

The U.K. following initiatives elsewhere (Singapore) is proposing (at the time of writing) to enshrine in statute a practice of creating 'project bank accounts' to make some efforts towards ensuring sub-contractors in the supply chain get paid (Griffiths et al 2017). This would theoretically undermine the asymmetric negotiation game playing we have described here. The degree of invested interests in the industry structure may mean the 'project bank account' proposals get watered down on its way to becoming law. However, this arguably partial solution is typical of process solutions in the management of projects.

This study sought to illustrate the actual paradigm realities for many construction projects and contracts. The drivers for asymmetric negotiation described here would remain. By highlighting the game playing negotiation approach that many projects and contracts experience (which parties may think is the most available solution), it highlights how waste is created in the management of construction projects. However, this is done so with purpose.

## REFERENCES

- Argyris, C (1990) "Overcoming Organizational Defenses: Facilitating Organisational Learning" Pearson
- Bennett, J and Peace, S (2006) "Partnering in the Construction Industry". Oxford, Butterworth-Heinemann.
- Buehler, R, Griffin, D and Ross, M (1994) "Exploring the planning fallacy: why people underestimate their task completion times". *Journal of Personality and Social Psychology*, 67 (3), pp.366-381.
- Bresnen, M (2007) "Deconstructing partnering in project-based organisation: Seven pillars, seven paradoxes and seven deadly sins". *International Journal of Project Management*, 25 January, pp. 365-374.
- Chan, A P C, Chan, D W M, Ho, K S K (2003) "Partnering in Construction: Critical Study of Problems for Implementation. *Journal of Management in Engineering*", 19(3) July, pp. 126-135.
- Chan, A P C, Chan, D W M, Fan, L C N, Lam, P T I, Yeung, J F Y (2006) "Partnering for construction excellence – A reality or myth?" *Building and Environment*, 41 June, pp. 1924-1933.
- Cheung, Sai-On, Ng, T S T, Wong, Shek-Pui, Suen, H C H (2003) "Behavioural aspects in construction partnering". *International Journal of Project Management*, 21, pp.333-343.
- Christopher, M (1998 2<sup>nd</sup> Ed.) "Logistics and supply Chain Management: Strategies for Reducing Cost and Improving Service" FT prentice Hall.
- Coates, A and Heathcote, J (2017) "Measuring the Impact of Key Planning Principles on Gross Margin". Sustainable, Ecological Engineering Design for Society (SEEDS) 2017 Conference proceedings at the third international conference. LSIPublishing. Available at < [http://www.leedsbeckett.ac.uk/-/media/files/research/seeds-conference/seeds2017\\_proceedings.pdf](http://www.leedsbeckett.ac.uk/-/media/files/research/seeds-conference/seeds2017_proceedings.pdf)>
- Dawkins, R (2006 30<sup>th</sup> Ed.) "The Selfish Gene" Oxford University Press.
- Egan, J (1998) "Rethinking construction". London, Construction Task Force.
- Eggleston, B (2006) "The NEC 3 Engineering and Construction Contract A Commentary". Oxford, Blackwell.
- Eriksson, P (2010) "Partnering: what is it, when should it be used, and how should it be implemented?" *Construction Management and Economics*, 28 December, pp.905-917.
- Flyvbjerg, B, Garbuio, M and Lovallo, D (2009) "Delusion and deception in large infrastructure projects". *California Management Review* [Online], 51 (2), pp.170-93. Available from: <<http://ebscohost.com>> [Accessed 27/03/2017]
- Gabriel, Y (1998, p.135-160) "The use of Stories" in Symon, G. and Cassell, C. (1998) "Qualitative Methods and Analysis in Organisational Research". SAGE



- Griffiths, R, Lord, D W E and Coggins, J (2017) "Project bank accounts: the second wave of security of payment?" Journal of Financial Management of Property and Construction, 22(3), pp. 322-338.
- Gadde, L and Dubois, A (2010) "Partnering in the Construction Industry - Problems and Opportunities". Journal of Purchasing and Supply Management, 16 September, pp. 254-263.
- Gould, N (2007) "NEC3: Construction Contract of the Future?". Leicester, Society of Construction Law.
- Gray, B (2010) "The Defence Strategy for Acquisition Reform" MOD
- Hamilton, A (2001) "Managing Projects for Success: A Trilogy." London. Thomas Telford.
- Kahneman, D and Tversky, A (1979) "Intuitive prediction: biases and corrective procedures". TIMS Studies in Management Science, 12, pp.313-327. Quoted in: Buehler, R, Griffin, D and Ross, M (1994) "Exploring the planning fallacy: why people underestimate their task completion times". Journal of Personality and Social Psychology, 67 (3), pp.366-381.
- Latham, M (1994) "Constructing the team: joint review of procurement and contractual arrangements in the United Kingdom construction industry". London, Crown.
- Maylor, H (2010 4<sup>th</sup> Ed.) "Project Management" Great Britain: Pearson Education Ltd
- McMeeken, R (2008) "Egan 10 years on" Available from <<https://www.building.co.uk/news/egan-10-years-on/3113047.article>> [Accessed 4/04/2019]
- Meek, M L (1988) "Organizational Culture: Origins and Weaknesses" Organizational Studies. Vol. 9 (4) pp 453 – 473
- Moon, J (2004) "A Handbook of Reflective and Experiential Learning: Theory and Practice" Routledge
- Morris, P W G, Pinto, J and Söderlund, J (Eds.) (2010) "The Oxford Handbook of Project Management" Oxford University Press
- New Engineering Contract (2006) "NEC3 Engineering and Construction Contract". Glasgow, NEC.
- Pollack, J (2007) "The Changing Paradigms of Project Management" International Journal of Project Management Vol. 25 pp. 266 – 274
- Pryke, S and Smyth, H (Eds) (2006) "The Management of Complex Projects: a relationship approach" Blackwell Publishing.
- Saunders, M, Lewis, P and Thornhill, A (2007) "Research Methods for Business Students". 4<sup>th</sup> ed. Essex, Pearson Education, p. 287, illus.
- Silvester, J (1998 p. 73 - 93 ) "Attributional Coding" in Symon, G. and Cassell, C. (1998) "Qualitative Methods and Analysis in Organisational Research". SAGE)

## About the Author



John Heathcote - Associate, Crovetti Associates

John trained as a Civil Engineer and delivered a broad range of engineering and business improvement projects in a 22 year career. He lectures and researchers into the management of projects at Leeds Beckett University, and has been chairing the Association for Project Management's Value Management Group since 2015.

John has worked for the Estates department and other capital projects for large organisations and SMEs, in the area of project efficacy, project review, strategic analysis and project delivery. A Prince 2 Practitioner, he is a trained negotiator and value workshop facilitator, very skilled at maximising projects' efficiencies and uncovering hidden value.

- BSc(Hons) Project Management
- Master Degree in Business Administration (MBA)
- HNC Civil Engineering
- ONC Civil Engineering; ONC Building; BTEC Nat. Business Studies.
- Prince2 Practitioner Qualification