A PRELIMINARY METHOD OF CLASSIFYING COLLABORATIVE CONTRACTUAL BEHAVIOUR IN HIGHER EDUCATION CONSTRUCTION PROJECTS

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The Browne review combined with the current economic conditions has provided a catalyst for change in the funding arrangement, for the higher education sector in the United Kingdom (UK). Consequently, Institutions will place a greater focus on their supply chain to offer services that best fit their requirements, during the construction and refurbishment of their physical assets. The construction industry will need to offer innovation, value for money and other benefits associated with the collaborative procurement movement, which has been gathering pace since the 1990s. This has resulted in the insertion of a multitude of collaborative features into construction contracts. Literature explored in the paper relates to collaboration and its associated contractual procedures. Reflective practice in the higher education estates and property sector relates the literature to real life experience of primary supplier side stakeholders. The research uses a postmodern philosophical paradigm that expands the existing knowledge base using an inductive approach; and a case study strategy with its foundations in an ethnographic study of lived experiences over a cross sectional time horizon. The data source comprises of three interviews with senior management that have independent viewpoints of the same socially constructed artefact. The data's narrative identifies mixed perceptions when it comes to contractual mechanisms achieving their desired benefits. The deliverable of the research is a preliminary method to classify and select contractual mechanisms based on three-dimensional reasoning in relation to risk, motivation and implementation. The value of the research is in the method it provides, which will facilitate further research into the perceived appropriateness of contractual procedures.

Keywords: collaboration, procurement, contracts.

INTRODUCTION

The Bank of England (2012) has seen reduced confidence levels in UK investment between 2007 and 2011. The reduced confidence has fuelled the UK's Coalition Government to undertake reforms in the way it funds the Higher Education (HE) sector in light of Lord Browne's review. The quality of the overall deliverable of the UK's HE sector has international, economic and social implications. Economic implications include issues in relation to job creation, additional tax receipts and

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development of industry through research (OECD 2011). Social implications include issues in relation to empowering people by developing their skills and the provision of a skilled workforce. The knowledge transfer provided by the HE sector is also significant in the way it makes people feel in themselves, for example, it can improve life situations through personal development and research. If the UK is to remain one of the international leaders of higher education provision then its supply chain will need to offer services that best fit its overall deliverable in relation to the construction and refurbishment of its physical assets. There are reports published in the 1990s (Latham 1994; Egan 1998), which identify that collaborative behaviour was lacking in construction, which hindered its performance in relation to client expectations. There have been numerous contractual mechanisms developed to promote collaborative behaviour. The deliverable of the research is a preliminary method to classify and select contractual mechanisms, for the purposes of achieving the objectives of the HE property and estates sector, during the procurement of services relating to the construction and/or refurbishment of their capital assets. There is no attempt in the research to offer scientific generalisation of its results.

**CONTEXTUAL INFORMATION**

**Risk Rational**

Research that reviews the benefits of the collaborative procurement agenda in the 1990s includes that by Bresnen and Marshall (2000), which explores information flow, communication and decision-making. Chan *et al.* (2003) undertook a quantitative exploration of perceived benefits using an interpretive epistemological paradigm into collaboration, otherwise known as partnering. The study started out by identifying thirteen trends in twenty-nine sources of literature published between 1990 and 2002. The literature was then related to partnering projects in Hong Kong using seventy seven interviews, which reviewed the perceived benefits on a five point likert scale (1 = Strongly Disagree and 5 = Strongly Agree). During the interview process, the benefits associated to risk mitigation and management expanded to a broader spectrum of twenty-four statements. The mean rating for all respondents for the benefits fell between 2.91- 4.03 and the standard deviations between 0.62 - 1.11, which suggests that there was not a strong consensus among the interviewed practitioners of the perceived benefits claimed in the literature.

**Implementation**

In the executive summary of 'Constructing the Team', (Latham 1994: vii) there are recommendations for change in the UK Construction industry, which have achieved mixed levels of perceived success over the last 18 years. One recommendation is that best practice should start with clients that come together in forums. Bakker, *et al.* (2008) explores collaboration at a strategic client level when triangulating 33 explorative interviews that collected empirical data. The data triangulates itself with literature and government agency reports published in the UK. The reports include that by the 'Office of the Deputy Prime Minister', 'Beecham', the 'Audit Commission', and the 'NHS Purchasing and Supply Agency'. The forms of collaboration between client organisations included professional networks, lead buying, shared services, piggy backing, third party advisory, third party purchasing, and third party outsourcing. There was a limited attempt to link the data back to practitioners' perceptions of their lived experience, and as such, it is difficult to ascertain the perceived success of the forums. Successes in the recommendations can however be seen, for example, in the popularity of adjudication and the incorporation of Co-
ordinated Project Information (CPI) into contracts (JCT 2011a), through a standard methods of measurement (RICS 2000). The CPI ethos is now progressing into Building Information Modelling (BIM) with the support of Paul Morrell the Governments Chief Construction Advisor.

Following the publication of 'Constructing the Team', came 'Rethinking Construction' (Egan 1998), that proposed the collaborative movement move away from contractual behaviour towards a paradigm more similar to that found in the car industry of partnering and performance management. In response to 'Rethinking Construction', the Joint Contracts Tribunal (JCT) indicated by the RICS' 2007 Contracts in Use Survey, as being a key player in the publication of construction contracts in the UK, released Practice Note 4 as its first document to refer to partnering (JCT 2001: 1). The document identified three prescriptive ways to promote collaborative behaviour and the development of soft sills. Garrett (2005: 15) refers to soft skills as including integrity/trust, verbal and non-verbal communication, leadership interpersonal relations. The JCT's first and preferred way (in 2001) involved the use of a non-binding charter separate from the main contract. The non-binding charter included a series of statements to promote collaborative behaviour including acting: in good faith; in an open and trusting manner; in a cooperative manner and in a way to avoid disputes by adopting a no blame culture; fairly towards each other; and in a way that values skills while respecting each other's responsibilities. The non-binding charter signified limited integration of collaborative contractual mechanisms in binding contracts. A recommendation from 'Rethinking Construction' considered in the charter is the use of performance indicators.

The second way identified by the JCT included the use of a binding charter with an adapted form at project or at strategic level, for example a framework. The 2011 suite, of the JCT's contracts includes a framework agreement with such collaborative features as a communication protocol, sustainable development, value engineering, change control, early warning and team approach to problem solving. The third way identified by the JCT is a specifically drafted agreement/contract. The contract recommended by 'Constructing the Team' was that published by NEC. The contract contains mechanisms to promote proactive collaborative behaviour in line with the recommendations, for example, its use of easily comprehensible language, proactive approach to change and express provisions for payment. The contract does not comply with all the recommendations, for example risk allocation decided at project level and separation of the role of project manager from the client's representative. With Lloyd, a former judge of the UK Technology and Construction Court identifying NEC's project manager as having a primary appointment to look after the employer's interest (NEC 2009).

There is an evident paradigm shift in construction procurement, towards collaborative behaviour in binding agreements (RICS 2007). For example, the RICS 2007 survey indicates an increased use of procurement systems that promote supply chain integration into design; and an emergence of contracts associated with collaborative behaviour. The JCT further moved towards contractual collaborative behaviour by simplifying the format of its contracts in 2005 (Davison 2006); publishing its Constructing Excellence Contract in 2006; and in 2009 incorporating tools associated with collaborative behaviour into the Standard Form of Contract, as supplemental provisions. The incorporation of contractual tools associated with management promotes a shift in practice towards contractual behaviour.
Motivation

Winstead et al. (2009) identifies that in business management there is not only a requirement for technical explicit knowledge, but also for the soft skills more related to tacit knowledge and associated with communication, teambuilding and leadership. There is clear evidence that the need for soft skills exist in construction contracts, to align behaviour in practitioners to achieve clients' deliverables. It was found when Cicmil and Marshall (2005) explored two-stage tendering, that collaborative procedures can be insufficient to ensure team integration and further research should be undertaken on the procedure as a social object. This indicates that motivation for human behaviour, in instances, is something different from a contractual procedure.

Maslow (1970) identifies a basic need hierarchy that starts at 'physiological' and works its way to ‘safety’, ‘belongingness and love’ and ‘esteem’ and finally ending up at ‘self-actualisation’. Once there is a degree of satisfaction at one level of needs in the hierarchy, the organism (or practitioner) focuses on the next level (Maslow 1970: 17). Contractual mechanisms can result in practitioners achieving different degrees of satisfaction and as such be positioned at different levels within the hierarchy. For example, contractual mechanisms that promote conflict can inhibit needs associated with esteem, in relation to confidence and respect. This restricts the practitioner from providing the benefits achieved through self-actualisation, including those associated with morality, spontaneity and acceptance of facts. Failure to accept facts will cause disputes. More seriously, contract mechanisms can cause practitioners not to achieve safety and physiological needs. For example, the allocation of risk items that are outside the control of the practitioner may cause the failure to achieve safety needs in relation to employment. Should such risk items be located even lower in the needs hierarchy then it may cause failure to achieve physiological needs in respect of health.

RESEARCH METHODS

The research for this paper was undertaken using an interpretive methodological stance similar to the postmodern movement and the work of Lyotard (as Seidman 2008: 163-166), to understand the motivation in the application of explicit and tacit knowledge during the execution of practice. The research reviews the current phenomenon of collaboration and its aim is to turn relevant tacit knowledge, into explicit knowledge, in a similar manner to Kolb's four-stage cycle as explored by Sheehan and Kearns (1995: 10). The research does not go as far as implementing the knowledge in practice. Participants have concrete experience in that they were each a key decision maker, within supplying organisations, to higher education property and estates departments. The reason for selecting key decision makers was to facilitate a high-level discussion, of the phenomenon in the light of the broad spectrum of deliverables, expected from a manager in the context of their business organisation.

The case studies explored, are the employer organisations of the participant practitioners. Key characteristics of the three participants providing the data are: (MC1) director, contractor, national organisation with an international parent company; (PM1) director, project manager, national consultancy; and (MC2) director, contractor, small to medium enterprise with less than 250 employees. Participants interviewed provided an ethnographic understanding of reflective observations of their lived experience. The interviews had minimal structure so that participants were able to reveal their tacit knowledge in the subject area. Practitioners had the option to explore collaboration around two diagrams of potential collaborative strategies (with 11 strands) and potential collaborative tools (with 10 strands) that they were provided
with and which were developed from the initial literature review. Although given the option the participants did not reject the networks set out in the diagrams, instead they chose to rank the significance of them and make minor amendments. All three participants ranked in relation to their aspirations, collaborative strategies as more important than collaborative tools. The data were inductive and qualitative in nature and offered a cross-sectional time horizon taken between December 2011 and January 2012.

**DISCUSSION OF DATA**

During data collection, different perceptions regarding the usefulness of collaborative strategies and tools were evident, between data sources and at different points of interviews with the same data source. Three themes from the interviews indicated a three dimensional approach to the selection of collaborative tools and strategies. The themes are risk rational, implementation and motivation.

**Risk Rational**

MC1 indicated that a project undertaken in a collaborative and less adversarial manner tends to finish on time, to a better quality, with a more satisfied client and practitioners happier in their job. With PM1 and MC2, considering that the way practitioners are managed during current economic conditions, as having an effect, on motivation levels to work collaboratively. MC1 indicated that the client needs to set the tone in order to achieve collaboration on projects. Where "the client is hardnosed and is more concerned with the bottom line and is not particularly bothered of what he considers to be fluffy stuff, he just wants the project done in the quickest time, shortest period you may not get that spirit of collaboration" (MC1). PM1 supported this point when suggesting that where the client wishes a project to be collaborative they need to go further than instructing the team to act in that nature, to a position of where they are leading the supply chain by example, rather than searching for "every contractual route open to them". Although all three practitioners could see the benefits of collaborative procurement there was some scepticism of reports published that associate themselves to best practice. PM1 showed scepticism when referring to Egan's Rethinking Construction report, stating that some of the members of the task force show less than ethical behaviour in the way they manage their supply chain, indicating following them would possibly not signify best practice for industry. MC2 also indicated that with hard collaborative tools, such as performance management, in many instances, it does not appear to be what clients want and there is a lack of training in their use. With contractors often asked to produce documents that have little obvious use and not referred to during the project (MC2).

**Implementation**

PM1 describes a traditional process of the designer putting their interpretation into the specification, the contractor sending their interpretation to the supply chain and the supply chain forced to comply. Both MC2 and PM1 identified that the traditional procurement route may not offer the best solution for supply chain integration into design. All three practitioners could see the benefit of collaborative integration of supply chain knowledge into the design. However, MC2 indicated that sometimes contractors feel disempowered during design input. MC1 indicated the integrating of other stakeholders into the design results in improved performance against and an understanding of project deliverables. MC2 reflected on a particular case study that needed careful health and safety management. Pre-construction and a lesson learned
meetings allowed his organisation to understand the client's requirements. MC1 also identified collaboration to pre-construction when discussing a two stage tendering design and build project with a guaranteed maximum price (GMP). MC2 indicated practitioners could be more motivated to achieve client requirements when they are empowered by a process such as two-stage tendering. However, he discussed a case where a contractor had tendered a rate of minus five percent for their organisation's overheads and profit, which by the nature of businesses activity needed to utilise non-collaborative behaviour to recoup what would otherwise be an overall project loss (MC2).

PM1 indicated, that there were contractors with a traditional mind-set he would be able to partner with and contractor selection was more important than the procurement route. Both MC2 and PM1 believed that design and build is not always associated with collaboration in respect of agreeing post contract changes.

MC1 indicated that there are benefits to inter-contractor collaboration and discussed the formal mechanism of communication that they use with similar organisations in relation to health and safety. PM1 discussed efficiencies through standardisation achieved through the communication of similar professions. MC2 indicated that competitive bidding restricts knowledge transfer between competing organisations. Both MC1 and MC2 indicated that inter-competitor communication needs careful implementation to remove any concern of collusion. PM1 indicated that for clients to receive the benefits of collaboration, senior management support is required throughout the supply chain, preventing disputes from passing up the ladder. MC1 extended this to say how senior management support was particularly important in relation to the selection of sub-contractors on a different basis than cost. PM1 recognised that it is difficult to manage the complete supply chain due to the social constraints during tender.

Both MC1 and MC2 identified the importance of informal mechanisms to manage sub-contractors and risk. MC2 discussed an instance where a client's relationship with the supply chain had allowed his organisation to obtain competitive rates on high value equipment, with improved payment terms on a particular project. MC1 discussed how his organisation formally manages sub-contractors into three categories, namely: one, used on a regular basis; two, used but not quite ready for category one; and three, those worked with in the past but do not have a relationship with the contractor organisation. MC1 indicated that feedback sessions that form part of supply chain management can offer organisational improvements, however, client organisations appear to lean toward offering feedback in one direction and move away from a reciprocal organisational improvement process.

PM indicated that within the last ten to fifteen years there has been a shift in the design of works from client side consultants to contracting or subcontracting organisations, possibly due to skills movement in the supply chain. MC1 suggested that regular formal and informal meetings starting at an early stage with subcontractors, consultants, clients and stakeholders are important, for investigation into innovative solutions and the management of the project, along with the expectations of the deliverable. MC2 identified incentives as an option to encourage contractors to achieve clients' requirements. In contrast, MC1 suggested that supply chain integration is achievable during design without payment, with incentivisation coming through the trust associated to long-term relationships. PM1 recognised the importance when using tools such as value engineering and value management to link users with the supply chain through relevant control mechanisms. MC2 indicated that in instances value engineering achieves savings using unfair contractual practice.
MC1 indicated that true value engineering is a collaborative tool whereas cost cutting gets more towards the adversarial way of working.

**Motivation**

MC1 indicated that wellbeing and collaboration during a project was a consideration when bidding for work, in that it encourages contracting organisations to "go for jobs". In contrast, PM1 indicated that wellbeing was not a significant issue when selecting collaborative methods. All three practitioners focused on soft skills referred to as attitude or trust as being the underpinning element to collaboration. PM1 indicated by sketching a drawing during the interview that a hierarchical structure existed in relation to collaborative enablers, with soft skills underpinning and enabling strategies; and strategies underpinning and enabling tools. MC1 indicated that a good way to start relationships was with team building exercises, examples contemplated included events where participants could build rapport with one another and share their objectives for a project. MC2 could see the benefit of events similar to that described by MC1, however, recited a particular case from a national contractor, where practitioners would be entertainment at the start of the project to induce a good relationship and it would break down by the end. This was due to an inconsistent approach to collaboration during the project. MC2 identified that in instances collaborative tools are undertaken in such a manner that they are an exercise that wastes resource with little or no effect on the overall project deliverable. PM1 recognised that this feeling was present and suggested that a way to avoid it may be to have specific collaborative focused workshops facilitated by a mentor throughout the life cycle of a project. During the workshops, practitioners would develop collaborative behaviour together avoiding wasted resources. MC2 identified the importance for everybody to understand what the other persons perspective is in terms of risk. PM1 identified this as an ideal objective for the initial meeting, which would facilitate agreement and understanding in relation to collaboration along with its associated tools. PM1 and MC1 identified the importance of having regular review meetings with senior practitioners from organisations to reinforce that agreed at the initial meeting and avoid disputes.

MC1 indicated that the incorporation of softs skills into contracts is a positive move forward with the NEC form of contract being a more of a collaborative than other forms. In contrast, PM1 wondered if the incorporation of soft skills in to contracts could end up sacrificing some of the soft things you need in the interest of providing something a solicitor could write. MC2 identified that there is often an unofficial GMP forced onto contractors that they have not agreed too. MC1 indicated that frameworks and collaborative charters were not a prerequisite to collaborative working as collaboration is present in other forms of contract, for example a traditional project, stating "where the team work well together, from an early stage, to me is collaboration". MC1 said, "if you have a group of people that really want to work collaboratively and together, then it does not matter that there is not a formal process in place".

MC1 indicated that BIM offers improved collaboration but is not a prerequisite and that it needs upfront investment to be started on day one in relation to the work associated to the BIM model; with both MC1 and MC2 seeing an investment in education as important. PM1 identified that some practitioners say in instances it is more complicated than what is required and recalled a case, where, he had worked on a project where software compatibility between consultants caused issues. MC2
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indicated a scepticism of the software in that there have been previous similar initiatives that have failed in the past. MC1 identified the success of software associated to BIM being an almost essential collaborative tool, which saves time and is a portal to share information. PM1 added to this by indicating that BIM is a good collaborative tool in particular to encourage people to act in an auditable manner.

All three practitioners indicated good change management is associated with collaborative procurement. PM1 also identified performance management as important to undertake on every project. In addition, MC2 indicated that quantitative performance management was often unfair as it does not take into account all factors and is undertaken in a qualitative informal manner. MC1 associated risk management to collaboration with high risks managed by the team from the project. PM1 and MC1 indicated practitioners should move away from a defensive strategy towards more of a place where they feel empowered to discuss failures for continuous improvement. MC2 identified risk management as a worthwhile tool often undertaken as a formal exercise abstract from the construction process, concurrent with an informal process with much more apparent value. All three practitioners associated alternative dispute resolution to non-collaborative behaviour. MC1 understanding that with the "old adversarial approach the price may be lower, but, due to all the disputes the prices ends up being higher because of delays, disputes, claims".

DISCUSSION AND PRELIMINARY CLASSIFICATION METHOD

During the 1990s such reports as 'Rethinking Construction' indicated that there was a perception among clients that the construction industry was underperforming and improvements were available by following practices from other industry sectors. There appears to be limited empirical evidence of the perceived benefit of particular collaborative tools; however, the case studies indicate that the suppliers can relate to the benefits of working in a collaborative manner, being keen to deliver value during the execution of their services for clients. The reports presented ways to move away from explicit contractual methods towards behaviour that was fairer and client deliverable focused. The collaborative movement has gained momentum in the procurement of construction related services since the 1990s, which has resulted in the formation of a complex framework of tools into explicit contractual mechanisms. Figure 1 presents a method to review the mechanisms against three-dimensional reasoning namely, the themes of risk, implementation and motivation. The themes made themselves evident during data collection.
Box B represents high levels of scoring against risk, motivation and implementation, which is the desirable location within the scatter diagram. Box A represents low levels of scoring against the same and is the undesirable. The black dot represents a mechanism that sits within the scatter diagram; it is an undesirable mechanism. There is a need for further research to identify and calibrate the features/factors that are likely to populate the axis.

**CONCLUSION**

The bespoke nature of construction appears to restrict the ability of contracts to move away from a reactive approach to often adversarial practice, towards more proactive collaborative approaches. However, the case studies indicated that there is not a direct correlation between the contractual mechanisms and perceived collaborative behaviour. The current contractual trend appears to manage behaviour associated with tacit knowledge with contractual mechanisms. Further legal doctrine research needs to be undertaken to explore the enforceability of some of the contractual mechanisms, which appear to contrast with the recommendations of Latham to make contracts more complicated. During the data collection process, there was a sentiment that the implementation of the tools is (in instances) undertaken in such a way that they have limited value in relation to the client's deliverable, being more suitably achieved, through the application of tacit knowledge. In addition, during data collection, a three-theme approach was evident for the selection of collaborative tools and features. The discourse in data suggested that the selection of collaborative tools is more suited to a flexible process that employs tacit knowledge rather than prescriptive explicit methods. Future research needs undertaking to review the implication of collaborative contractual mechanisms in contracts over a longitudinal timescale and in other industrial sectors.
REFERENCES


