

## **CONTRACTS, COLLABORATION AND CONFLICT RESOLUTION: FORGING RELATIONSHIPS IN THE FACE OF ADVERSITY**

### **ABSTRACT**

Contracts have traditionally been used to coordinate expectations and structure relations, with clients using them to define and manage commercial relationships with suppliers. Whilst extant literature is concerned with large capital projects of a ‘one-off’ nature, this research is concerned with individual contracts within ‘on-going’ strategic infrastructure maintenance programmes. Whereas relational contracting strategies are associated with better client-supplier relations, ‘on-going’ strategic infrastructure maintenance programmes tend not to use such contracts. This presents a problematic contextual backdrop for the successful delivery of such programmes.

This research seeks to understand the conditions under which collaborative working arrangements can be achieved within non-collaborative commercial frameworks. An in-depth case study is used to explore collaboration within transactional lump-sum arrangements. The research reveals how the interpretation of a lump-sum contract led to the prioritisation of cost savings over quality and initially stimulated behaviours that inhibited collaboration. However, over time informal working practices and a collaborative working philosophy emerged reminiscent of that expected under relational contracts. Collaboration was established in an informal project culture that ran counter to a persistent adversarial commercial framework. Formal performance measures were resolved and performance appeared satisfactory to the client, even though it was enabled by informal working practices running counter to the client’s chosen contract. Contra much previous work that deterministically positions relationships as a product of the contract, this study reveals that collaborative behaviours can thrive even in unfavourable contractual conditions. This, in turn, calls for a re-theorisation of the relationship between contracts and behaviours within long-term programme arrangements.

**KEYWORDS:** Adversity, Collaboration, Contracts, Infrastructure, Relationships

### **INTRODUCTION**

Major infrastructure schemes have received a great deal of attention in the project literature where it is largely concerned with large one-off projects such as Heathrow Terminal 5 (Gil, 2009) and the 2012 London Olympics (Grabher and Thiel, 2015). Ongoing term maintenance contracts, on the other hand, receive rather less attention even though they present very different challenges. Specifically, ongoing strategic highway maintenance and renewal services must deal with the effects of short-term contracts within on-going programmes, geographically disparate teams and often the legacy of previous incumbents. One such example concerns strategic highway maintenance and renewal contracts which, in the UK, are divided by geographic area and procured via contracts of five years in length. At the end of the term, contracts are re-tendered the service provider usually changes. Contracts procured through competitive tender are awarded to the lowest price supplier, still the dominant selection criterion (Loosemore and Richard, 2015), with no guarantee of future work. Thus, a traditional, lump-sum contract approach is used to structure and govern a complex service delivery requiring close cooperation both between the client and supplier organisations and across the respective organisations.

In this paper we examine the collaborative relations that emerge within contractual relationships when they are set up within traditional transactional contractual arrangements. These situations present an unusual situation whereby relational outcomes are required in the

face of contractual adversity, a situation that is poorly understood and theorised within the construction and project management literatures.

### **Issues with Highways Maintenance and Renewal**

The client-supplier arrangement in the context of highway infrastructure maintenance and renewal necessitates inter-firm interactions at all stages of service and project delivery. Traditionally, contracts have coordinated expectations and have structured and governed the management of these relationships. Clients engage with suppliers using contractual forms structured around payment mechanisms including lump-sum, reimbursable, cost-plus and relational arrangements such as partnering and alliancing. According to transaction cost economics, pure market relationships facilitating competition are suited to occasional, standardised and simple transactions, in which assets may be fully specified (Regan et al., 2015), whereas relational contracting, based on cooperation, is better for recurrent, complex and customised transactions (Eriksson, 2010b). The highly complex and customised supply of highways infrastructure requires projects of the latter type, even though they are procured under traditional transactional arrangements. A significant proportion of the services provided through infrastructure maintenance and renewal contracts are reactionary work to emerging defects on the strategic road network. Tensions are created when complex service provision requires deviation from patterns of activity set out in the contractual documents. Providers of strategic highway maintenance and renewal cannot at present intelligently predict potential road network failures. Where complexity and unpredictability make it difficult (or impossible) to define contractual contingencies for probable future events, activity must occur in a commercial environment of incomplete contracts (Pinto et al., 2009). Rather than concede to the challenges above actors must work with these constraints to achieve high social development, to enable less reliance on contractual control (Rose and Manley, 2012).

### **Theoretical Importance of Collaboration and its Influence**

The benefits of a collaborative approach are widely accepted with a significant volume of research commenting on how to encourage and improve it (Yin et al., 2011, Austin et al., 2007, Ballard, 2000, Jorgensen and Emmitt, 2009, Marshall, 2014, Cox and Thompson, 1997, Powell, 1998, Bresnen and Marshall, 2000). Research concerning collaboration has two foci: one concerned with the contractual mechanisms for coordinating inter-organisational relations and the other concerned with the sociological aspects of relational capability. These two views at times offer competing explanations of organisational collaboration (Powell, 1998). This study considers these two foci in parallel to investigate how relational capability can be transplanted into informal, extra-contractual mechanisms to overcome the limitations of adversarial cost-based contracting. The analysis extends to examine the implications of common features of these types of arrangements, such as TUPE (Transfer of Undertakings (Protection of Employment) Regulations) rules protect employees' rights when the organisation or service they work for transfers to a new employer. This is particularly relevant in short term contracts within on-going maintenance programmes where employees transfer between organizations and bring with them an allegiance to the previous incumbents, but has not been considered in relation to its effect on contractual relations. This situation sees people with in depth knowledge of the geographical area working within a new organisational structure alongside people familiar with the organisation but new to the geographical locale. Such human resource topics lie at the heart of the issues at the interface between project-based firms and the projects (Winch, 2014).

## **THE CONTRACTUAL CONTINUUM**

The governance of an effective project network is driven by formal and informal means. Formal direction is provided by the contract, but informal direction is provided by important social factors (Rose and Manley, 2012). There is much research testifying to the complementary rather than substituting nature of contractual and relational governance (Poppo and Zenga, 2002, Lumineau and Henderson, 2012, Lu et al., 2015), highlighting the coordination function of contracts (Cao and Lumineau, 2015).

### **Transactional Contracts**

Traditional procurement is the default option of government (Regan et al., 2015) and public sector clients continue to procure highway maintenance and renewal services under transactional forms of contract. Despite efforts over the last decade or so to move from adversarial and structural to more relational and collaborative approaches to the market (Smyth and Fitch, 2009), construction continues to be an industry characterised by a lack of trust and adversarial practices (Latham, 1994, Egan, 1998). Multiple layers of contractual agreements within single projects designed to protect the various stakeholders, are said to signal distrust between exchange partners and encourage opportunistic behaviour (Poppo and Zenga, 2002) and whereby the wrong individual attitudes ripples down through the team (Gil, 2009). There is a preference within the UK construction industry for contractual compliance rather than collaborative working practices (Thompson et al., 1998). Project quality has been defined as “the consistent conformance to customer expectations” (Basu, 2014, p.181), but it is argued that quality conformance only ensures conformance to standards; if the standards are not fit for purpose, getting things right first time will do nothing to reduce the performance gap or increase client satisfaction (Winch et al., 1998) and result only in the efficient production of something the customer does not need or want (Rother and Shook, 1999). The preference for compliance over collaboration is beginning to change as clients become dissatisfied and collaborative benefits are more widely recognised.

### **Relational Contracts**

Non-adversarial collaborative contract forms are rarer but receive considerable attention in academic debate (Gil, 2009, Rahman and Kumaraswamy, 2005, Zou et al., 2014). Firms differ in their ability to do relational contracting (Powell, 1998). One party cannot impose a collaborative type of relationship upon the other; neither party can directly control the facets of the relationship on its own leading to a great deal of importance being placed upon the actions and intentions of both actors (Lamming et al., 1996, Vaaland, 2004, Dahlgren and Soderlund, 2001). And while the management of relationships cannot be legislated or purely contractual, its development depends on solid contractual underpinnings (Zou et al., 2014). Lumineau and Henderson (2012) make an important distinction between contractual control governance and contractual coordination governance. Increasing contractual coordination governance significantly contributes to more cooperative negotiation strategies during a dispute between buyers and suppliers. Traditional contracts tend to control and relational contracts coordinate.

Relational contracts that formalise collaborative working arrangements are designed to instil an ethos of cooperation amongst project teams from day one. It follows, therefore, that relational contracting arrangements are reported to result in higher quality team working leading to better project performance (Gil, 2009, Suprpto et al., 2015b). When steps are taken to foster a collaborative approach and a relational contracting strategy is chosen to encourage client-supplier cooperation in large infrastructure projects they are almost always a reactive response to client/market driven forces where behaviours are adjusted accordingly; they are not implemented as proactive strategic decisions to manage relationships (Smyth and Edkins, 2007).

Discussion in the literature tends to differentiate between relational and transactional contracting arrangements but little consideration is paid to the spectrum of interim contractual arrangements (Cox and Thompson, 1997). Sako (1992) cited in (Cox and Thompson, 1997) recognises the range of possible options and suggests there is a continuum between arms-length contractual relations, typified by short term, one-off transactions where contractual defaults are addressed through legal action, through to obligation contractual relations typified by interdependency and goodwill where defaulting parties are quick to make amends in the spirit of trust. Within highway maintenance and renewal, projects are divided by geographical area with suppliers supplying essentially the same service to different parts of the client organisation in different geographical areas whilst operating under different contractual arrangements. If and when at the end of a contract period a supplier successfully re-tenders to provide essentially the same service for a second term they may well be faced with a new and different contractual arrangement, further adding to the confusion. And this confusion only represents the adversarialism in tier one of the supply chain (Thompson et al., 1998).

### **Inappropriateness of Existing Methods of Contracting for Collaboration**

Traditional contracting arrangements, typified by strong confrontational interactions, are inappropriate for collaborative working arrangements (Rahman and Kumaraswamy, 2005) and counteract the development of trust (Kadefors cited in Pinto et al., (2009)). There is evidence to suggest that the relationship is what governs and the contract is merely complementary and therefore changing the contract without addressing the relations and behaviours will have little or no effect (Thompson et al., 1998). In the same vein, there is a willingness within the construction industry to implement collaborative approaches to working relationships but the application is not profound. Solutions to major problems are often ad hoc ‘bolt-on’ elements (Anvuur and Kumaraswamy, 2008). Firms often show willing to experiment with a suite of tools and techniques but are either unwilling or unable to instil a culture of collaboration (Boyce et al., 2012) with the potential impact of team building hindered by the ‘formalisation’ of collaborative practices (Suprpto et al., 2015a p1357). Without re-engineering all elements of the contractual relations, relational contracts implemented on a project by project basis are little more than tokenism (Cox and Thompson, 1997). Unlike one-off capital infrastructure projects, ongoing programmes of infrastructure maintenance procured via one-off contracts (examples of which are almost completely absent in current literature, see Thompson et al., (1998)) in theory provides the unusual opportunity to learn from previous contracts and apply innovations to subsequent contracts that are contextually the same. But evidence to show this systematically occurring is absent. The relationships developed and learning acquired are constrained to the discrete duration and geographical locale of the contract. Evidence of firms going beyond a project by project approach towards a behavioural approach is piecemeal (Smyth and Fitch, 2007, Gadde and Dubois, 2010).

### **The Role of Relationships in Managing Uncertainty**

Clients planning to implement cooperative relationships need to reassess their entire procurement process in order to facilitate trust and cooperation with contractors (Eriksson and Pesamaa, 2007). Smyth & Edkins (2007) call for greater consideration to be given to the proactive management of relationships to foster collaborative working. Relevant to the provision of highway maintenance and renewal is that the public sector is particularly weak in consistently managing the interface with the private sector (Smyth and Edkins, 2007). In a traditionally contractual operating environment, a mismatch of value interpretation resulting in a failure to deliver the promises set out signals contractual noncompliance thereby creating tension and conflict between supplier and client. Where change is likely, changes that have

not been provided for in the contract, a greater reliance on established relationships is needed to maintain the contractual bond (Zou et al., 2014). This study seeks to understand the conditions under which collaborative working relationships can be achieved within what are seemingly non-collaborative commercial frameworks.

## **METHODS**

The study is based on a single case, chosen as the best method to collect data to support the argument through an in-depth examination of a private sector organisation providing public sector infrastructure maintenance and renewal services. The case study contract under investigation is a bespoke form of lump-sum contract designed to deliver services in a particular geographic locale in the UK for 5 years. Before this contract began, the maintenance and renewal services for this area had been provided by a different supplier under a cost reimbursable form of contract.

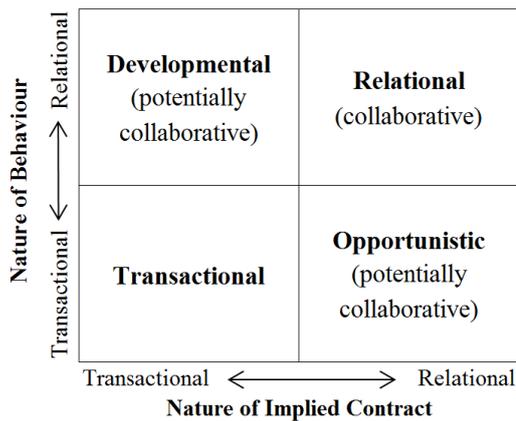
Data was collected through participant observation over the course of seven months. A constructivist approach was taken as it recognises that concepts and theoretical level of analysis emerge from the researcher's interaction with the field (Bryman and Bell, 2011). The researcher is an embedded observer of practice within the supplier organisation and adopted an action research approach (McNiff, 2002) (although in this case the change observed was initiated by the organisation and not the researcher) in order to provide a rich description and for revealing the impact of contract type on inter-firm cooperation in the under researched context of strategic infrastructure maintenance and renewal and how the introduction of relational principles over time affects project delivery. Observations focused on a series of workshops, a key element of a contract-wide improvement plan designed to bring together key actors of the supplier and client organisation to debate and agree the greatest problems threatening project delivery, identify the root causes of the problems and formulate proposed solutions. These workshops were facilitated to encourage open and frank "off the record" discussions. The proposed solutions were later presented to a panel of judges made up of both client and supplier representatives who had to agree that positive change would result from the actions suggested. The workshops were the forum where people came together and the evolution of relations took place allowing for rich data to be gathered.

The observations were supplemented with seven face-to-face unstructured interviews lasting between 60 and 90 minutes. The interviews sample universe consisted of key project team members within the supplier and client organisation including four senior members of the delivery team (two from the client organisation and two from the supplier) one project engineer (supplier organisation) and two business improvement managers (one from the supplier organisation and one consultant) working directly on the case study project. Convenience sampling (Robinson, 2014) was employed to identify participants. Data was supplemented with analysis of company documents, produced predominantly as outcomes of workshops. The unstructured interviews were audio recorded and transcribed verbatim for analysis. The interview transcripts were thematically coded and abstractions were made. The analysis focused on emerging themes from the data for a qualitative interpretation. The literature review provided concepts to look for, but the main purpose of the unstructured approach to interviewing was to allow the participants to focus on what they felt was important.

## **THEORETICAL MODEL**

In Figure 1 we set out a model which offers an alternative concept to the relational and transactional contract dichotomy and suggests that rather than being substitutes in terms of their impact on outcomes, relational behaviour can flourish within unfavourable transactional contractual conditions.

**Figure 1: Theoretical positions of relationships in the Behaviour / Contract matrix**



The argument communicated through this model is that relational behaviour can be realised when transactional, typically adversarial, forms of contract are used which we call developmental relationships. These relationships occur when a collaborative approach is required but when the procurement strategy does not specify such an approach. In the transactional quadrant there is little need or desire to be collaborative, typical for the procurement of simple and standardised good and services (Eriksson, 2010a). The relational quadrant requires and enables high level of collaboration as typified by relational contracting strategies. The opportunistic quadrant is where a relational form of contract is employed but opportunistic behaviour is enacted and there are examples in literature of this in the lower tiers of the supply chain within projects using relational contracts (Gil, 2009 p.163, Bresnen and Marshall, 2000 p.827). Contra to previous work that positions relationships as a product of the formal contractual documentation, this study reveals that collaborative behaviours can thrive even in unfavourable contractual conditions. These findings support prior research that claims contractual and relational governance can complement one another (Lu et al., 2015, Yi et al., 2009, Poppo and Zenga, 2002) but furthermore, we reveal that relational and collaborative behaviours emerged from adversarial contractual conditions suggesting that the notion of formal contract documents locking projects in to one mode of behaviour is flawed and the position of projects within the matrix can move along either axis during execution.

## RESULTS AND DISCUSSION

### Inhibitors of Collaboration

#### *Cost Before Quality*

The delivery of highway maintenance services to a public sector client by a private service provider requires the bringing together of two main parties that have different commercial and/or social objectives. It is the interest of the private sector to receive payments and it is the public sector interest to provide the essentials for the fabric of society (Ball et al., 2014). Ingrained within the public sector is a requirement to demonstrate best value and it is believed that the best way to ensure accountability and auditability in the safeguarding of public funds is to document it in contractual forms and manage it by way of dedicated management information systems designed to provide transparency (Dowling et al., 2008). When set against a backdrop of economic austerity and Government drives for cost savings, the chosen approach of the client was to utilise a low cost lump-sum form of contract to procure the services required. According to interviewees, this led to the focus of the relationship being contractual rather than relational and the relationship quickly became adversarial when contractual compliance was employed as the preferred method to govern the delivery of services.

### ***Payment Mechanisms***

The payment mechanisms of the reimbursable contracts delivered by a previous supplier were felt by interviewees within the client's senior delivery team to have encouraged a more collaborative approach and provide a foundation for positive relationships unlike those experienced under the current lump-sum arrangement. The budget for the lump-sum form of contract was much reduced compared to the previous cost reimbursable arrangement and this is reported to have driven behaviour within the supplier organisation that the client will get no more than has been paid for and the contract will be the tool used to enforce and control that approach. Clients need to be more wary of equating low price with good value (Loosemore and Richard, 2015). Interviews with the client organisation revealed that the lump-sum arrangement gave them the feeling of battling to achieve more than "a bare minimum design" from a supplier whose aim was understood to be not to breach the design fee set out in the contract.

### ***Contract Interpretation***

Interviewees mentioned that the interpretation of previous contracts was mutually well established whereas the new lump-sum contract was less well understood. As service delivery commenced it was soon felt that the contract left many areas of delivery open to interpretation as delivery moved away from a technically prescribed approach, as in previous contracts, to a less specific, risk-based approach. Interviewees said that contracts work better when parties collaborative to the ethos of the contract rather than to the letter of it, indicating that incomplete contracts require collaborative working relationships to be able to jointly navigate the grey areas and mitigate the incompleteness. However this was not the stance taken at the outset. The behaviour exhibited by senior management at the start of the contract was reported to be "*military like*", showed favouritism, was played "*straight down the line*", and was blunt "*to the point of rudeness*". This stance is reported by an interviewee to have massively exacerbated the problems on both sides as supplier and client went head-to-head rather than collaboratively working through the tensions. These comments resonate with literature highlighting a reliance on the skill and personality of team members for success (Kovacic and Filzmoser, 2014).

Contractual letters are said to have proliferated like confetti. Formal communications making reference to contractual clauses were felt to further drive a wedge between the two parties rather than encourage collaborative resolution to issues that were often felt to be minor, consistent with prior research (Lumineau and Henderson, 2012). Such a mismatch between applications of the contract between parties generates conflict, degrades cooperation and leads to disputes and trust deterioration (Cao and Lumineau, 2015). For the case study organisations, much of the adversity experienced centres on the (mis-) interpretation of the commercial aspects of the contract at project mobilisation and as the project was delivered. When uncertainty is high, the early post-contractual phase is of special importance in public projects. After signing the contract, a process will start where both parties jointly make sense of the relationship both contractually and behaviourally and how this is handled decides how the relationship develops (Dewulf and Kadefors, 2012). Early contractual control governance significantly contributed to a less cooperative negotiation strategy (Lumineau and Henderson, 2012).

Interviewees felt the contract to be inappropriate and that it failed to provide a robust platform to work from, signalling that contractual compliance does not necessarily result in a quality service if the contract is not fit-for-purpose. The misinterpretation of the commercial aspects of the contract affected multiple areas of the project delivery. One interviewee commented that the best designs with the best project delivery teams will not be delivered if commercially the price cannot be agreed. Project teams on both the supplier and client side

felt powerless to influence the commercial aspects of the contract which further eroded the already tenuous relationships.

### **Recognition of Failings**

Eighteen months into contract delivery and the issue of a formal notice to terminate was the point at which executive management recognised the seriousness of the issues facing the contract, although conspicuous signs of failure were present beforehand. The number of “points” awarded by the client to supplier for contractual non-compliance escalated significantly in the months leading up to the issue of the formal notice. Prior to this the supplier had made one-sided, isolated efforts to affect positive change but widespread improvement action was not taken until after the client threatened contract termination.

In the aftermath of the formal notice the supplier and client jointly embarked on a contract-wide improvement plan. During a series of collaborative workshops the root of all problems was identified to have originated prior to contract delivery during the 6 month contract mobilisation stage where it is now recognised that the contract requirements were not fully understood.

Whilst the road to failure was compounded by the lump-sum transactional arrangements that allowed uncooperative behaviours to entrench and act as blockers to collaborative, open, honest and trusting relationships, in the face of adversity, collaborative approaches more akin to partnering forms of contract were transplanted into project delivery. This collaborative approach disclosed conflicts in the relationship by mutually understanding and removing uncertainty about events and issues threatening the project. A lot of the issues that had been aggravating project delivery were brought to the fore. The improvement plans facilitated an understanding of the other party’s concerns and uncovered the underlying causes of tension in the relationship. By stimulating openness in this way it became easier to communicate across the organisation boundary and compromise on disputed areas. Following the step-change brought about by the improvement plan, which saw highly collaborative working practices transplanted into an adversarial project environment, the formal notice issued by the client was lifted.

These findings provide insights into how the interpretation of lump-sum forms of contracts can lead to the prioritisation of cost savings over quality and drive behaviours that inhibit collaboration, resulting in failure to deliver quality services. ‘Rather than be a mechanism to unite buyer and supplier in a common cause (i.e. to construct the works), the contract was being used as a wedge to drive distance between them’ (Thompson et al., 1998 p36). Whilst in the case study examined here the transactional lump-sum contract represents a wedge between the parties, it is argued that it is being driven in by the confrontational and adversarial behaviours displayed by senior management and emulated by members within the project teams. Rather than substitute the lump-sum contractual wedge for a relational contract that would, in theory, facilitate unity through a collaborative approach to delivery, the findings here suggest that a transactional contract and a relational approach to delivery are not mutually exclusive, as depicted in Figure 1 and it is possible to move between quadrants during the lifecycle of a project. This proposition builds further on prior research which discusses the complementary nature of contractual and relational governance (Lumineau and Henderson, 2012, Cox and Thompson, 1997, Yi et al., 2009) by revealing the conditions under which contractual governance can shift from a controlling to a coordinating function. Whilst a transactional, traditionally arm’s length contract may not be the optimum contracting strategy according to (Thompson et al., 1998), it is possible to have relationality through transaction. What is not clear at this stage of the research is the cause of the shift within the contract/behaviour matrix during project execution towards more collaborative working relationships. We can speculate that a desire within both the supplier and client organisation to ensure the safety of the road network prompted a shift in the matrix from the

transactional quadrant to the developmental quadrant as a way to move beyond the impasse created by the incompleteness and misinterpretation of the contract documentation. Conflicts, if settled successfully lead to an integration of different perspectives and therefore better results (Kovacic and Filzmoser, 2014). The contract wide improvement project discussed is a clear example of this in practice. Furthermore, the findings support research that states an ability to enact quality inter-firm cooperation influences project performance more than the contracting arrangements and that relational attitudes and team working quality have the ability to mediate the effects of contract types (Suprpto et al., 2015b).

Findings here support the stance that many clients lack the insight and tools to take a leadership role and are unwilling and unable to employ strategies to foster better performance because of internal governance constraints (Loosemore and Richard, 2015). Mechanisms of contractual governance and sanctions in the place of relational collaboration and joint problem solving are giving project delivery teams' extensive problems. Considerable effort has been spent on reversing the negative effects of a highly contractual approach that was allowed, at the outset, through adversarial behaviours, to push project delivery to breaking point.

Interviews revealed that the need to work together to build strong working relationships is recognised throughout both the supplier and client organisation but is often overlooked in favour of technical capabilities. The adversarial behaviour exhibited by senior members of the project team continued unchecked because their engineering credentials took precedent. The culture to collaborate must be led by and demonstrated by the senior team but requires strategic and systematic application to avoid the pitfalls of emulating the adversarial behaviours displayed by a few individuals. As experienced across much of the construction and civil engineering industry, the case study organisation has failed to apply learning from previous projects with favourable working relationships. The peculiarities of on-going programmes of highway maintenance and renewal provides the client with learning opportunities, and the TUPE regulations provides the supplier with the opportunity to harness knowledge acquired on previous contracts. Instead of embracing these factors as sources of relational advantage, they have been cited as the causes of adversity.

The ability of the project teams to affect positive change following a near terminal chain of events demonstrates that the quality of cooperation affects performance more than the contractual arrangement. Collaborative behaviour has been proven to take hold in unfavourable, contractually adversarial conditions. The findings presented run counter to existing literature which asserts a continuum between transactional and relational contractual arrangements and therefore calls for a re-theorisation of the relationship between contracts and behaviours within long term project arrangements in so far as collaborative relationships can prosper without relational contractual arrangements. Furthermore, the position of relationships within the matrix in figure 1 can shift when a situation necessitating collaboration overrides the contractually defined relationships.

## **CONCLUSIONS**

This research contributes to literature on project contracting and collaboration through a consideration of the peculiarities of one-off contracts within a programme of on-going infrastructure maintenance and renewal. Clients tend to procure work under transactional contracts despite the high levels of inter-organisational cooperation required. This study has found that under adversarial conditions, collaborative working relationships can develop over time despite an underlying lump-sum transactional contractual arrangement. This has implications for the understanding of how contracting practices impact the social ties between actors executing intra- and inter-firm working. The research provides insights that will help clients and suppliers of ongoing infrastructure maintenance recognise potential sources of

adversity when opting to use non-partnering forms of contract to facilitate projects that require high levels of inter-organisational transactions. This contributes to theory with the offer of a new perspective on collaborative working arrangements when procurement arrangements are highly contractual (see Figure 1) demonstrating that collaborative relationships can be encouraged to emerge whilst operating traditionally arms-length transactional contract.

This study supports the notion that what matters to project performance more than the form of contract is the ability to develop collaborative attitudes but further research is required to understand why projects procured under transactional contract arrangements are able to shift within the contract/behaviour matrix during project execution. What are the factors that cause such a shift and what the likely implications for the delivery of highway maintenance projects. Practically, the findings suggest the need for an assessment of the preparedness of an organisation to enact a collaborative working arrangement, particularly when undertaking work that clients continue to procure under lump-sum forms of contract, and how to operationalise the collaborative working practices before adversity forces action.

## REFERENCES

Anvuur, A. and Kumaraswamy, M.M. (2008) Better collaboration through cooperation. In: H. Smyth and S. Pryke, eds, *Collaborative relationships in construction. Developing frameworks and networks*. London: Blackwell Publishing Ltd, pp. 107.

Austin, S.A., Thorpe, A., Root, D.S., Thomson, D.S. and Hammond, J.W. (2007) Integrated Collaborative Design. *Journal of Engineering Design and Technology*, **5**(1), pp. 7-22.

Ball, A., Grubnic, S. and Birchall, J. (2014) Sustainability Accounting and Accountability in the Public Sector. In: J. Bebbington, J. Unerman and B. O'Dwyer, eds, *Sustainability Accounting and Accountability*. Routledge, pp. 176.

Ballard, G. (2000) *The Last Planner System of Production Control*. PhD edn. The University of Birmingham: School of Civil Engineering, Faculty of Engineering.

Basu, R. (2014) Managing quality in projects: An empirical study. *International Journal of Project Management*, **32**(1), pp. 178-187.

Boyce, E., Dainty, A. and Thorpe, A. (2012) A novel collaborative planning methodology for complex infrastructure design projects, N. Thurairajah, ed. In: *CIB Joint Symposium, "Management of Construction: Research to Practice"*, Montreal, Canada, June 26-29 2012.

Bresnen, M. and Marshall, N. (2000) Building partnerships: case studies of client/contractor collaboration in the UK construction industry. *Construction Management and Economics*, **18**(7), pp. 819-832.

Bryman, A. and Bell, E. (2011) *Business Research Methods*. 3rd edn. New Delhi, India: Oxford University Press.

Cao, Z. and Lumineau, F. (2015) Revisiting the interplay between contractual and relational governance: A qualitative and meta-analytical investigation. *Journal of Operations Management*, **33-34**, pp. 15-42.

Cox, A. and Thompson, I. (1997) 'Fit for purpose' contractual relations: determining a theoretical framework for construction projects. *European Journal of Purchasing & Supply Management*, **3**(3), pp. 127-135.

Dahlgren, J. and Soderlund, J. (2001) Managing inter-firm industrial projects - on pacing and matching hierarchies. *International Business Review*, **10**, pp. 305-322.

Dewulf, G. and Kadefors, A. (2012) Collaboration in public construction—contractual incentives, partnering schemes and trust. *Engineering Project Organization Journal*, **2**(4), pp. 240-250.

Dowling, B., Sheaff, R. and Pickard, S. (2008) Governance Structures and Accountability in Primary Care. *Public Money and Management*, **28**(4), pp. 215-222.

Egan, J. (1998) *Rethinking Construction: The Report of the Construction Task Force to the Deputy Prime Minister, John Prescott, on the Scope for Improving the Quality and Efficiency of UK Construction*. London: Department of the Environment, Transport and the Regions.

Eriksson, P.E. (2010a) Improving construction supply chain collaboration and performance: a lean construction pilot project. *Supply Chain Management: An International Journal*, **15**(5), pp. 394-403.

Eriksson, P.E. (2010b) Partnering: what is it, when should it be used, and how should it be implemented? *Construction Management and Economics*, **28**(9),.

Eriksson, P.E. and Pesamaa, O. (2007) Modelling procurement effects on cooperation. *Construction Management and Economics*, **25**(8)

Gadde, L.E. and Dubois, A. (2010) Partnering in the construction industry—Problems and opportunities. *Journal of Purchasing and Supply Management*, **16**(4), pp. 254-263.

Gil, N. (2009) Developing Cooperative Project Client-Supplier Relationships: How Much to Expect from Relational Contracts? *California Management Review*, **51**(2), pp. 144.

Grabher, G. and Thiel, J. (2015) Projects, people, professions: Trajectories of learning through a mega-event (the London 2012 case). *Geoforum*, **56**, pp. 328-337.

Jorgensen, B. and Emmitt, S. (2009) Investigating the integration of design and construction from a “lean” perspective. *Construction Innovation: Information, Process, Management*, **9**(2), pp. 225-240.

Kovacic, I. and Filzmoser, M. (2014) Key success factors of collaborative planning processes. *The Engineering Project Organization Journal*, **4**(4), pp. 154-164.

Lamming, R.C., Cousins, P.D. and Notman, D.M. (1996) Beyond vendor assessment: Relationship assessment programmes. *European Journal of Purchasing & Supply Management*, **3**(4), pp. 173-181.

Latham, J. (1994) *Constructing the Team*. Final Report edn. London England: .

Loosemore, M. and Richard, J. (2015) Valuing innovation in construction and infrastructure: Getting clients past a lowest price mentality. *Engineering, Construction and Architectural Management*, **22**(1), pp. 38-53.

Lu, P., Guo, S., Qian, L., He, P. and Xu, X. (2015) The effectiveness of contractual and relational governances in construction projects in China. *International Journal of Project Management*, **33**(1), pp. 212-222.

Lumineau, F. and Henderson, J.E. (2012) The influence of relational experience and contractual governance on the negotiation strategy in buyer–supplier disputes. *Journal of Operations Management*, **30**(5), pp. 382-395.

Marshall, N. (2014) Thinking, saying and doing in collaborative projects: What can we learn from theories of practice? *Engineering Project Organization Journal*, **4**(2-3), pp. 107-122.

McNiff, J. (2002) Action research for professional development, Available: <http://www.jeanmcniff.com/ar-booklet.asp> [accessed on July 13th, 2010].

Pinto, J.K., Slevin, D.P. and English, B. (2009) Trust in projects: An empirical assessment of owner/contractor relationships. *International Journal of Project Management*, **27**, pp. 638-648.

Poppo, L. and Zenga, T. (2002) Do formal contracts and relational governance function as substitutes or complements? *Strategic Management Journal*, **23**, pp. 707-725.

Powell, W. (1998) Learning from collaboration: Knowledge and networks in the biotechnology and pharmaceutical industries. *California Management Review*, **40**(3), pp. 228-240.

Rahman, M.M. and Kumaraswamy, M.M. (2005) Relational Selection for Collaborative Working Arrangements. *Journal of Construction Engineering and Management*, **131**(10), pp. 1087.

Regan, M., Love, P.E.D. and Smith, J. (2015) Public infrastructure procurement: a review of adversarial and non-adversarial contracting methods. *Journal of Public Procurement*, **15**(4), pp. 424-457.

Robinson, O.C. (2014) Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, **11**(1),.

Rose, T.M. and Manley, C. (2012) Adoption of innovation products on Australian road infrastructure projects. *Construction Management and Economics*, **30**(4), pp. 277.

Rother, M. and Shook, J. (1999) *Learning to See: Value Stream Mapping to Add Value and Eliminate Muda*. USA: Lean Enterprise Institute.

Smyth, H. and Edkins, A. (2007) Relationship management in the management of PFI/PPP projects in the UK. *International Journal of Project Management*, **25**, pp. 232-240.

Smyth, H. and Fitch, T. (2009) Application of relationship marketing and management: a large contractor case study. *Construction Management and Economics*, **27**(4), pp. 399-410.

Smyth, H. and Fitch, T. (2007) Relationship Management: a case study of key account management in a large contractor, *CME25: Construction Management and Economics: past, present and future*, 16-18 July 2007, University of Reading: Reading.

Suprpto, M., Bakker, H.L.M. and Mooi, H.G. (2015a) Relational factors in owner-contractor collaboration: The mediating role of teamworking. *International Journal of Project Management*, **33**, pp. 1347-1363.

Suprpto, M., Bakker, H.L.M., Mooi, H.G. and Hertogh, M.J.C.M. (2015b) How do contract types and incentives matter to project performance? . *International Journal of Project Management*, <http://dx.doi.org/10.1016/j.ijproman.2015.08.003>.

Thompson, I., Cox, A. and Anderson, L. (1998) Contracting strategies for the project environment. *European Journal of Purchasing & Supply Management*, **4**, pp. 31-41.

Vaaland, T.I. (2004) Improving project collaboration: start with the conflicts. *International Journal of Project Management*, **22**, pp. 447-454.

Winch, G.M. (2014) Three domains of project organising. *International Journal of Project Management*, **32**, pp. 721-731.

Winch, G.M., Usmani, A. and Edkins, A. (1998) Towards total project quality: a gap analysis approach. *Construction Management and Economics*, **16**, pp. 193-207.

Yi, L., Luo, Y. and Liu, T. (2009) Governing buyer–supplier relationships through transactional and relational mechanisms: Evidence from China. *Journal of Operations Management*, **7**, pp. 294-309.

Yin, Y., Qin, S. and Holland, R. (2011) Development of a design performance measurement matrix for improving collaborative design during a design process. *International Journal of Productivity and Performance Management*, **60**(2), pp. 152-184.

Zou, W., Kumaraswamy, M.M., Chung, J. and Wong, J. (2014) Identifying the critical success factors for relationship management in PPP projects. *International Journal of Project Management*, **32**, pp. 265-274.