CONTRACTING STRATEGIES IN CONSTRUCTION INDUSTRIES

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Despite a rich literature on procurement management in construction industries, which stemmed from the long history of the industry and strategic value of procurement, the industry is still accused of using inefficient contracting strategies. Traditional approaches in this field try to find out how clients could ensure that contractors are forced to operate in a highly competitive market and how clients could govern their procurement-related transactions with suppliers rigorously through contracts. High levels of adversarial behaviour in construction industries led researchers to explore approaches which had supported successful projects in the Japanese car industry. Consequently, researchers suggested relational approaches for construction industry. However, more recent studies try to highlight the danger of out-of-context use of relational approaches. This paper presents a critical review of the literature on contracting strategies in construction industries. The purpose of this paper is to demonstrate how the approaches toward competence in procurement within the construction industry are distinctively based on different schools of thought and how the client is left alone in selecting the strategy which brings more value. To validate the need for tailoring the procurement strategies for each project, the paper draws on the body of knowledge known as Transaction Cost Economics. The three elements of Contingency Factors, Behavioural Factors and Context, elaborated in Transaction Cost Economics, present a conceptual framework which facilitates understanding of the causal relationship between project characteristics and the cost inherent in each procurement strategy.

Keywords: contracting strategies, relational contracting, transactional approach, transaction cost economics.

INTRODUCTION

Construction projects have been characterised by disputes and cost overruns (Latham, 1994). Clients can do their own bit to bring success to construction projects by arranging appropriate contractual relationships with the project chain. This paper aims to review the approaches behind different contractual arrangements and show how more support from research world can help clients to make more informed decisions. This is not a prescriptive paper; rather it focuses on highlighting some of the limitations the clients have in making their strategies efficient. To do this, common approaches in contracting strategies are discussed and then the need for the making tailored contracting strategies is explored. This highlights the importance of systematic studies, which consider all the cost generating factors in a contractual arrangement.

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CONTRACTING STRATEGIES IN CONSTRUCTION

In construction industries, the client is the only party with motives and opportunity to bring success to the project (Smyth in Lowe and Leiringer, 2006). Project process is carried out by a coalition of firms which are connected to each other through 'nexus of treaties' (Winch, 2001). Clients can influence the project process through the interfaces they have with the project coalition. The shape of this nexus of treaties in Winch's sense and the interfaces the client has with the project coalition all are formed largely at early stages of the project through the procurement strategies. Ross (2005) claims that client can influence on the project process mainly through the appropriate procurement strategy.

Procurement is the process of acquiring new service/product (Bower, 2003). More specifically, in construction industries procurement could be defined as the whole activities done by the client to obtain a new building (Rowlinson *et al*., 2000); meaning that procurement management covers broad types of issues such as contract formulation, contractor selection, payments formulation, etc. Lowe and Leiringer (2006) considered procurement management as a central role of commercial managers.

Clients are connected to contractors through contracts, which are different in terms of formality. However, they are intended to guarantee the clients objectives as much as possible. According to Bower (2003), contracts have three main function areas; work transfer, risk transfer and motive transfer. The contract functions are carried out through the contractual relations consisting of those which are explicitly contractual and those which are normative in all economic transactions. Thompson *et al*., (1998) classify the contractual relations as follows:

- The relationship between parties
- The responsibilities of each party
- The risk allocated to each party
- The reimbursement structure

Based on these interconnected contractual relations, there are different forms of contracts. For example, there are more than 15 standard contract forms, which are regularly being used in the UK (Thompson *et al*, 1998). The clients, some are inexperienced and not habitual clients of the industry have to form their contracts at the early stages of the project; that is why the literature trying to increase their understanding about the appropriate form of contracts could be very useful and lead clients into less costly and time consuming post-contract difficulties.

To help the clients, researchers categorise the contracts differently to provide frameworks; each is appropriate for exploring a particular concept. Contracts are categorised based on the methods of payment (e.g. Turner and Simister, 2001), the level of formality (e.g. Cox and Thompson, 1998), etc. However, generally, all different forms of contracts stem from few distinguishable schools of thought. Some researchers consider different contracting approaches as a spectrum, with the transactional fully documented contracts on one side and fully relational contracts at the other extreme (Williamson 1991; Cox 1996). Some authors went further in details and highlight three contracting approaches (Rahman and Kumaraswamy 2002; Ha°kansson and Jahre 2004). However, this paper will follow the first kind of classification, in which answering the make-or-buy dilemma in favour of buying, the

client faces a spectrum of contracting strategies from transactional approach (market approach) to relational approach.

TRANSACTIONAL (MARKET) APPROACH

It is worth pointing that each contracting strategy could be viable only if all its attributes exist (Williamson, 1991). In other words, the contracting strategies which include inconsistent features cannot work in the real world and will stay in theories.

Transactional approach in contracting strategies intends to exploit the market forces through providing competition between the potential contractors as much as possible (Ha°kansson and Jahre 2004; Parker and Hartley, 1997).Therefore, based on this approach a contract is renewed/awarded only because the contractor has won in the bidding (Williamson, 1991). To make a competition, which leads to trimmed margins, the client needs to form airtight contract which covers all the contingencies. Market-approach oriented literature on procurement management tries to explore the issues matter in tendering process (e.g. Wong *et al*., 2000; Mahdi *et al*., 2002).

The transactional approach is associated with the arm's-length relationship within which there is not considerable willingness from the client side for the co-development of the project. In this approach, the principle is that if something- which has been contracted to be performed- goes wrong, a resource of action in forms of negative incentives will be followed. For that reason, Thompson *et al* (1998) discussed that the market approach shows itself in the contract through:

- Provisions of liquidated damages for not satisfactory performance
- The use of performance bonds and retention monies
- The use of rights to 'set-off'

In terms of risk allocation, risk sharing arrangements are not included in the contracting strategy and the whole risk is usually transferred to one party (which is usually the contractor). In terms of governance, within this context, contracts are interpreted very legalistically (Williamson, 1991). In extremely transactional approach oriented strategies, the issues between parties are entirely governed externally by the national laws.

While extremely market-oriented approach may work well in thick markets, in which client and supplier do not have any dependency to each other, this approach may lead to some problems in construction industry if it is implemented without careful consideration. The problem attached to transactional approach stems from contract incompleteness. A contract is complete if it covers all the contingencies. In real world, contracts tend to be incomplete. In literature, bounded rationality and prohibitive costs of covering all foreseeable contingencies are known commonly as the routes of contract incompleteness (Hart and Moore, 1988). Spier (1992) showed that asymmetric information could lead to incomplete contracts as well. Human beings are rational but their rationality is bounded. So, parties involved in a contract cannot foresee all the contingencies and eventualities. While bounded rationality inevitably makes all the contracts incomplete, prohibitive costs of covering all known risks in a way that can be enforced and asymmetries in information both may lead the client to form incomplete contract deliberately. The problems connected to transactional approach have routes in kind of contract incompleteness which stems from bounded rationality, especially the bounded rationality of the client. The problem associated with incomplete contracts in market approach is well demonstrated through a vicious

circle by Winch (2000, 2001), Fig.1. When the contract is awarded through market approach, the client needs to make sure that the price advantage, achieved through intense competition, is not offset through contractor's opportunistic behaviour. To do this, client or its control actor (e.g. quantity surveyor) prepares tools for auditing the performance of the contractor. This, increases the total project cost by rising the cost of enforcement. In addition, this environment does not generate any trusting or co-operative relationship. So, both parties tend to hold formal or informal hostages to make sure that their own objectives will be achieved. As shown in the diagram, the vicious circle interacts with the dynamics of over-engineering. Bounded rationality is at the heart of the dynamic of over-engineering. To remove the pressure on the margin, which could be common in intense competitions, motives for adversarial behaviour occur in contractor side. Contractor could behave opportunistically when the changes emerge by increasing the costs of changes. Consequently, the client needs to make sure that the project is specified in detail in tendering process. In practice, the

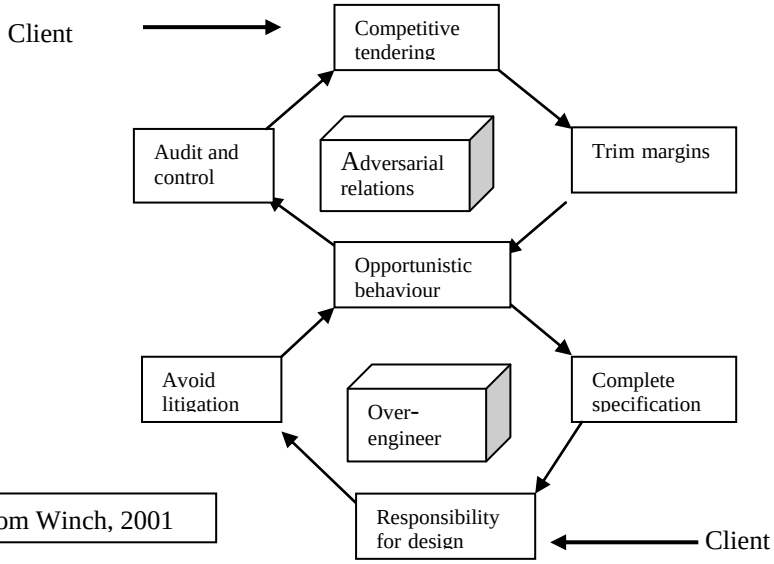

Fig1. Adapted from Winch, 2001

client or its control actor (e.g. architects) cannot deliver fully specified designs and the client's requirements change during the project process. Based on these two factors originated from bounded rationality, it is a vain attempt to make the contracts complex in pursuit of eliminating the post-contract changes. Not only high level of engineering before tendering process does not eliminate the post-contract changes, but also it increases the costs related to uncertainty removal. More intense competition and more controlling instruments could generate more motives for adversarial behaviour, which in turns lead to more complex contracts and endless cycle. Both these dynamics work in ways against the intended purpose of the market approach which is achieving the lowest price Winch (2000, 2001). It is worth highlighting that competition on its own does not generate win-lose relationship (Parker and Hartley, 1997). In the above vicious circle, too much pressure on the margin along with lack of co-operation makes parties behave opportunistically.

THE NEED FOR CHANGE

The vicious circle described above makes the conflicting system in the project coalition so complex that it hardly could be manageable and transformed into a 'rational system' (Turner and Simister, 2001), in which the parties' objectives are jointly consistent. Therefore, disputes emerge. This situation consequently increases

the project's total costs through costly process of dispute resolution. According to Thompson *et al* (1998), in 1995, a quarter of the contractors in construction industry earned between 10% and 15% of their turnovers from contractual claims. It may be worth pointing that to consider the magnitude of the costs associated with the adversarial behaviour, one should consider all the controlling costs, dispute resolutions costs, opportunity cost, etc. Generally, the construction industry is known as cost overruns and time overruns. Failure in delivery of satisfaction has been reflected in some seminal reports. For example, in UK, Latham (1994) and Egan (1998) governmental funded reports both mentioned that standard forms of contracts generate the adversarial relationships. Egan report (1998) introduced partnering as a one of the means of improving in construction industry. In the UK, the direction of the literature in construction in the years after these reports was toward suggesting relational approaches by emphasising on partnering. Lack of trust and co-operation are what led construction industry to relational approaches in other countries such as USA and Australia (Humphreys *et al*., 2003).

RELATIONAL APPROACH

While transactional approach is at one extreme side of contracting strategies spectrum, relational contracting (RC) is on the other side. RC is based on the understanding of mutual benefits and co-operative relationships (Rahman and Kumaraswamy, 2002). The concept of 'mutual benefits' means that contractors have motives to meet clients' needs. It follows from this that it would be meaningless for a contractor to behave in a way that benefits him at the expense of the client (opportunistic behaviour). That is why RC is claimed to remove the vicious circle which exists in transactional approach (Winch, 2000).To create common objectives, sharing of gains and consequently losses are usually advised in the literature (e.g. Bennett and Jayes, 1998). This shows itself practically in incentive systems known as gainshare-painshare arrangements. Generally, positive incentives play an important role in RC (e.g. Williamson 1991; Thompson *et al* 1998).

Partnering, alliancing, joint venturing, and supply chain management are all various forms of relational contracting. Each of these contractual arrangements has elements of at least one of the other forms (Pryke, 2001).In construction industry management, there is a good deal of research on partnering. In some studies (e.g. Parker and Hartley, 1997) the term is used as an alternative to RC. However, there is no consensus on the definition of partnering (Pryke 2001). One of the most cited definitions of partnering is "... a long term commitment between two or more organizations for the purpose of achieving specific business objectives by maximising the effectiveness of each participant's resources. ..." (CII, 1991). The notion of 'long term' in definition of partnering may seem incompatible with the project-oriented nature of the construction industry especially when the project is commissioned by an occasional client. Categorising the construction industry clients to habitual and occasional clients, Barnes (1983) believes that the contracts which meet the requirements of any of them are different. However, the nature of the industry led some authors to make a distinction between strategic partnering and project partnering (e.g. Möller and Wilson, 1995). In addition, the literature emphasises that the spirit of partnering is about mutual objectives, open and no blame culture, agreed methods for early problem resolution (e.g. Pryke 2001; Möller and Wilson, 1995) rather than duration of time.

According to Williamson (1991), relational contracting follows the neoclassical contract law, in which the contract mechanism is quite 'elastic'; In the extreme relational contracting the contract almost never accurately covers any contingencies, but it indicates the nature of the relationship between parties and norms of dispute resolution if it materializes. This is in contrast with the transactional approach within which the contracts' conditions are endlessly refined. While in transactional approach contract incompleteness is a problem, in RC, contracts are intended to be incomplete. The governance mode in RC is hybrid (Williamson, 1991) and could be bilateral, trilateral in which the third party is mobilized to arbitrate if disputes emerge, or a combination of both (Lowe and Leiringer, 2006). In choosing the governance mode, an important issue is to consider that the modes open to each construction client organisation are influenced by the social norms, national business system, the industry norms and codes, the values and culture of both parties, etc (Lowe and Leiringer, 2006).

While in the context of transactional approach firms are connected to each other through contracts, in RC, it is more the relationship which connects parties firmly to each other (Pryke, 2001). That is why much work has been undertaken by researchers to investigate critical relationship features for co-operative contracts (e.g. Black *et al* 2000). In most of these studies, trust is considered as the key relationship feature indicating a good basis for relational contracts. Lui and Ngo (2004) differentiated between goodwill trust and competence trust. Goodwill trust is about the expectation that one's transaction partner intends to behave co-operatively in the relationship. The competence trust refers to the expectation that one's partner has the capability to meet the objectives. Little work has been done about the interaction of these two kinds of trust and how they change the behaviour of the contractor. However, Lui and Ngo (2004) claim that high levels of good will trust decreases the necessity of controlling instruments, but there is not such a relationship between competence trust and governance mode.

APPROPRIATE WAY OF PROCURING A PROJECT

After a tide of literature in support of partnering, concerns have been raised by some researchers about the danger of out-of-context use of RC (Parker and Martley, 1997, Cox 2004, 1996). It is expressed that partnering cannot be a 'cure-all' contracting arrangement. Researchers, who expressed doubts on the prescriptive outcomes of studies undertaken in the context of RC, criticise the research methods common in works done in the context of relational contracting (Cox, 1996, Parker and Martley, 1997). Parker and Hartley (1997) claimed that lack of supporting theoretical consideration in these studies, which recommend RC as competence in procurement, is a common pitfall. This is consistent with Cox (1996).

Cox (2004) emphasises on the notion of 'appropriateness' and attracts the attention of buying organizations to the fact that the final aim of them is to procure the projects with minimum total cost. This is consistent with the researches carried out in the field of construction economics (e.g. Parker and Martley, 1997; Winch, 2001). So, the clients need to decide what kind of contracting arrangements will cost them the least based on project features, market condition, the importance of the project for the client, etc (Bower, 2003).

Contracting strategies as a continuum

Sometimes RC and transactional approach are considered as totally discrete types, as if the client needs to be either in favour of competition-oriented and short term

contracts or in favour of buying a project by a handshake. In contrast with this rigid categorisation, the buyer-supplier contractual relationship could be considered as a continuum (Parker and Hartley,1997, Thompsone *et al*, 1998). There are different forms of co-operative contracting strategies: from extreme relational contracting, in which parties negotiate their own governance arrangements, to weak forms, in which the contract is governed through a hybrid mode.

Power and appropriate contracting strategy

Little research has been done in the field of construction procurement management about the influence of power on the cost of a project. Parker and Martley (1997) and Cox (2001) both highlight that some kinds of power distribution in the buyer-supplier relationship make the implementation of RC either inefficient or impossible for the client. Cox (2001) believes that one of the success factors of relational contracting in car industry in Japan is the power distribution. He suggests that transplanting the concept of RC from Japanese car industry without careful consideration of power distribution will produce results which are not intended. Parker and Martley (1997) discuss that when power is extremely in favour of one of the parties (e.g. monopoly supplier), relational contracting will lose its co-operative spirit.

Costs of procuring a project

The costs attached to any of the contracting strategies are different and variable based on the project's features, market conditions, client's organizational culture, client's requirements, etc (Bower, 2003). While in transactional approach the client needs to be prepared for costly dispute resolution processes and costs of writing fully documented contracts, in context of RC the client needs to take some risks in the project, play active role in generating trust, pay for negotiation costs, etc.

Decision about contracting strategy selection could be considered from the perspective of construction economics, which is about allocating scarce resources in construction. In a construction project, resources are used for the production costs and transaction costs (TC). To economise the total costs of a project, both production costs and transaction costs should be considered (Williamson, 1991). In the literature, Transaction Costs Economics (TCE) theory explores the correlation between factors which lead to transaction costs. TC was first introduced by Williamson to show the costs attached to each transaction except the production costs. However, he was vague in defining the TCs and described them as 'equivalent to friction in physical system' (Ross, 2005). Hodgson, (1993) categorises the costs of transacting into three groups including 'Search and information costs', 'Bargaining and decision costs', and 'Policing and enforcement costs'. The TCE framework which is has three elements:

1. Contingency factors are about the features of the project (transaction) including uncertainty, frequency and asset specificity.
2. Behavioural factors are about the ways in which managers respond to contingency factors. Bounded Rationality, Learning and Opportunistic Behaviour are human behaviour towards respectively uncertainty, frequency and asset specificity.
3. Context is about the system in which the transaction happens.

In construction projects, managers are dealing with high levels of uncertainties at early stages of the project. Human behaviour towards uncertainty is bounded rationality (Fig. 2). Due to bounded rationality, which makes the contracts inevitably incomplete, in projects with high levels of uncertainties, during the project process,

unforeseeable contingencies may materialise. In these situations, re-negotiation is required. However, the contractor could behave opportunistically if the new situation had not been contracted to be performed. The client is exposed to the opportunistic costs due to the asset specificity which the supplier holds. In construction, most of the asset specificity is post-contract. Asset specificity brings power for the party (contractor) who holds it (Cox *et al*., 2002) and exposes the other party to the costs of adversarial behaviour up to the threshold of switching costs (Winch, 20001). Managers learn from frequent transactions. However, in construction industry, clients usually commission projects occasionally.

Figure 2 shows the relationship between the project features and the behavioural factors.

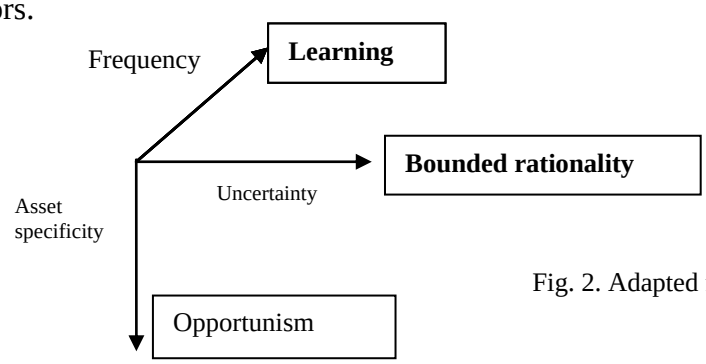

Fig. 2. Adapted from Winch, 2001

Under high levels of uncertainties, effectiveness and flexibility needs more emphasis than efficiency (Lowe and Leiringer, 2006). In these situations, TCE framework suggests that to avoid opportunistic behaviour, clients need to choose contracting arrangements which are more co-operative.

An interesting feature of this framework is that if the client can eliminate uncertainty or asset specificity, then there is no harm in transactional contracting and it is possible to focus on efficiency; when there is no uncertainty, it is possible to write a contract which covers all the contingencies. So, the customer will not need any re-negotiation during the project process and consequently the buyer will not be exposed to any adversarial behaviour. This does not happen in real world; in real world we are always dealing with a level of uncertainty. That is why the client always needs to make a balance between the costs associated to the contingency factors and the efficiency which could be gained out of competition. In addition, considering that low levels of asset specificity means that the client can replace the contractor with incurring only negligible costs (Williamson, 1991), in cases that the post contract's specificity is not considerable, the client could be sure that the costs of contractor opportunistic behaviour is insignificant.

TCE theory explores the causal relationship between the project features and parties' behaviour which increases the transaction costs. However, the client needs to answer many questions for contracting strategy selection for which he cannot find much work in the literature. One of the vague areas is the role of contracting strategies in stimulating innovation which could decrease the production costs and consequently the total costs. Turner and Simister (2001) suggest that contracting arrangements can influence on the productions costs by stimulating motives for client to increase performance through innovative ways. It follows from this that for selection of the contracting strategy, it is not efficient to consider the production costs static. Therefore, careful assessment of contracting strategies, which are open to the client,

could go further than TCs (Lowe and Leiringer, 2006). Moreover, characteristics of the purchasing organization not only influence its perceived level of uncertainty, but also directly influence the transaction costs. According to Crespin-Mazet and Portier, (2010), cost attached to adoption of a contracting strategy is related to the organizational structure of the buying company and its procurement culture. To select the most appropriate contracting strategy, the client needs to consider holistically all the factors, which influence the project costs.

CONCLUSION

Clients play an important role in project success through arranging the contractual relationships appropriately. To economise the project costs, client needs to choose the contracting strategy which decreases both the project cost and transacting costs. Due to unique situation of each project, the client needs to tailor his contracting strategies for each project. This paper reviewed the common approaches to contracting strategies and showed the importance of making a balance between costs to economise the total project costs through Transaction Costs Economics. The paper attempted to highlight the limitations in literature for offering comprehensive help to clients to choose the best contracting strategies. This gap in literature shows that problems in tailoring the contracting strategies originate from the lack of academic works.

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