EFFECTIVE COLLABORATION IN CONSTRUCTION – THE IMPORTANCE OF MANAGING POWER

By

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Abstract

The search to find new ways of improving performance in the construction industry led to the introduction of collaborative working. However, after fifteen years there remain concerns that such arrangements don't always deliver the benefits expected. On explanation lies in the way partnerships are managed in that little or no consideration is given to the impact power can have either on the effectiveness of collaboration or how benefits generated are shared. Therefore, the aim of this thesis was to consider what impact power has on a buyer / supplier relationship. Research has been carried out on a case study involving four projects from the Birmingham Construction Partnership using interviews and a questionnaire. It was found that levels of collaboration were not affected by marginal differences in power, but rather by agency factors and trust. The conclusion drawn is that although being in a dominant power position can force collaboration this doesn't create the best conditions for collaboration to develop and grow. The research showed that the best conditions are when power levels are broadly balanced. However in order to ensure they receive an appropriate share of value the buyer needs to be both able and willing to use its power.

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Glossary of Terms

APPP	Additional Primary Places Programme
BCC	Birmingham City Council
BCP	Birmingham Construction Partnership
BIM	Building Information Modelling
BSF	Building Schools for the future
CE	Compensation Event
COW	Clerk of Works
KPI	Key Performance Indicator
LEP	Local Education Partnership
OGC	Office of Government Commerce
OR	Operational Research
M & E	Mechanical and Electrical
NEDO	National Economic Development Office
NIEP	National Improvement and Efficiency Partnership
PFI	Private Finance Initiative
SPV	Special Purpose Vehicle
TCE	Transaction Cost Economics
QS	Quantity Surveyor

Chapter 1

Introduction

1.1 Background

Construction is a significant part of the UK economy with an estimated value to the UK economy of £100 Billion in 2010. It employs 2 million people in over 250,000 companies and represents nearly 10% of the UK GDP (Strategic Forum, 2012). Historically, the industry as a whole, has had a reputation for poor performance and is perceived as not having achieved the same improvements in productivity and efficiency as other industries (Green, 2011; Yisa et al, 1995; Flanagan and Norman, 1989; Winch, 2003). Accordingly, over the years there have been many attempts to change the methods of engagement and procurement of suppliers, especially in the public sector, to improve the performance of the UK construction industry with two of the later Government backed initiatives, the Latham Report and the Egan Report, advocating the use of 'collaborative partnerships' to deliver construction projects (Latham, 1994; Egan, 1998).

Collaborative based partnerships in the public sector have been in place for some time now and are regarded by many as a successful means of delivering construction projects (Bresnan & Marshall, 2000, 2002; Wolstenholme, 2009). Yet notwithstanding this success, there remain concerns around who is getting the most value out of the relationship. These concerns have often manifested themselves has a perception that whist delivering many benefits, partnerships are not delivering value for money. From the authors experience it is a perception that is quite widely held

across a range of stakeholders which raises the question of how the relationship has been managed to ensure the right value appropriation is achieved. The management question of how to best manage or govern a partnership has been the subject of much debate, yet there remains disagreement on what those governance mechanisms should be.

There is a strong school of thought, including the likes of Egan (1994) and Latham (1998), who advocate that relational governance (trust) is the best method to underpin and facilitate good collaborative working. However there are practical problems with relying on trust as a governance mechanism in the public sector because of procurement rules on probity and transparency. In addition, there is arguably also a more fundamental problem with relying on trust as a governance mechanism; as a natural disposition of human behaviour, meaning that there is always a possibility of opportunism or exploitation taking place (Williamson, 1985; Sanderson, Mannion and Lonsdale, 2014).

To help address this concern, there are additional mechanisms that can be put in place to control or limit potentially opportunistic behaviour, such as the use of credible commitments, as argued in Transaction Cost Economics Theory (TCE), and incentivised contracts, as argued in Agency Theory. Notwithstanding this, there is another school of thought (Cox, 2001; Cox et al., 2004; Heide and John, 1992; Lamming, 1993; Morgan and Hunt, 1994; Hines, 1994; Hingley, 2005; Kumar, 1996; Stephens et al, 2009; Terpend and Ashenbaum, 2012; Chicksand, 2015) which, whilst agreeing with trust and the TCE and agency theory solutions, argues that insufficient consideration has been given to the impact of power on buyers or suppliers' ability to realise those solutions. In other words, if the buyer is not in a reasonably strong

position of power post-contract, then credible commitments / incentivised contracts developed pre-contract are less likely to work post-contract, because the supplier has no reason to make any on-going commitment or to be incentivised if it's not in their interests to do so.

The aim of this thesis is to explore the impact that power has on the buyer / supplier relationship in two areas. Firstly how does power affect the extent of collaboration taking place between the buyer and supplier? Does a more dominant position of power for the buyer increase the likelihood of successful collaboration taking place?

Secondly what impact does power have on the effectiveness of governance mechanisms put in place to control potential opportunistic behaviour to ensure that the buyer receives the appropriate share of any value generated from successful collaboration?

The first chapter will look at how the UK construction industry has performed historically in order to establish a context for this research and to help readers understand how the industry has arrived at the use of collaborative partnerships as a solution to improving performance. The chapter will also look at other initiatives that have been tried and how successful they were at driving improvements.

Chapter 2 reviews the literature around governance mechanisms, focusing on transaction cost economics, agency theory, relational governance (trust) and in particular the impact of power on the likely hood of collaboration taking place, how effective that collaboration will be and how added value generated will be shared. From the discussion, we will proceed to develop a number of research questions as follows:-.

Q1 – What impact does power have on the likelihood of buyer-supplier collaboration being adopted?

Q2 – What impact does power have on the working effectiveness/success of buyer-supplier collaboration?

Q3 – What impact does power have on the distribution of value/benefits from a collaborative interaction?

Chapter 3 then describes and justifies the research design and methodology based on a case study on four projects delivered under the Birmingham Construction Partnership. Chapter 4 gives a brief background to the projects, while chapter 5 presents the research findings on the independent variable, 'Buyer / supplier power'. Chapter 6 presents the research findings for the intervening variable, 'Extent of Collaboration', and chapter 7 presents the research findings on the dependent variable, 'Benefits Delivered'. Chapter 8 carries out an analysis and a discussion of the case study findings, while chapter 9 presents a wider discussion on the impact of power on collaboration and mechanisms to control opportunistic behaviour.

1.2 The UK construction industry

Historically, construction has been perceived as a poor performing industry with high costs in relation to many overseas countries (Green, 2011; Flanagan and Norman, 1989). Projects have frequently been late and over budget, particularly in the public sector (Latham, 1994). A culture of claims/counter claims has been common place and as much as 10% of costs have been estimated to have gone on legal fees (Latham, 1994: CII 1989, 1991, 1994; Bresnen and Marshal, 1999). In addition the sector has had a poor reputation on health and safety and training, as well as a poor track record

for quality and client satisfaction (Green, 2011; Yisa et al., 1995). Compared to other industries, there has been little perceptible progress in the way activities have been carried out over the last 30 years (Winch, 2003), with little or no significant improvements in building productivity and efficiency (Yisa et al., 1995; Flanagan and Norman, 1989; Winch, 2003).

Following the devastation of the Second World War the government undertook a huge building programme which saw a sustained period of unprecedented growth in construction between 1945 and 1970 (Green, 2011; Marr, 2007). Led by the public sector, and housing in particular, output in terms of quantity was the number one criteria, but in a demand-led industry, cost and quality suffered. In the early 1970's this boom came to a sudden halt as a result of a series of events, namely; the building strike (1972), the 3 day week (1972), the oil crisis (1973), the moratorium on public expenditure (1975-76) and the sterling crisis of 1976 (Yisa et al, 1995). With the end of the boom, all the long-standing problems of the industry came to a head and the failure to deliver on time and budget, coupled with poor quality over the last 25 years, became the subject of much scrutiny and debate leading to a demand for change in the way the construction industry was controlled and managed. A focus on programme, cost and quality replaced the focus on quantity (Yisa et al., 1995; Green, 2011; Betts and Ofori, 1992).

The end of the growth period saw a dramatic change in the way the construction industry was structured. Principal contractors were outsourcing, tendering and sub-contracting almost everything they could (Ball, 1988; Harvey, 2003). As the government moved away from big building programmes (particularly housing), the industry was left to the free market to develop. With that shift from big building

programmes to smaller ad hoc construction came less continuity of work and greater risk (Ive and Gruneburg, 2000). Consequently principal contractors wanted to reduce the number of directly employed staff and have the flexibility to subcontract on an 'as and when' basis i.e. grow and shrink according to the workload (Winch, 1989; Hillebrandt, 1984). These changes resulted in a disjointed and fragmented industry with a culture of cut-throat competition, where subcontracts were offered around for the lowest price, and contractors were subsequently forced to make their money on post-contract claims (Bresnen and Marshal, 1999, 2000; Winch, 1989; Green, 2011). In other words, it fostered an adversarial culture and created agonistic relationships between contractors and subcontractors (Evans and Lewis, 1989). Consequently, by the 1990s, construction had become a very fragmented, complex and adversarial industry.

1.3 Improving Performance – Some of the previous initiatives

It was against this background that saw the emergence of 'collaborative partnership working' as a Government initiative to drive forward improvements in construction. However, concerns about the construction industry have been voiced for some time and this was only the latest in a line of different initiatives tried by the government and the industry. Ndekigri and Corbett (2004) identified that, as far back as 1934, industry reviews had attributed a significant proportion of unnecessary costs of production to fragmented and adversarial relationships within the industry. Similar reviews (Higgin and Jessop, 1965; Banwell, 1964) drew the same conclusions in the post war period. Nonetheless, it would seem that the drive to get things built post-war then pushed these concerns to the back and any innovations tried were blighted by

poor build quality, as the drive for quantity took priority (Yisa et al., 1995; Winch, 1989).

The first major UK Government response to concerns about performance was the 1962 decision to commission Sir Harold Emerson to carry out a review of the construction industry. Emerson produced a report titled 'Survey of Problems before the Construction Industry'. This report was quickly followed by the 'Banwell Report' in 1964 with both reports making a number of high level recommendations, namely: - taking a long term approach, greater integration, adopting selective tendering and developing long-term relationships.

However both of these reports were drafted in an era of stable work and growth. In fact, what happened next was a change in the economic environment which produced completely the opposite of what had been recommended i.e. more open tendering, greater fragmentation, significantly less integration and more adversarial approaches (Ive and Gruneburg, 2000; Evans and Lewis, 1989). The two reports were effectively left to gather dust on the shelf as the environment and the economic situation changed significantly in the 1970s (Yisa et al., 1995; Betts and Ofori, 1992). Nevertheless, whilst the industry became more fragmented and adversarial, there was an on-going awareness of the need to improve and modernise (Wood, 1975; Adamson and Pollington, 2006). Out of this came a number of initiatives in the early 1980's such as the rise in the use of project managers coupled with the increased use of design and build contracts (5% in 1984 to 35.7 % in 1993) and construction management contracts (6.9% to 19.4% over the same period), (Yisa et al., 1995).

In particular, two management approaches became very fashionable i) management contracting and ii) construction management. Management contracting peaked in

popularity in the mid-1980s and continued the trend of principal contractors moving away from directly delivering activities towards managing subcontractors who delivered the activities (Green, 2011).

Construction management was a natural development and improvement on management contracting with much greater contact between the clients and the subcontractors, with the clients often paying the subcontractors direct.

Although both management contracting and construction management introduced improvements they were still based on an adversarial and fragmented industry (Ive and Gruneburg, 2000). Consequently a range of other different procurement strategies were also considered by the construction industry and the public sector in particular (Green, 2011) of which three preferred strategies emerged that the government adopted for delivering construction, which it hoped would drive forward improvements. They were: - Design and Build the use of PFI / PPP and Prime Contracting.

The methodology embodied in all three approaches was very much about trying to have a single point of responsibility (as opposed to multiple contracts), to have contractor-led processes and also to pass risk over to the contractor. In addition by having a single point of responsibility, it was hoped better integration of the supply chain could be achieved. Using these drivers it was hoped to drive forward innovation and modernise construction which would, in turn, bring down costs and deliver better quality projects, on budget and to programme.

Design and Build was (and remains) a popular choice as it passes risk to the contractor and removes the interface between the designer and the contractor and can be a quick method of delivery. The down side is it has drawbacks insofar as

client/design changes are difficult to accommodate without significant potential cost, programme increase and overruns, (Chritamara, Ogunlana and Bach, 2002).

With Private Finance Initiatives (PFI), the philosophy was that a contractor working to an output brief took the responsibility for the design, building, financing and operating of a building for a period of time - typically 25 years. The theory was that this approach could drive innovation and cost reduction since the same contractors would be responsible for getting projects built to the lowest cost (their cost), but not at the expense of future maintenance as they would also be responsible for maintaining the building (Connolly, Martin and Wall, 2008; HM Treasury, 2003; Lonsdale 2005). Despite these advantages, PFI contracts have proved to be extremely complex and are perceived to be very expensive once a client is locked into them for 25 years. PFI received a lot of criticism (Public Services Privatisation Research Unit, 1997; Gaffney et al, 1999; Monbiot, 2000; Pollock et al, 2001) insofar as it was perceived as a method of mortgaging off assets. In addition, owing to the high rate of engagement of consultants to set up complex contracts, establishment costs were high. Furthermore, organisations would then be locked into long term arrangements which were very expensive if any changes were made i.e. they were not very flexible (Pollock et al, 2001). There were lengthy procurement periods and PFI/PPP really tended only to suit large capital projects, such as schools or hospitals, major infrastructure projects or programmes of work which meant they were not suited to the many small to medium capital projects that make up a significant part of the industry (Froud, 2003; Broadbent et al., 2003; Shaoul, Stafford and Stapleton, 2008).

The third initiative advocated was ‘Prime Contracting’ and is often considered ‘design and build’ by another name. With the objective of reducing the client contacts with

the supply chain, prime Contracting never gained much popularity as it was only suited to larger projects (Ndekigri and Corbett, 2004).

Whilst all three of these initiatives achieved some progress, there remained concerns about a lack of modernisation and innovation in the industry (CII, 1989, 1991, 1994; Bresnen and Marshal, 1991).

1.4 The Emergence of Collaborative Partnership Working

In an attempt, to address this perception of the lack of modernisation and innovation, in 1994 the Conservative Government requested that Michael Latham carry out a review of the construction industry to investigate the reasons for poor performance. He concluded that the industry was very inefficient and pointed to the need for greater partnering and collaboration in the construction sector.

His report, which was called 'Constructing the Team', was highly critical of the industry which it described as being adversarial and fragmented (Latham, 1994). There then followed a second review called 'Rethinking Construction', resulting in a report by the Construction Task Force led by John Egan (1998), which reached similar conclusions and both reports set the agenda for reform.

At the heart of these recommendations was the suggestion of collaborative working based on long term relationship/partnerships. These recommendations were based on the experiences and learning extracted from manufacturing and, in particular, the motor industry. Amongst the aims of collaborative working were attempts to reduce/remove the adversarial approach by developing long term partnerships and 'keeping the team together' beyond single projects. In addition, Egan also recommended greater integration of the design team and contractors and their

selection in terms of quality as well as on price. Latham (1994) and Egan (1998) argued that if part of the significant resources used in tendering and the subsequent adversarial actions could instead be used in collaboration to drive efficiency and innovation, then both client and contractor could share in the savings that would result, thus driving down costs and improving profitability simultaneously.

The drive to adopt collaborative working has being supported by a range of further initiatives such as the OGC; ‘Achieving Excellence in Construction’ (1999), 'Accelerating Change' (2002) by the Strategic Forum for Construction, and 'Releasing Resources to the Front Line' (Gershon Report, 2004) which concluded that, for public sector procurement in the construction industry, emphasis should be placed on long term partnership frameworks and collaborative working.

The term ‘collaborative partnership working’ is often used to describe working together towards a common set of objectives in a non-adversarial manner (Hughes et al, 2012; Bresnen and Marshal, 1999, 2000, 2002; Rahman et, 2014; Akintoye and Main, 2007). It can involve joint planning to develop processes and systems to improve cost, quality and performance (Gulati and Sytch, 2007; Zacharia et al, 2009; Min et al, 2005). Research has shown that collaboration between organisations can reduce costs, increase flexibility, improve quality and achieve greater common outputs (Daugherty et al, 2006). Specifically in construction, research has suggested that performance can be significantly improved in terms of time and cost predictability and build quality, if participants adopt a more collaborative approach to working together (Bennet and Jays, 1995, 1998; Bresnen And Marshal, 1999; Bennett and Jayes, 1995, 1998; Bennett and Peace, 2006).

Latham and Egan also argued that collaborative working in construction can be improved if long term partnerships can be established with the aim of keeping the team together from one project to the next, in order to facilitate continuous improvement, shared best practice, on-going learning etc., (Rahman et, 2014; Bressen and Marshal, 1999, 2000, 2002; Bennett and Peace, 2006).

1.5 Benefits of Collaborative Working

The figure below shows a comparison between traditional competitive tendering and collaborative partnership working and the potential savings that could be made.

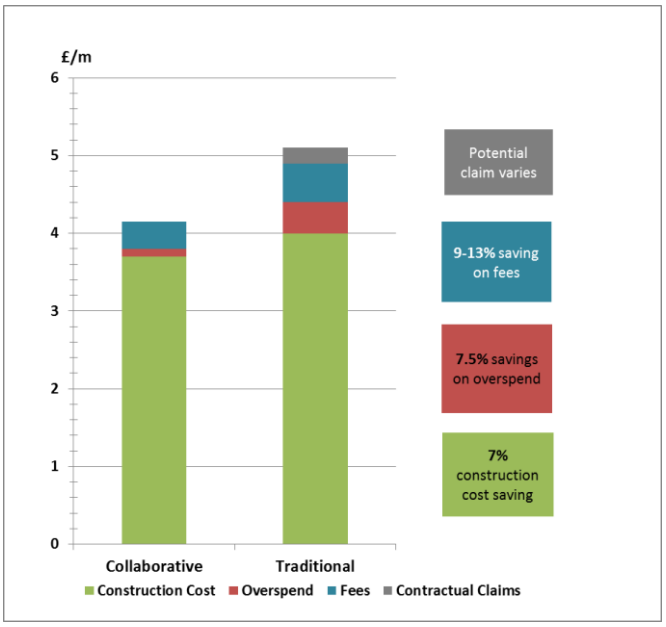


Fig 1, Benefits of Collaborative Working

Davis and Langdon from NIEP 'The Benefits' (2011)

The chart illustrates that the collaborative process potentially results in savings in four different areas based on a comparison of projects carried out by the National Improvement and Efficiency Partnership (NIEP). Firstly, the collaborative process

means that there is a lot less adversarial wrangling and that there are therefore savings to be made on reductions in the amount of fighting and settling claims,. Moreover, as the team is integrated with the earlier involvement of the contractor, teams are kept together and best practice and learning is brought forward and shared from project to project. These measures can save in fees, overspends and construction costs (NIEP, 2011).The chart suggests that if you compare 'out turn' costs of a traditionally tendered job (as opposed to tendered costs) to a collaborative partnership-delivered project this can represent as much as 15-20 % savings, (NIEP, 2011).

This is quite a persuasive illustration of the potential savings that can be achieved by adopting collaborative partnership working based on a relationship with common objectives and goals, the early involvement of suppliers, sharing information, best practice and risks and also sharing in gains stemming from collaboration.

1.6 The Industry today

Originally advocated by Latham and Egan, collaboration-based working has now been around for 10 to 15 years. The question now being asked repeatedly by practitioners in industry is - has this way if working achieved the improvements that it was intended to (Wolstenholme, 2009)?

Below in figures 2 and 3 is a comparison of construction costs and time over 11 years for all types of construction. Values are adjusted to take into account inflation and include all types of construction sectors. There may well be variations within the figures which are relatively small in percentage terms but as an overall indicator they give a good feel as to how the industry performed.

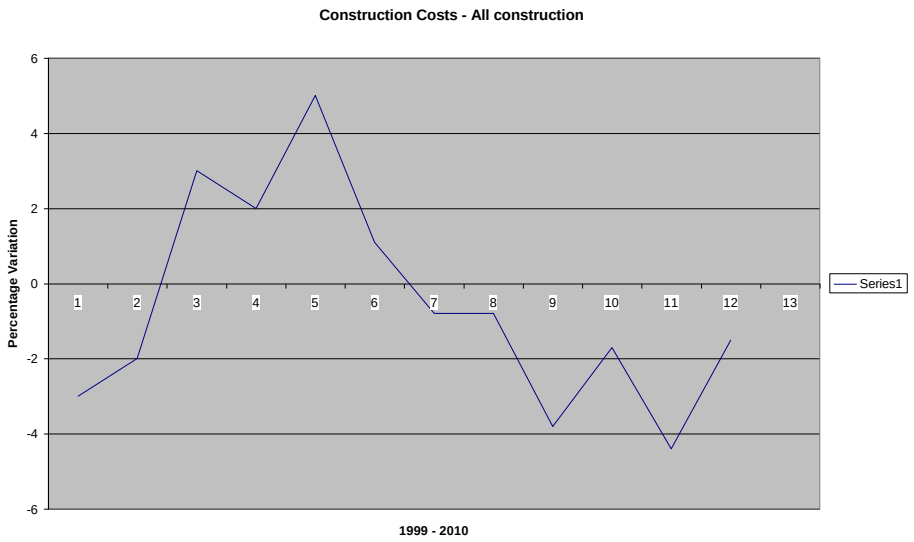


Fig 2, Construction costs 1999 - 2010

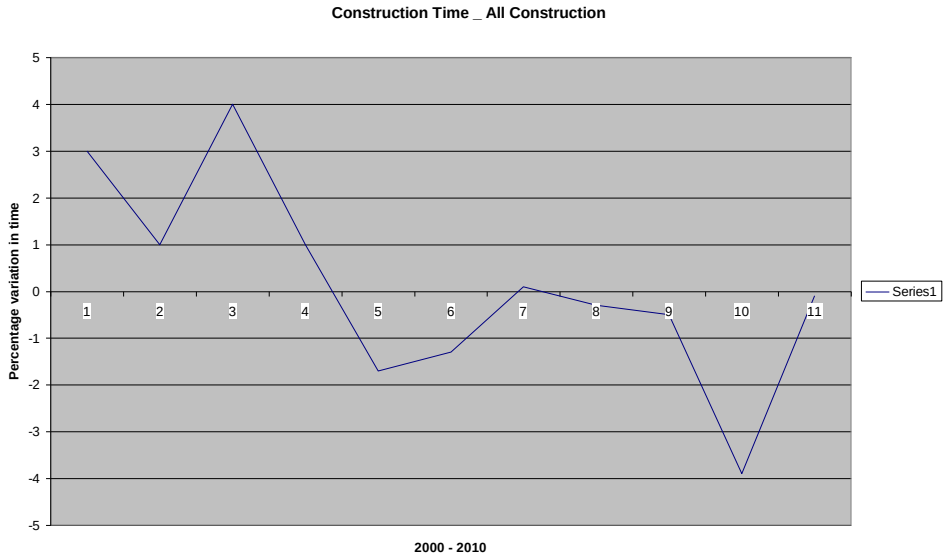


Fig 3, Construction Time 1999 - 2010

(Constructing Excellence in the Built Environment 2010 Construction Performance report)

As can be seen from the charts, over these 11 years there was little overall change in terms of construction costs, although there was an increase from 2000 to 2003 and a reduction in the second half of the decade. These trends reflect the boom in the construction industry and the subsequent recession. The same trend was reflected in the construction time with projects coming over programme during boom times and

below program in the recession. Both of these cycles are then simply a reflection of the increase in demand during boom time pushing up costs and putting pressure on resources hence programmes coming in late. More, in times of recession the reverse is true i.e. lower prices and plenty of supply of labour and materials (Hillebrandt, 2000).

A further review of how the industry is performing using collaborative working was carried out in 2009. Named, 'Never waste a good crisis', (Wolstenholme, 2009) it was meant to be a critique of how much performance had improved. The report fell short of the ringing endorsement hoped for because it struggled to present hard empirical evidence. Indeed, evidence of widespread adoption of the principles of rethinking construction was at best patchy and in reality only skin deep (Green, 2011).

Overall the adoption of collaborative partnering in the UK has also being patchy (Phua, 2006; Green, 2011) and has been driven more by the public sector than the private sector. Phua (2006) goes on to argue that, in fact, the use and adoption of collaborative partnering has been driven more by institutional norms than by the explained benefits. To gain access to frameworks or large contracts, contractors will adopt collaborative working as a means to an end (i.e. win work), rather than any compelling argument about its benefits (Bresen and Marshall, 2000; Wood and Ellis, 2005; Cicmil and Marshal, 2005). This argument suggests that a lot of contractors are going along with it just to win work and are not necessarily signed up to the principles of partnering.

Notwithstanding this point, as described earlier, construction partnering is still seen as the "the most significant development to date as a means of improving performance" (Wood and Ellis, 2005, p318). Indeed collaborative partnering is deemed as the proposed solution to every construction project (Egan, 1998; Construction Industry

Board, 1997; Cicmil and Marshal, 2005; Bresnen and Marshal, 1990; Bennett and Jayes, 1995, 1998; Bennett and Peace, 2006).

Therefore, why do doubts persist as to the benefits, when it is so widely supported as the best way forward by the industry? Phua (2006) suggests that it has almost become an unquestionable concept, while all 'enlightened practitioners' have become synonymous with partnering (Green, 2011, p 213).

One of the difficulties seems to have been the inability to quantify just how well construction partnerships have performed. Phua (2006) has observed that whilst research on individual case studies for different elements had been carried out - for example on mutual trust, or co-operation, or communication, or culture or benchmarking, all of which would contribute to improving quality and cost - little work had been done on the combined effect of all the above. The explanation may partly lie in the fact that construction projects are complex, varied and tend to be unique. Therefore it is difficult to compare like-for-like projects. As a result it becomes much easier to look at elements of the process.

Accordingly, Beach, Webster and Campbell (2005) have looked at a range of studies (Bennett and Jayes, 1998; Lenard, Bowen-James, Thompson, Anderson 1996; Black, Akintoye, Fitzgerald, 2000; Baden-Hellard 1995) on partnering in construction and the emerging theory and practice. They have identified the most common top three critical success factors as:-

i) Management commitment

ii) Equity

ii) Mutual vision, goals and objectives.

Trust appeared at number four. What this illustrates is that the focus in the literature is on what produces good collaboration in partnerships. Equity is the second most important factor, which implies that collaboration is assumed to deliver balanced benefits to the buyer and supplier. The only governance mechanism that is given any serious consideration in achieving an equal balance of benefits is trust. No other governance mechanisms were mentioned and neither was any mention of power position in the buyer supplier relationship (Beach, Webster and Campbell, 2005).

It has been argued that collaborative based partnerships are significantly less adversarial, with the various partners working together much better (Constructing Excellence, 2011). It is also perceived that, with collaboration, better design and planning, better construction techniques, mitigated risks and of course costs saved on tendering, the overwhelming consensus is that additional surplus value is generated (Wood and Ellis, 2005; Constructing Excellence, 2011). However the question is difficult to answer of who gets what of any share of additional value between supplier and buyer (Humphreys, Mathews and Kumaraswamy, 2003). Assuming that a surplus gain is being generated, then the focus of the discussion shifts to who is getting what out of the relationship and what methods are being used to control this i.e. which governance methods.

The afore-mentioned issues are of more than incidental interest, being that the drive towards greater collaboration is likely to increase as the Government continues to set stretching targets. The Government's construction paper (H M Government, 2013) has identified targets of a 30 % reduction in construction costs and a 50% reduction in construction time by 2025. In addition with the industry moving more towards collaborative-based construction tools such as BIM (Building Information Modelling),

collaboration is only going to increase which means the likelihood of additional surplus gain being generated will increase. Consequently, future consideration of governance mechanisms to control appropriation concerns has become more important. Likewise so is consideration of any factors that will affect the likely success of governance measures and in particular the affect relative power may have.

1.7 Summary

To summarise, construction has been seen as a poorly performing industry in the UK and various attempts have been made in the post-war period to address the issues. Collaborative partnership working is the latest in a long line of initiatives to improve the performance of the construction industry. As a concept, it draws upon the work of Latham and Egan who, in turn, have brought in practices from other industries, most noticeably the motor industry. It also builds upon previous work, such as establishing long-term relationships, keeping the team together, supply chain management, all of which can be found in other prior initiatives.

Collaborative partnership working has been in place for 10 to 15 years now which leads to the inevitable question of whether collaborative partnership working in construction has delivered the expected improvements in benefits delivered. In the words of Egan, the evidence is mixed, both in terms of forming collaborative partnerships, and in terms of delivering benefits (Wolstenholme, 2009). There is a view amongst many practitioners that collaborative partnership working has not realised the benefits for the buyer that were anticipated (Bresen and Marshall, 2000; Wood and Ellis, 2005; Cicmil and Marshal, 2005; Phua, 2006). This leads to the follow on question as to why, if as discussed earlier, working in a collaborative

manner should bring about additional benefits, has the buyer not seen these at the level that was expected particularly in terms of delivering value for money.

As was established at the beginning of the chapter, one potential explanation concerns the concept of relative power in a buyer supplier relationship, and how this can affect the likelihood of successful collaboration taking place which can generate added value. In addition is the question of how power can affect how that surplus value is shared between the buyer and supplier, a concept that forms the basis for the research questions being asked in this thesis. Accordingly, we now proceed to discuss that concept, how it might affect the process and the outcome of collaborative partnerships and how the concept sits within the context of other theories.

Chapter 2

Collaborative Partnership Working - A Review of the Conceptual Background and the Role of Power

2.1 Introduction

Chapter one described how historically poor performance in the UK construction industry has led to a drive towards greater collaboration between buyer and supplier, with the key objectives of reducing construction costs and time, and improving quality. However, whilst there is a general consensus that, to make collaboration work, there needs to be a mechanism underpinning it, there is less agreement on what that mechanism should be to ensure a fair appropriation of added value generated by collaboration and also control opportunism by the supplier.

Collaborative partnership working can be considered within a number of different conceptual theories each which can have an influence on collaboration. If we consider the diagram below it can see that these include amongst others trust, TCE, agency theory, power, governance choices, networking / social ties, relationships, marketing, social capital and that they all can directly or indirectly affect collaboration or how surplus value generated is shared.

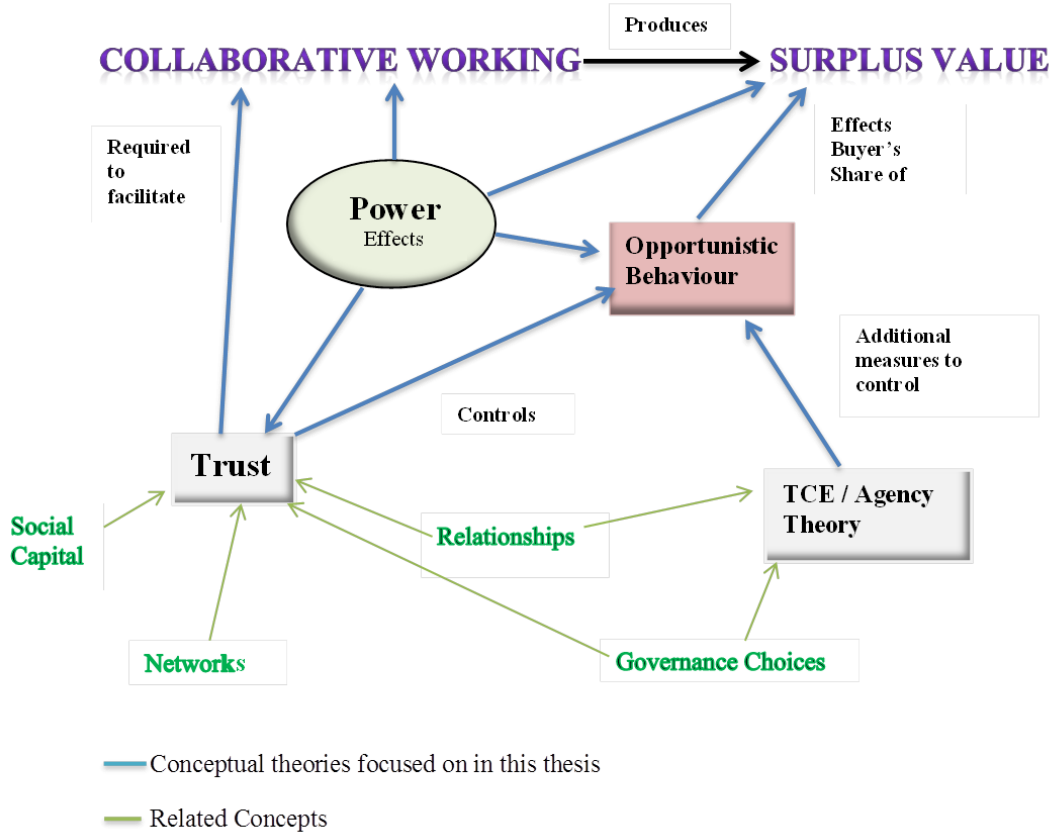


Fig 4 Conceptual Landscape around Collaboration

However this thesis is primarily interested in the impact power has on collaboration and also the effect power may have on how value generated from collaboration is shared. Therefore the focus has been placed on four of the concepts: - trust (for effective collaboration and possible control), TCE and agency theories (opportunism and control measures) and power which is the focus of this thesis. However there is a recognition that there is a large body of literature on governance, relationships, marketing, social networking, social capital etc. all of which contribute to the debate on collaboration which this thesis has not covered in any detail. The rational for concentrating on those four concepts in this chapter is as follows.

Firstly trust, there are many who advocate that relational governance, relying on trust, is the best method to underpin and facilitate good collaborative working (Ireland et al, 2002; Dekker, 2004; Hannah, 1991; Lui and Ngo, 2004; Zucker, 1986).

Accordingly, the first section of this chapter will look at the literature proposing trust as a control mechanism and as a vital ingredient to ensure effective collaboration. The chapter then turns to a discussion of the literature that has highlighted the practical problems of relying on trust as a mechanism. The problems here include, first, regulation within the public sector and, second, the more fundamental problem of human behaviour being inimical to a reliance on trust, due to some people's propensity for opportunistic behaviour (Williamson,1985) and that the starting assumption should always be one of potential supplier opportunism (Lonsdale et al, 2014).

The risk of opportunism and the need for it to be managed is recognised by Transaction Cost Economics –TCE (Williamson, 1979, 1983, 1985). As a result, it is argued that other additional mechanisms are needed; for example, credible commitments (Williamson, 1979, 1983, 1985). Agency theory also identifies the possibility of opportunism, in the form of adverse selection and moral hazard, and advocates the use of incentivised contracts as the solution (Ross, 1973; Mitnick, 1975; Jensen and Meckling, 1976; Eisenhardt, 1989). The second part of this chapter assesses these two theoretical approaches as an alternative to one relying on trust. Also considered is a debate on how TCE, agency theory and trust can either substitute or complement each other.

Nevertheless even when used together (trust and additional measures) there remains concerns on value appropriation for the buyer and why that may be?

There are some who argue that, whilst TCE and agency theory provide viable complements to trust, no consideration is given to the impact of power on the buyer's or supplier's ability to realise those solutions or indeed on the impact on the likelihood of effective collaboration taking place (Hingley, 2005; Kahkonen, 2014).

The lack of consideration that power can have appears to be a common omission in the literature. As Chicksand (2015, p1) identifies "many of the theories at best marginalise the role power plays in the formation and long term maintenance of partnerships". Power has been largely ignored both in TCE literature (Cox et al., 2002; Heide and John, 1992) and in the literature on trust (Lamming, 1993; Morgan and Hunt, 1994; Hines, 1994; Hingley, 2005; Kumar, 1996). Hingley (2005) goes on to note that "power in relationships are rarely discussed or are dealt with as a side issue" (p849). Even where they have been looked at, Stannack (1996) suggests that studies on the impact of power on buyer supplier relationships are too limited in perspective.

Yet regardless whether power has been given due regard by the literature, as Hingley (2005, p849) points out power exists at all times irrespective of whether actors use it or indeed if it can be observed (Emerson, 1962; Dapiran and Hogarth Scott, 2003).

The concept of relative power in a buyer supplier relationship, how this can affect the likelihood of successful collaboration taking place and how added value generated from that collaboration is shared is at the heart of this thesis

Accordingly, in recognition of these gaps in the literature and the fact that power exists, the last section of this chapter will discuss the concept of power, how it might affect the process and the outcome of collaborative partnerships and how finally how this leads to the research questions being considered in this thesis

2.2 The role of Trust in collaborative working in the public sector

The role trust plays in business relationships is well documented in the literature (Wang et al, 2008; Haugland and Reve, 1994; Sako, 1992). It is often defined as when the buyer trusts the supplier to act in a certain way with honesty, integrity and reliability (Moorman, Zaltman and Deshpande, 1992; Anderson and Naurus, 1990; Lui et al., 2008). If this is achieved, then trust effectively acts as a governance mechanism in controlling the potential hazards of opportunism i.e. there is trust in the other party not to take advantage.

Although there are a number of different types of trust such as competency trust, calculative trust, and goodwill trust (Blomqvist 1997), it is 'goodwill or intentional trust' (Blois, 1999; Schary and Skjott-Larsen, 2001; Sako, 1992) that is of most interest to this thesis, being that this shows the disposition of the supplier. Goodwill or intentional trust is what Dekker (2004, p32) summarises as "the expectation that another will perform in the interests of the relationship even if it is not in the others interest to do so." Consequently you can trust the supplier (or buyer) not to exploit a situation even if they have the means and opportunity to do so (Nooteboom, 2002) which makes it possible to reduce the control mechanisms and still safeguard against opportunism (Yan and Gray, 2001).

The importance trust plays in making partnerships work is highlighted by Gulati (1995), who argues that, in repeated transactions with companies with whom there is prior experiences, trust is a substitute for the need for contractual safeguards. It is also argued that contractual governance alone is flawed because it fails to take into account the effect of prior and repeated interactions (Gulati, 1995; Ring and Vande Ven, 1992). When trust is established through repeated interactions it creates something

called ‘Social Capital’ (Ireland, Hitt and Vaidyanath, 2002) which is formed from developing informal relationships between key players in firms (Cousins and Menguc, 2006)Das and Teng, 1998; Jeffries and Reed ,2000). Gulati goes on to argue that trust based on prior experiences alters the calculation of transaction costs: “trust counteracts fear of opportunistic behaviour and as a result is likely to limit the transaction costs associated with an exchange” (Gulati, 1995, p93).

In particular this debate has focused on trust as a form governance mechanism for controlling the hazards of opportunistic behaviour. Trust, as discussed earlier, is often advocated as the preferred method of governance in collaborative arrangements in construction. The use of other governance mechanisms was, in contrast, deemed to be anti-partnering and played a secondary role.

However if part of the consideration of trust is centred on social capital then this leads to the question: are the grounds upon which the social capital is to be generated going to be the same for all circumstances i.e. in a private/private relationship as opposed to a public procurement relationship (Erridge and Greer, 2002)?

There are strict rules around how public procurement of works contracts should be carried out and contracts above a certain value (£4.1m in 2015) would normally be subject to the requirements of the EU Public Procurement Directive. A lot of collaborative based frameworks / partnerships of the type being considered in this thesis, particularly in the construction industry, would fall into that category.
That said the European Directive is less concerned with what the contracting authorities buy but rather the process than it employs and that ‘Contracting entities shall treat economic operators equally and non-discriminatorily and shall act in a transparent way’ (Article 2 of the Procurement Directive and Article 10 of the

Utilities Procurement Directive). These key overarching principles of equality, non-discrimination and transparency are captured in the various directives (93/37EEC; 2004/18/EC; 2014/24/EU). What this means is that a contracting authority must act fairly in the course of public procurement and that all potential tenderers must have an equal opportunity to compete for the works contract.

The principle of transparency requires transparent decision making in order to show that the contracting authority is following the principle of equal treatment (Arrowsmith, et al, 2010; Erridge and Greer, 2002). This places a lot of emphasis on procurement in the public sector to display probity and transparency in the way it conducts its business and relying solely on trust to govern a public procurement contract does not sit comfortably with these objectives.

In public procurement, experience and references can be assessed and form part of the selection criteria (Erridge and Nondi, 1994). However this is a long way from having and using personal prior experiences to judge whether a company is the right partner to appoint to a public framework, being that companies who have not worked with the buyer in the past would deem this unfair and challenge it legally. Therefore if trust is deemed to be a critical success factor in relational governance and that this should form part of the selection/ evaluation process based on personal prior experiences, it is then difficult to see how this could be applied successfully to the procurement of public sector suppliers.

An added consideration is that formal controls as well as being part of the EU procurement directives are a part of the philosophy of UK public procurement, driven by politics and an emphasis on formal transparency in delivering public value (Caldwell, Roehrich and Davis, 2009). What this means is that creating an

arrangement based on trust in an environment which expects more formal engagement is potentially creating a situation of tension. It confirms a study by Erridge and Greer (2002), who found that it was possible to build some degree of trust, based relationship in partnerships and collaborative arrangements, but that it would always be limited by the expected behaviour norms of public procurement.

Partnerships based on collaborative working started to become government policy in procurement by the mid-1990s (Construction Industry Board, 1997; OGC - Achieving Excellence in Construction, 1999). Yet because of the issues of probity associated with public sector procurement, the government also required that competitive tendering should form part of the supplier selection process and that a contract should be constructed which set out the roles and responsibilities of both parties (Sanderson, 2009). These requirements for partnering in the public sector (competitive selection, tightly defined contracts, close monitoring and auditing of contracts etc.) have received criticism (Sanderson, 2009) as they do not sit comfortably with the spirit of partnership (Parker and Hartley, 1997). There is not only a requirement to follow strict guidelines in terms of what the relationships are with suppliers, but also a need to be seen to be absolutely above board. The public sector is constantly under the microscope in terms of how it conducts itself and will therefore deliberately avoid close relationships with suppliers in order to stop criticism. It does not mean that no trust will be established but rather that it is going to be potentially less likely of a form advocated by Ring and Van de Ven (1989), Gulati (1995) and Zucker (1986) because the ability to build informal social relationships is severely restricted in the public sector.

Why this is important to the discussion lies in the fact that trust is considered by many to be vital in making collaboration work. It has also being argued that it acts as an effective form of governance and substitutes the need for formal contracts.
As noted earlier, trust has been advocated as the preferred governance mechanism (Egan, 1994; Latham, 1998; Gulati, 1995; Kale et al, 2000; Ireland, Hitt and Vaidyanath, 2002; Berheim and Whinston, 1998 and Bradach and Eccles, 1989) and has been taken on board across the public sector as 'de facto' the way to manage collaborative partnerships in construction.

The assumption is that the establishment of a good trusting relationship is the tool for good governance but, if, owing to public procurement restrictions, this mechanism has its limitations, then it is possible to conclude that the risk of potential opportunism remains. Therefore, if trust is required to make collaboration work, but cannot be relied on to control the hazards of opportunism in a public procurement context, what are the other additional mechanisms that can be used to address these concerns?

2.3 Transaction Cost Economics

Based on Ronald Coarse's seminal work in 1937, Williamson (1979, 1983, 1985) argues that when a transaction takes place between two parties, there is a cost to carrying out that transaction (as opposed to the cost of the production of the service or product) and defined by Arrow (1969, p48) as the 'costs of running the economic system'. A 'transaction cost' is made up of a number of stages i.e. searching information on the market, products, price, negotiating with potential suppliers, constructing and making the contract, monitoring and enforcing the contract and finally protecting any intellectual property issues that may arise. All of these activities have a cost. Consequently Williamson (1975, 1983, and 1985) argues that, in a

development of neo-classical theory, the principal task is to find mechanisms that will enable organisations to economise on potential transaction costs, which he identifies, can be done through a range of governance arrangements.

What affects the choice of mechanism is uncertainty, frequency and asset specificity. These occur, as mentioned earlier, within an environment defined by opportunism where buyers struggle with bounded rationality (Williamson, 1985). Uncertainty is where an issue is unknown priori to a contract and is therefore difficult to plan for (Brousseau and Glachant, 2002). Frequency refers to how often it is likely to occur and whether it is a one-off transaction or is it a recurring transaction. Asset specificity is described as the amount of investment made into a particular transaction which has greater value to that specific transaction than it would elsewhere (McGuinness, 1994; Cannon & Perreault, 1999).

Transaction Cost Economics (TCE) theory is based on an assumption that suppliers can and do behave opportunistically, something that can have an impact on the benefits delivered to the buyer (Bergen et al., 1992; Williamson, 1981). A common definition of opportunistic behaviour is 'self-interest seeking with guile' (Williamson, 1985) i.e. a supplier will act in their own interest (and at the expense of the buyer), but in a way that is also devious and often one in which the buyer will be unaware.

TCE argues that opportunistic behaviour can occur if the supplier knows the buyer has invested a significant amount of resources into a particular transaction and to switch to an alternative provider would be very expensive, a situation which the supplier can then exploit. In particular this can happen where prior to the contract being signed both parties have uncertainty i.e. an incomplete contract is entered into. Negotiations then take place whereby those unknowns become known and the supplier can hold up

the process in the knowledge of high sunk and switching costs by the buyer in order to extract the best possible deal out of the negotiations i.e. 'hold up', (Joskow, 1987; Lonsdale, 2001). To protect against the potential risk of opportunism both parties will want to ensure that the dangers of 'hold up' does not fall on them i.e. the issue of asset specificity is bilateral. This is achieved by either sharing the costs of the investment or alternatively by posting a hostage (bond) that would be payable if the other party acts opportunistically. To be effective, both of these options would require a credible commitment by either party (Williamson, 1983).

However, the situation described above refers to 'medium asset specificity'. Not all transactions would resemble such situations and, as a result, Williamson (1985) argues that the principal task is to find governance mechanisms that are most efficient in minimising transaction costs, given the nature of the transaction in question (Krapfel et al, 1991). The choice of governance is therefore at the heart of transaction cost economics; getting the right balance or choice, sometimes called 'discriminating alignment' (Williamson, 1985), is critical.

Although TCE sets the overall context for opportunism and shares some of the same concerns as agency theory, it is the relationship between asset specificity and uncertainty and transaction costs that TCE focuses upon in terms of selecting the right governance mechanism. If the supplier knows the buyer has invested a significant amount of resources into a particular transaction and also knows that it would cost a considerable amount to find an alternative supplier then the supplier can exploit this situation via the aforementioned 'hold up' (Williamson 1979, 1985; Klein et al., 1978).

The relationship between asset specificity and uncertainty and transaction costs can be shown in fig 5 below for the three types of governance options available.

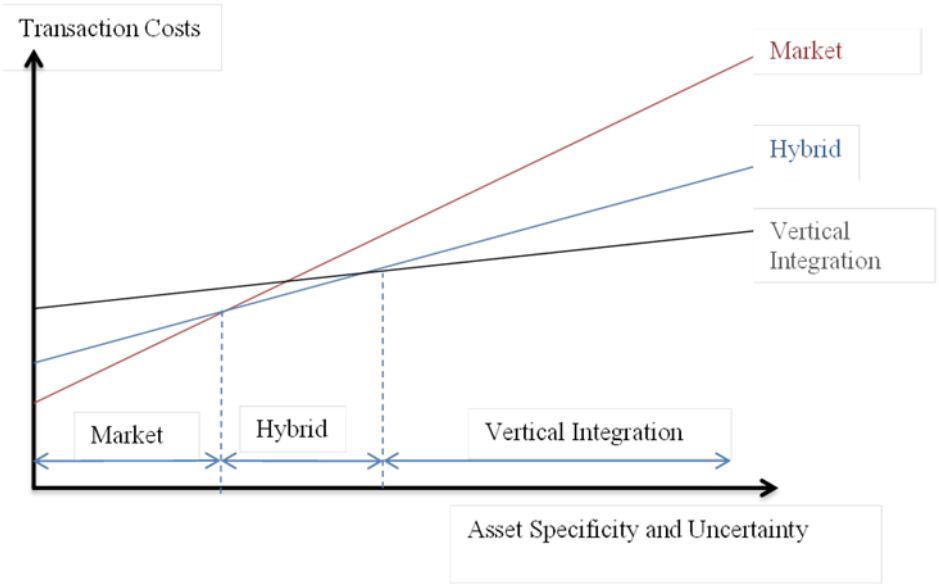


Fig 5, Cost of Managing the Relationship
(Watson, 2010)

As can be seen from the diagram, it is the relationship between the transaction cost and the level of asset specificity and uncertainty that determines which is the best governance model. A low level of asset specificity and the market is the right solution, but as the asset specificity increases so do the transaction costs. Therefore, at the other end of the spectrum, for very high asset specificity the best solution is vertical integration with a hybrid solution in-between the two. Of these three options it is the hybrid or bilateral model that is being considered in this thesis. Collaborative arrangements are often considered the best governance mechanism in terms of minimising transaction costs where there is significant asset specificity and uncertainty coupled with assumptions on behavioural bounded rationality and opportunism (Williamson, 1985).

2.4 Agency Theory

Principal - agent theory was developed in the 1970s and was based on the seminal works of Stephen Ross (1973), Barry Mitnick (1975) and Jensen and Meckling (1976) and considers the relationship where "one party (the principal) delegates works to another (the agent), who performs that work on behalf of the principal" (Eisenhardt, 1989, p58).

The problems arise when there are divergent or conflicting goals between the principal and the agent. Agency theory tells us that, in a classical buyer-supplier relationship, it is likely that the goals will in fact be in conflict i.e. the buyer wants the service for the least possible price whereas the supplier wants the maximum price for provision of service (Mitnick, 1975; Holstrom and Milgrom, 1987; Cox, 2005).

Therefore, if as a result of information asymmetry the principal does not know whether the agent is behaving appropriately or not, then there is a risk that the agent may exploit the situation in order to achieve their goals.

One of the main differences between TCE and agency theory is that whilst TCE assumes bounded rationality, agency theory assumes that actors are rational and are not limited in their decision-making ability. It is based on an assumption that contracts can be drafted that are complete and which can cover all the possible hazards of potential opportunistic behaviour. Barney and Ouchi (1986) have identified that whilst TCE and agency theory share similar assumptions on opportunistic behaviour, they differ on what types of opportunism they focus on.

Agency theory advocates as the principle method for controlling opportunistic behaviour is the use of a contract as a governance mechanism (Jensen and Meckling,

1976; Bergen et al., 1992). Consequently the main focus of the theory is upon determining the most efficient form of contract "given assumptions about people e.g., self-interest, goal conflict and information asymmetry" (Eisenhardt, 1989, p58). As mentioned earlier, information asymmetry in favour of the agent will always give the agent an advantage which it can exploit. It normally manifests itself in two possible ways. The first is 'adverse selection' where the agent can behave opportunistically by not revealing key information or by misrepresenting information or ability at the pre-contract stage. It uses its information asymmetry to its advantage in order to be selected for work and the buyer is unable to detect this (Eisenhardt, 1989). The second way is when, once a contract has been awarded, the agent then uses his information advantage to avoid being monitored or challenged, such that he can behave opportunistically without the principal being aware – 'moral hazard' (Milgrom and Roberts, 1992). It is the second of these approaches that this thesis will engage with, post –contract, since that is where the focus of the research is i.e. how collaborative partnerships operate once established in terms of benefits delivered to the buyer.

In dealing with these two problems of adverse selection and moral hazard, 'agency costs' are incurred which is the price of governance mechanisms in terms of selecting the right agent, setting up contracts, monitoring performance etc. The more comprehensive the governance mechanisms, the tighter the control, but this comes with greater cost. Therefore, the objective is to establish contracts that minimise not only these costs but the potential risk of opportunism. To achieve this, a number of different approaches can be taken, such as motivational incentives - e.g. shared pain/gain etc., which are designed to try and align common goals combined with minimal monitoring to give 'outcome-oriented contracts' (Coyle -Shapiro and Conway, 2005; Eisenhardt, 1989). By creating a contract with common goals or

incentives, then the inclination to behave opportunistically would be reduced. The objective is, to create incentives for the agent to act in a way that is maximising for both the agent and the principal and that needs little or no monitoring as an optimum objective for the principal. To be effective, these incentives need to rely on the agent acting in self-interest. Identifying and implementing effective incentives in the public sector has historically been a difficult task to achieve because of public sector procurement rules and issues of probity (Miller and Whitford, 2007; Erridge and Nondi, 1994). The alternative is to have very complete contracts which consist of drafting up documents to limit the potential hazard of opportunism by establishing detailed and legally enforceable contracts (Williamson, 1975, 1991). A complete contract can be drafted (Lyons and Metha, 1997) detailing everything that is required from the supplier in terms of outputs or deliverables, as well as what is expected in terms of performance and how the buyer and supplier relationship is to be conducted (Lui and Ngo, 2004). Contracts are also important for the development of the relationship, not just for when things go wrong. By setting out the common aims and objectives of the relationship, the contract can give a real sense of clarity as to what is being intended (Jong and Woolthius, 2009).

Unfortunately, in practice most contracts are 'incomplete' because it is difficult to contract or specify things not yet known i.e. uncertainty (Poppo and Zenger, 2002; Hart, 1995; Lyons and Matha, 1997). Therefore, it is evident that incomplete contracts would be difficult to enforce fully for of a range of reasons, such as gaps in contracts, poor specifications, etc., (Deakin and Wilkinson, 1998). Even if it were possible to capture most things, the resultant contract is likely to be very detailed, difficult to manage and monitor, and is also likely to be very inflexible (Macaulay, 1963; MacNeil, 1980). As a method for controlling the hazards of opportunism and

exploitation, it is clear that, when used alone, contracts also have limitations. Therefore is it possible to use a mixture of contracts and trust as governance mechanisms together?

2.5 Trust and contracts – Can they be used together?

There is an on-going debate within the literature as to whether various governance/control mechanisms can complement each other (Poppo and Zenger, 2002; Ness and Haugland, 2005) or whether they should be taken as substitutes (Reve, 1990; Wuyts and Geyskens, 2005; Williamson, 1985).

In particular this debate has focused on trust as a form of governance and whether it may complement or be a substitute for other governance mechanisms for controlling the hazards of opportunistic behaviour. Trust, as discussed earlier, is often advocated as the preferred method of governance in collaborative arrangements. The use of other governance mechanisms was, in contrast, deemed to be anti-partnering and played a secondary role.

The argument that trust can replace the need for formal contracts has been made by various authors, including Gulati (1995), Kale et al (2000), Ireland, Hitt and Vaidyanath (2002), Berheim and Whinston, (1998) and Bradach and Eccles (1989). The main thrust of the argument is that trust can operate as a "self-enforcing safeguard that is more effective and less costly" (Poppo and Zenger 2002, p708). If you have a high level of trust then there is no need for formal contracts. It may also be argued that high levels of trust will reduce the likelihood of opportunism being that suppliers are less likely to put their reputation and relationship at risk. Indeed the argument continues that a formal contract can actually signal distrust and encourage

opportunistic behaviour (Ghoshal and Moran, 1996; Macaulay, 1963; Fehr and Gacheter, 2000) i.e. contracts can be counterproductive.

The alternative view is that by having formal contracts in place, this can complement trust because it promotes a more cooperative, long-term trusting exchange relationship. Having a formal contract in place reduces the scope and potential risk of opportunistic behaviour and encourages cooperation and trust. A good contract will involve heavy penalties for pulling out of the relationship and is therefore more likely to induce a higher level of commitment from the supplier. Moreover, a formal contract can customise and articulate the particulars of that relationship - i.e. its policies, procedures and specifications - to ensure that there is a clear understanding upon which the relationship is based and so leading to less uncertainty or ambiguity which, in the long term, can foster better non-opportunistic behaviour (Poppo and Zenger, 2002; Macneil, 1980).

Poppo and Zenger (2002) also make a very compelling argument as to how the two can be complementary and how a detailed formal contract actually develops trust and limits the capacity for opportunistic behaviour. The drawback with this argument is that long term relationships are fluid and develop over time; therefore, if the basis of trust lies in having detailed complete formal contracts, then a significant amount of resources would be spent writing and rewriting contracts, with subsequent monitoring becoming more and more difficult (Luo, 2002; Poppo and Zenger, 2002). As a result costs would increase, which would be against the principle objective of trying to minimise transaction/agency costs (Bovaird and Halachmi, 2001; Forder et al, 2004).

A study into buyer-supplier governance relationships by Liu, Luo and Liu (2009) has found that, in broad terms credible commitments and contracts are most effective at

controlling opportunism, whilst relational governance (trust) is best at improving collaboration and performance. However, Liu, Luo and Liu (2009) go on to conclude that if you combine them then they will complement each other to achieve optimum performance with minimum opportunism. This argument has also being supported by another study by Lonsdale et al (2014) who conclude that the "best chance of developing a relationship underpinned by intentional trust is through establishing at the outset a clear and detailed legal agreement" (Lonsdale et al , 2014, p4) i.e. using a mixture of governance mechanisms.

Therefore then this poses the question as to why given that these measures are often used to together does concerns remain on appropriation of value between the buyer and supplier? Williamson (1975) argues that each actor wants the biggest share of any surplus value generated and acting in self-interest, will use opportunistic behaviour to achieve this. The basic instinct of self-interest always presides even in a collaborative arrangement where it is often carried out covertly with guile (Rokkan and Haugland, 2002). Yet neither TCE or agency theory seems to recognise the impact power may have (Cox et al., 2002; Heide and John, 1992; Lamming, 1993; Morgan and Hunt, 1994; Hines, 1994; Kumar, 1996; Hingley, 2005). Cox et al, (2003) argued that having a position of power will impact on how effective the selected governance mechanisms put in place will be. The reason for this is that if the buyer is not in a position of power post-contract, then credible commitments/ incentivised contracts developed pre-contract are less likely to be effective in controlling opportunism post contract. Consequently given this situation there is constant manoeuvring between a buyer and supplier to achieve power superiority in order to enforce or negate the effectiveness of the governance measures with the ultimate objective of obtained greater share of surplus value (Berthon et al, 2004;

Stern et al, 1996; Hingley, 2005). The impact of power on a buyer-supplier relationship is now considered and discussed in the next section.

2.6 Impact of Power

As highlighted earlier the relative power position between the buyer and supplier can affect the likelihood of collaboration taking place. It can also affect how much surplus value is generated from working collaboratively as well as how that surplus value is shared between the buyer and supplier. Consequently this thesis is looking at exploring how power impacts on collaboration and in particular the extent of collaboration, the surplus value generated and how that surplus value is shared between the buyer and supplier.

Power as a concept is a very broad and wide definition and can mean many things to different people. As such there are many definitions of power (Dahl, 1957; Lukes, 1974; Bowles and Gentis, 1993), but one of the most simplistic and well known is the ability of actor A to make actor B act in a manner that she would not have done otherwise (Emerson, 1962). Cox, Lonsdale, Sanderson and Watson (2004, p224) put this into a business context, defining power as the "ability of an organisation (either buyer or supplier) to use relationship management strategies and relationship management styles to maximise its commercial interest." For the buyer, the aim is to use a position of power to obtain maximum value for a minimum cost. For the supplier, the aim is to generate the maximum revenue and maximum profit (Cox, 2001).

When considering the concept of power, it is necessary to look at the whole buyer–supplier relationship since power is relative (Pfeffer, 1981; Campbell and Cunningham, 1983; Cox et al, 2000, Kim et al, 2010). Such an approach is taken both

by the International Marketing and Purchasing group (IMP) and the power perspective school who advocate that, to fully understand business transactions, it is important also to understand the goals and motives of both the buyer and supplier (Hakansson,1982; Ford, 1990). As identified earlier, buyers and suppliers have inherently divergent goals and whilst there may be sometimes common interests, there will always be an inherent business tension present and it is often this basic relationship condition that is not understood (Cox, 2001). Notwithstanding the importance to look at power from both the buyer and supplier perspectives, a lot of the literature has tended historically to focus on one or the other (Ellram and Cooper, 1990).

The fact that power can be understood and analysed in lots of different ways all adds to the complexity of defining power. Some authors have talked of power in terms of Kraljics (1983) purchasing portfolio (Caniels and Gelderman, 2005) or in terms of products and their uniqueness (Ford et al, 1998: Porter, 1985). Others have made comparisons between physical and social power (Stannack, 1996), total power and relative power (Caniels and Gelderman, 2005), economic and non-economic power (Etgar, 1976) and coercive and non-coercive power (Gelderman et al, 2008). French and Raven (1959) carried out a study of power and identified five forms of power as legitimate, reward, expert , referent and coercive. Cendon and Jarvenpaa (2001) identified the difference between structural and behavioural power. Meehan and Wright (2012) gone on to argue that historically power has been considered as either the property of organisations, individuals or relationships and that whilst it may be beneficial to look at particular aspects, to fully understand power you need to consider all three constructs in an integrated manner.

As illustrated earlier there are many ways of how power can be considered but it is that last one which is of most interest to this thesis and that is that power is the property of organisations, individuals or relationships. As contested above Meehan and Wright (2012) argue that you need to consider all three as an integrated construct in order to fully understand power. Let us now consider the three elements.

Power as a property of an organisation is the most dominant approach in the literature and centres on the power regime theory based on the power resources available to an organisation as defined by the sub elements of utility, scarcity and information and linked to dependency (Emerson, 1962; Blau, 1964; Campbell and Cunningham, 1983; Cox, Sanderson and Watson, 2000; Cox et al., 2002; Chicksand, 2015).

It is clear that a buyer's dependence on a supplier will be a source of power for the supplier and vice versa. The difference between the buyers-supplier dependencies is often referred to as the net dependency i.e. "the dependence of one party compared to the dependence of the other party" (Bacharach and Lawler, 1981, p221). Put another way if A depends on B more than B depends on A, then B has power over A (Caniels and Gelderman, 2007; Pfeffer, 1981; Campbell and Cunningham, 1983; Cook and Emerson, 1978).

Using the elements of utility, scarcity and information the available power resources to the buyer and supplier can be measured and plotted on a power matrix (Cox 1999; Cox, 2004b; Cox, Sanderson and Watson, 2001). The literature details the different aspects of the matrix in quite some detail - e.g. Cox and Townsend, (1998), Cox, Lonsdale, Sanderson and Watson (2004) and Chicksand (2015) - but they can be summarised as in the following chart and descriptions.

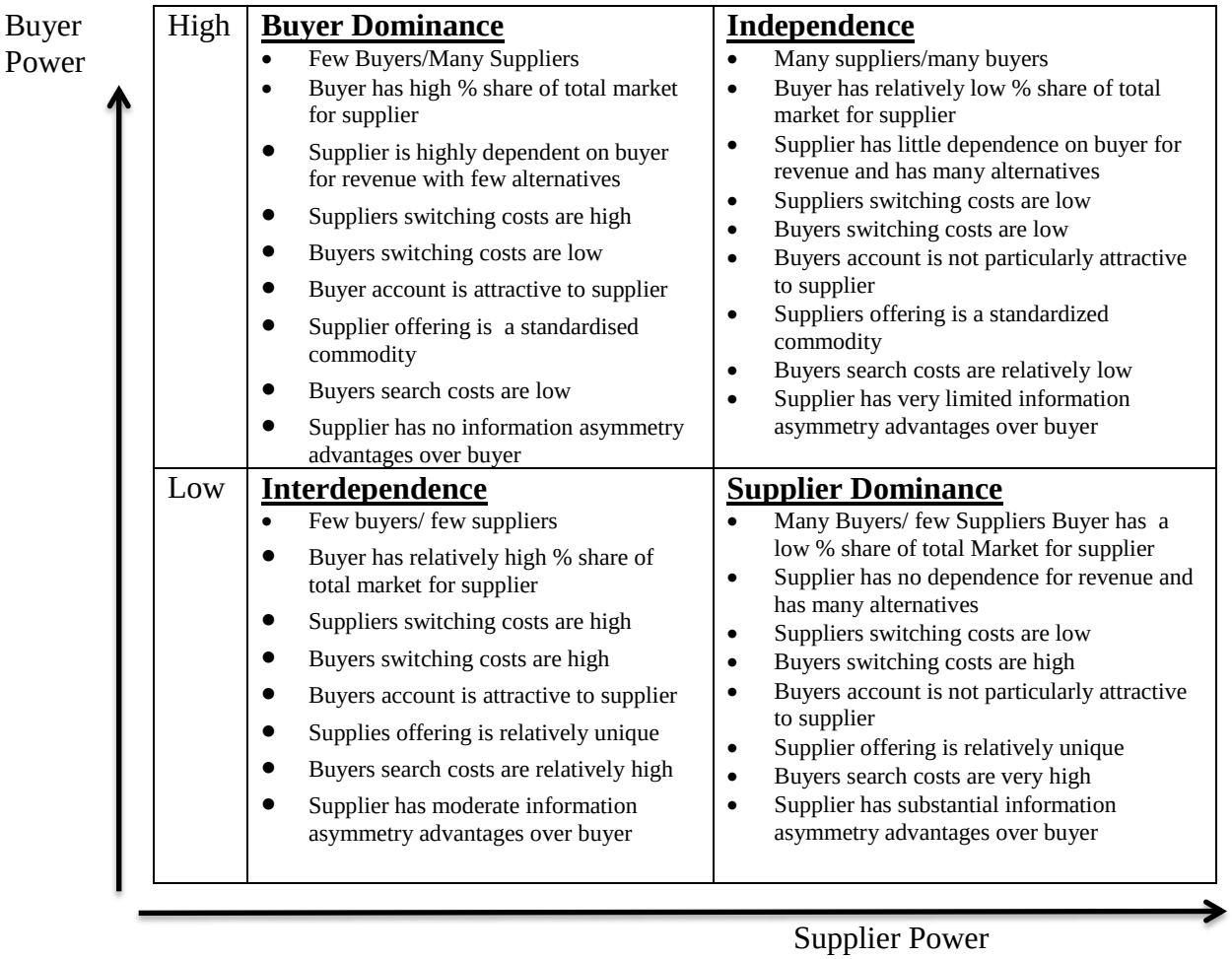


Fig 6, Power Matrix

Cox et al (2004)

The key argument of the power matrix is that if the power position is one of buyer dominance or interdependence then the buyer will be more likely to be able to manage / influence the relationship in a way to ensure it maximises its value. If the power position is one of supplier dominance or independence then the supplier is more likely to be in a position to influence the relationship.

2.7 Value Appropriation

Cox et al (2004) have argued that there is also a relationship between the value appropriation (of surplus generated), power and the relationship management style. Cox goes onto argue that it is this relationship between the type of relationship (arm's length or collaborative) and the level of power that determines who appropriates what value from a buyer-supplier relationship as illustrated in the chart below.

The Way of Working	**BUYER DOMINANT ARMS-LENGTH RELATIONSHIP**	**BUYER-SUPPLIER RECIPROCAL ARMS-LENGTH RELATIONSHIP**	**SUPPLIER-DOMINANT ARMS-LENGTH RELATIONSHIP**
Arms-Length	• Short term operational relationship, with limited close working between buyer and supplier. • Buyer adversarially appropriates most of the commercial value created and sets price and quality trade offs • Supplier is non-adversarial commercially and a willing supplicant accepting work rather than high margins/profitability from the relationship • **Buyer Dominance Power situation (>)**	• Short term operational relationship with limited close working between buyer and supplier • Buyer accepts current market price and quality trade offs • Supplier accepts normal (low) market returns • Both buyer and supplier operate adversarially commercially whenever possible but normally have few leverage opportunities • **Independence Power Position (0)**	• Short term operational relationship with limited close working between buyer and supplier • Supplier adversarially appropriates most of the commercial value created and sets price and quality trade offs • Buyer is non-adversarial commercially and a willing supplicant paying whatever is required to receive given quality standards • **Supplier Dominance Power Position (<)**
	BUYER DOMINANT COLLABORATIVE RELATIONSHIP	**BUYER-SUPPLIER RECIPROCAL COLLABORATIVE RELATIONSHIP**	**SUPPLIER-DOMINANT COLLABORATIVE RELATIONSHIP**
Collaborative	• Long term operational relationship with extensive and close working between buyer and supplier • Buyer adverserially appropriates most of the commercial value created and sets price and quality trade offs • **Buyer Dominance power situation (>)**	• Long–term operational relationship with extensive and close working between buyer and supplier • Buyer and supplier share relatively equally the commercial value created • Buyer and supplier agree price and quality trade- offs with supplier making more than normal returns • Both buyer and supplier operate non adversarial commercially • **Interdependence Power situation(=)**	• Long term operational relationship with extensive and close working between buyer and supplier • Supplier adversarially appropriates most of the commercial value created and sets price and quality trade offs • Buyer is a non- adversarial supplicant • And commercially pays whatever is required to receive given quality standards • **Supplier Dominance Power Situation (<)**
	Buyer Dominance	**Buyer, Supplier Reciprocity**	**Supplier Dominance**

Fig 7 Value appropriations, power and management style (Cox A, et al, 2004)

The key point made by Cox et al (2004) is that the relative buyer / supplier power position will determine how surplus value generated is shared dependant on what time type of arrangement you are in. In the case of this thesis we are considering a collaborative arrangement so the expectation is that in order to achieve expected benefits the buyer would need to be in either a dominant or interdependence position with the ideal situation being one of interdependence where there is an equal balance of power and equal share of benefits. The importance of achieving the right balance of power matters as it doesn't just effect appropriation but also effects how effective the collaboration in likely to be – a point explored later in this discussion.

Returning to the discussion on power resources and the use of the power matrix there is a significant drawback with taking this approach and that is it takes no account of social or individual relations. Nor it does not consider the effect of motivation, personality and emotions (Ho, 1991) which leads us on to the second construct of power that Meehan and Wright (2012) identify which is that as the property of individuals (Zemanek and Pride, 1996). Individual behaviour can influence a relationship and therefore affect the power position. Meehan and Wright (2012) go on to identify factors that affect individual behaviour including motivation, personality and emotions as well as approval prestige and a sense of ego (Emerson, 1962). The argument is that whilst the individual's commercial objectives may be aligned with the organisational ones there may be other individual social or political considerations which may sit at odds with the organisational objectives and in such cases it's usually the personal one's that take precedence (Thorne and Meehan, 2005).

Other considerations that can impact are an individual's competencies, capability and capacity. (Kahkonen, 2014) highlights previous studies which identifies these

individual resources as an essential source of power that can affect the ability of an organisation to monitor and manage a supplier. Likewise the expertise and reputation of an individual can create a differential effect which gives deferential power (Nyaga, Lynch, Marshall and Ambrose, 2013).

An example that Meehan & Wright (2012) use to illustrate the point of how individuals may affect power is one of a strong individual siting in a weak organisation who may be dealing / interacting with a weak individual in a strong organisation which could completely undermine the structural power position between the two organisations. Therefore individual behaviour may give a different outcome to the one you would expect based on the structural assessment of power.

The third construct of power is one as a property of the relationship. Grounded in social exchange theory the premise of this is that individuals or organisations will act differently in different situations according to the type of relationship. How actors see themselves and others, based on knowledge, experience and feelings will affect how they behave in a relationship (Rudolph, 2001). Research has shown that individuals interpret behaviour and develop a perception of the other person's power, whether real or not (Zemanek and Pride, 1996). As a result actors may interact with each other in a different way which affects their available power resources (Meehan and Wright, 2012; Ho, 1991; Emerson, 1962; Dahl, 1957). A lack of understanding and appreciation of the impact of power can have a significant detrimental effect on a relationship (Kahkonen, Lintukangas and Hallikas, 2014). Different organisations may have different power priorities they seek to influence. Meehan and Wright (2013) identified four – commercial, operational, strategic and attitudinal. Inevitably there will be different perspectives on these as to whether you are a buyer or a supplier and

therefore it is important to have a good understanding and appreciation on the potential impact power can have. As mentioned earlier the literature tends to focus on one of these sources of power – usually the organisational one.

The focus of this thesis is on the impact that power has had on collaborative partnership working and the relationship between organisations. Consequently there is more of an interest in the structural power between organisations, but it is recognised that both individual and relational aspects of power will play a part on creating the relative power positions. Consequently the research methodology in chapter 3 will describe an approach which attempts to capture both structural and individual behaviour. We can now consider how power will impact on collaboration.

2.8 Power and collaboration

The relative power position is relevant to how likely it is that a supplier will collaborate and how effective that collaboration will be. It can also affect how surplus value is shared between the buyer and supplier. As stated by Kahkonen (2014, p21) "power positions of the actors strongly affect the character of the relationship and depth of collaboration". Power can have an effect on collaboration in a number of different ways.

Firstly the abuse of power can be very destructive in a collaborative arrangement (Hingley, 2005). Too much power on one side may well give short term gains but the push back / retaliation will mean reduction in the long term value creation aspect of the relationship (Gulati and Sytch, 2007). Kahkonen, (2014) argues that the best conditions for effective collaboration are when there is a balance in power between the buyer and supplier. The key point is that being in a very strong position of buyer

power may mean you can force collaboration but that does not necessarily mean it will be the most effective collaboration (Nyaga, Lynch, Marshal and Ambrose, 2013).

Another consideration is that power in relationships can and does change over time i.e. it is not static (Hingley, 2015, Gummesson, 1996; Yovovich, 1991). The potential change of power over time needs to be both understood and factored into any considerations as it may well impact on both the likely-hood and effectiveness of collaboration at various stages of the relationship and therefore needs to be managed.

A third consideration is that in the discussions on the various aspects of power in the literature there is not a significant amount on the affect that the 'willingness to use it' has. Kahkonen (2014, p25) observes that "power positions and the willingness to use power are factors that together define the influence of power on collaboration". It's not having the power that's important but how you use it. Having it but not being prepared or willing to use it will in effect negate a power advantage (Hingley, 2015; Kahkonen, 2014). That doesn't mean it has to be used all the time since has already mentioned abuse of power can be very destructive in collaboration and that there may be very good reasons to hold back. Yet in order to be effective, the clear signals need to be sent that there is a willingness to use it when necessary (Hingley, 2015; Kahkonen, 2014).

So why would a supplier want to collaborate? As mentioned earlier if the buyer is in a position of buyer dominance or interdependence, then they can influence the supplier to do something they want (Cox, Chicks and Young, 2006). In order to collaborate, a buyer and supplier will almost certainly have to "make extensive dedicated investments in the relationship" (Cox, 2004, p352). If it were the case that that there was supplier dominance, then the obvious question is, given this position, why would

the supplier forsake the advantage and share benefits (Cox et al, 2003; Lonsdale, 2005). The question would then be posed: what is the incentive for the supplier to collaborate?

A supplier will only enter into this arrangement if:-

i) He has to do it (i.e. it is forced to do so by buyer dominance)

ii) Because it is in his interests to do so as there is mutual benefit to be gained and/or mutual investments, (Cox et al, 2003; Lonsdale, 2005).

As mentioned earlier the "very existence of power imbalance conditions buyer and supplier behaviour" (Cox, Sanderson, Watson, Lonsdale, p5, 2004.) i.e. the simple fact that there is a power advantage can be sufficient to make a decision to collaborate or not. However previous studies have shown that for collaborative relationships to develop then the ideal condition is where there is a balance of power (Van Weele and Rozemeijer, 1999). Also it has already identified that too much power can be destructive and that power can be a serious obstacle to collaboration (McDonald, 1999; Kahkonen, 2014). Therefore it is possible to draw a conclusion that the optimum situation is to get a supplier to collaborate effectively by incentivising them by sharing in surplus value created but at the same time retain and be willing to use a slight power advantage to ensure they don't appropriate all the value.

2.9 Summary

Earlier we identified the three general themes that this thesis is interested in namely how does power impact on the extent of collaboration taking place? Secondly how effective is this collaboration in generating surplus, and finally what impact does power has on how the surplus is shared between the buyer and supplier. From these three themes it is possible to arrive at a number of research questions.

Question 1

This first question is interested in how power impacts on the extent or depth of collaboration taking place as follows:-

Q1 – What impact does power have on the likelihood of buyer-supplier collaboration being adopted?

Question 2

The second area of interest is the relationship between the level of collaboration taking place and the amount of added value generated. Does working in a collaborative manner generate extra value for the buyer?

Q2 – What impact does power have on the working effectiveness/success of a buyer - supplier collaboration?

Question 2

The third question is on the impact power has on how surplus value generated from collaborative working is shared between the buyer and supplier. From the literature the power matrix would suggest that in a position of interdependence or buyer dominance then the buyer would expect to get a high level of benefit out of collaborative working. In a position of supplier dominance or independence or then it is more likely to be the supplier who receives the benefits. Therefore we can ask the following question:-

Q3 – What impact does power have on the distribution of value/benefits from a collaborative interaction?

We now turn to the research design and methodology used to answer these questions which is covered in the next chapter.

Chapter 3

Research Design and Methodology

3.1 – Introduction

The following chapter describes the research design together with the methodology used to carry out the research. The aim of this thesis is to explore the impact that power has on the buyer / supplier relationship The objective is to achieve this using the following research questions:-

Q1 – What impact does power have on the likelihood of buyer-supplier collaboration being adopted?

Q2 – What impact does power have on the working effectiveness/success of buyer-supplier collaboration?

Q3 – What impact does power have on the distribution of value/benefits from a collaborative interaction?

3.2 - Knowledge and the research process

In considering what approach to take for a research study, it is helpful to consider the ontology of what is being discussed in this thesis. Blaikie (2000, p8) described ontology as being "what we believe constitutes social reality", i.e. what constitutes reality and how can its existence be understood? Ontology refers to the way in which the social world and the social phenomena that make it up are viewed (Mathews and Ross, 2010). The objective of this research is to explore what impact power has on the buyer - supplier relationship in the social phenomena of collaborative

partnerships. This is in order to have a greater understanding of the effect of power so as to be able to better manage it and ultimately improve benefits received by buyers.

There are a number of different ontological positions that can be taken by a researcher, such as objectivism, constructionism and realism (Bryman and Bell, 2007; Mathews and Ross, 2010). Objectivism "asserts that social phenomena and their meanings have an existence that is independent of social actors" (Bryman and Bell, 2007, p22), i.e. the social world has an existence of its own, almost as a tangible asset. Constructionism, on the other hand, is an ontological position which "asserts that social phenomena and their meanings are continually being accomplished by social actors" (Bryman and Bell, 2007, p22). A constructionist believes that we come to 'know' through our interactions. Realism is an ontological position asserting that the social world has a reality that is separate from the social actors, but one that is effected by structures and mechanisms that are not observable i.e. they are hidden but their impact can be observed in the way people behave.

The social phenomena being considered in this case study, the Birmingham Construction Partnership, is a tangible object with rules and procedures, one that had people dedicated to different jobs within the partnership and a hierarchy (Bryman and Bell, 2007). Therefore an argument could be made for an ontological position to be taken of objectivism. However has Bryman and Bell, 2007 p627 point out it that in reality "the practice of business research lacks absolute determinism" and that consequently a case could also be made for an approach that is in tune with the tenets of constructionism. In this thesis the objective is to try and get a better understanding of what is going in the relationship in the BCP. In addition constructionism is more often associated with qualitative research. Bryman and Bell (2007) go on to make the

case that qualitative research can also contain elements of the natural science model. Therefore based on this argument an approach of constructionism was taken.

It could be argued that an epistemological position of positivism could be taken since as a model, it has its origins in the natural sciences as a quest for objective knowledge. Alternatively it is the case that this thesis is a study of the social world of the ontological social phenomena of the BCP. Therefore there is an argument against trying to apply a natural science model to a social science situation as the subject matter is fundamentally different and requires a different logic of research – one that reflects the distinctiveness of humans as against the natural order (Bryman and Bell, 2007). Consequently this would support a case for an interprestivist position to be taken. Interpretivism tends to be in opposition to positivism and its approach entails gathering knowledge based on people's interpretations and understandings. The approach tends to study the phenomenon as if through the eyes of the people being researched (Mathews, and Ross, 2010, p28), using the data gathered to generate theory. What this means is that the researcher should adopt an exploratory orientation, one that tries to learn what is going on in particular situations and to arrive at an understanding of the distinctive orientations of the people concerned.

There is another epistemological approach that could have been taken, which is realism. Realism tends to adopt elements of positivism in the sense that it views social reality external to the researcher, but it combines this with a view that the social reality being investigated is underpinned by hidden and invisible structures or mechanisms. Although a case could be made for taking any one of the three approaches it is the one of it is the epistemological position of interpretivism that is

most favored for this research given its close association with qualitative research in trying to gain an understanding and meaning of what is going on in a situation.

The view of a theory from a particular ontological and epistemological position is sometimes called a paradigm (Bryman and Bell, 2007). There are a number of different paradigms that could have been chosen, each having their own individual characteristics with the possibility of leading to different findings. A good case could be made for taking a functionalist paradigm. The rational being that it is the paradigm most closely associated with an organisational study in order to help understand organisational behaviour.

Likewise a case could also be made for taking an interpretative paradigm given that this research is using qualitative methods such as interviewing and dialog between the researcher and interviewees in order to construct a meaningful reality. Has noted by Bryman and Bell (2007, p632) these days research methods are much more 'free floating' in terms of epistemology and ontology and that it is "common for several methods to be used within the same research study". What this means is that although a theoretical perspective of knowledge is taken with an ontological position of constructionism and an epistemological position of interpretivism and an interpretative paradigm this is not hard and fast. The theme of this research is an exploratory one with the objective of trying to understand the impact of power on the buyer seller relationship in a collaborative relationship in order to be able to better manage it and ultimately getter more benefits for the buyer.

The keys tasks can now be set out for approaching the research objectives; namely research design, methodology, and data sources.

3.3 – Research Strategy

As described earlier the aim of this thesis is to explore the impact that power has on the buyer / supplier relationship in the social phenomena of a collaborative partnership. The last section discussed how this is broadly a qualitative piece of research giving it an epistemological and ontological orientation of interpretivism and constructionism. Therefore whilst it is a substantially a qualitative strategy there is also an element of quantitative in the approach in that there was different types of data collected. The first part of the questionnaire was focused on answering a series of questions on which were codified to give a score. It allowed data from the case study to be manipulated and presented to give an indication of relative power (constructed from the data sub-elements of scarcity, utility and information) between the buyer and supplier which were then plotted on the power matrix. In addition the extent of collaboration and the level of benefits received were also codified to give a benefit rating and a collaboration rating. In addition, part of the questionnaire also allowed for comments to be noted and used; namely, at the end of each question. What this brought into the equation was a qualitative set of data, so allowing some context and understanding of the scoring to be used at the evaluation stage to help explain some of the scores. By taking a 'mixed methods' approach this allowed both quantitative and qualitative data to be used to help answer the research questions.

It is recognised that there is a debate in the literature on the best way to gather information stemming from the ontological and epistemological positions of how they view the social world which is often called the qualitative v. quantitative debate (Mathews and Ross, 2010). Some academics have argued that mixed methods are incompatible because of the respective epistemological positions (Smith, 1983; Smith

and Heshusius, 1986). Likewise, others argue that it is not possible to have different epistemological positions and different paradigms, being that mixed paradigms are inconsumable (Kuhn, 1970; Guba and Lincoln, 1998; Morgan, 1998). Nonetheless in this thesis, the choice of research method has been determined by the requirements to answer the research questions. This approach is more concerned with the strength of data collection and analysis. There is recognition of the ontological and epistemological assumptions, but the view taken is that these are not fixed to one approach (Bryman and Bell, 2007).

3.4 - Research Design

In considering what approach to take, there are available a wide range of research methodologies that could have been selected, such as experiments, surveys, studies or historical analysis, etc. Yin (1989) identifies three different considerations that help determine which strategy is the most appropriate:-

a) Type of research question
b) Extent of control an investigator has over actual behavioural events
c) The degree of focus on contemporary as opposed to historical events

Every strategy has its own particular advantages, but the one selected for this investigation was a case study. The decision was based on the need to "understand complex social phenomena" (Yin, 1989, p14). The ontology of the social phenomena being considered in this thesis is a complex social interaction and, as Yin (1989, p14) describes, carrying out a case study allows the research to "retain the holistic and meaningful cartelistic of real life events." The use of a case study is a good method for trying to understand complex situations.

So what is a case study? There is a considerable amount of literature on case studies and related matters (Stake 1995; Eisenhardt, 1989**;** Hamel, 1993; Easton, 1992, Gomm et al, 2000; Perry, 1998; Saunders et al., 2000) but it is Yin's (1994) p.13 definition that sums it up in the most succinct way:-

'A case study is an empirical inquiry that:

i) Investigates a contemporary phenomenon within its real life context, especially when

ii) The boundaries between phenomenon and context are not clearly evident.'

The important point about a case study is that it allows an investigation into the social phenomena being researched to take place in its own context. As a result the study doesn't have to be carried out in laboratory or replicated some way in order to achieve an understanding or meaning of the phenomena.

Using Yin's (1989) criteria for deciding what research strategy to use, the type of research questions under consideration and where there was little control over behavioural events, but a high degree of focus on contemporary events i.e. reflecting on current practice this supports the use of a case study as the preferred approach. This was based on i) the research questions are ' How' questions, ii) there was no manipulation of the behaviour of those involved in the study and, iii) there was a contemporary interest rather than historical and it is possible to contextualise this by interviewing actors who were involved in the partnership.

3.5 – Case Selection

Research was based on a case study of the Birmingham Construction Partnership (BCP) which was run by Birmingham City Council from 2004 to 2011. It proved a significant example of where collaborative partnership working in construction was applied and was regularly cited by the government of the time as good practice (an OGC exemplar project). The partnership was in existence for 7 years and approximately £750m worth of construction work was delivered through the arrangement.

The original proposal was to compare and contrast three projects of similar size, value and complexity, with each project delivered by one of the three contractors who made up the BCP, namely:-

1) Wates Ltd
2) Thomas Vale Ltd
3) Tomlinson Ltd

During the initial preparation for the research, it soon became evident that the ability to identify suitable people for interview on the Tomlinson's project was going to be difficult, being that the company had closed its Birmingham branch and most of the key players had left the company and were not traceable or contactable. Therefore, a different strategy was subsequently adopted which entailed using four projects (instead of three), two from Wates and two from Thomas Vales, in order to enable a greater comparison of data from the two remaining suppliers.

The four projects selected for the case study were:-

Wates:-

Project No 1 - Wyndley Leisure Centre

Project No 2 – Nansen Primary School

Thomas Vales:-

Project No 3 - 'The Cricket Blocks'

Project No 4 - Alexander Stadium

These projects were selected in order to enable the research to compare and contrast the following aspects:-

1) To consider what affect the size of company would have on the post-contract balance of power and the consequent benefits. At the time of the case study, Wates Ltd. was a national construction company with a turnover of over £1 Billion in 2011 with 2000 employees. Thomas Vale was a growing regional company with an annual turnover in 2011 of £231m and 684 employees.

2) Two of the projects were leisure (one from each supplier) and the other two were the biggest budget holders in BCC – Housing and Education (again one from each supplier). It allowed both a comparison not only between similar clients but between different clients.

3) The value of two of the projects was similar, with Nansen Primary School at £7.1m (Wates) and the Cricket Blocks at £7.2m (Thomas Vales), allowing a direct

comparison by value. The other two were completely different, with Wyndley Leisure Centre at £2.7m (Wates) and Alexander Stadium at £13m (Vales). The reason why different values were chosen was that the value of a project may affect the way a contractor and its suppliers behave. By choosing two of the same value and two of completely different value it was then possible to evaluate what effect (if any) the size of project had on the three variables.

4) The four projects were all constructed at about the same time, between 2009 and 2011. For the purpose of this thesis it was decided to compare projects delivered under the same economic conditions in order to achieve consistent results. Consideration was given to an alternative approach i.e. comparing projects from different time periods in order to test the impact of scarcity on the post-contract balance of power but there were concerns about the ability to acquire good information on projects going back too far. Therefore, it was decided to test this dimension of changing scarcity (along with other dimensions) within the life span of the projects, in order to see if there were any changes in balance of power between the beginning and the end of the project.

3.6 – Methods

The source of information used in the research was gathered through interviews and a questionnaire. The questionnaire was constructed around the three areas of the research questions namely power, collaboration and benefits. The principal methodology of the questionnaire was based on scoring each question between 1 and 4 against a set of predetermined criteria, with the opportunity to comment after each question. It allowed the overall research areas to be scored and rated, and also allowed

the collection of qualitative data in the form of comments that could be used in the analysis stage.

In order to answer the three research questions there was a need to establish i) the relative power position between the buyer and supplier, ii) the extent of collaboration taking place and, iii) the level of benefits received by the buyer. Therefore this research was constructed under the three headings of an independent variable (power resources), an intervening variable (extent of collaboration) and a dependent variable (benefits delivered). The rational for this approach was that this thesis is interested in the impact power has on both the likelihood of collaboration taking place and also the benefits received. The benefits received will be dependent on both the power and also how effective the collaboration is. The level of collaboration acts as an intervening variable in that it will determine the size of surplus generated whereas power will determine how much the buyer receives of that surplus.

Interviews are often defined as a managed verbal exchange (Ritchie & Lewis, 2003; Gillham, 2000) and can range along a continuum between a structured and an unstructured interview. The format chosen for these interviews was a hybrid of structured and semi-structured insofar as both styles were used. The reason for choosing this approach was to allow the qualitative comments to be included in the study.

To assist with this approach, the author identified and used a number of resources and guidance on interviews techniques and research methods (Whiting, 2008; Bryman and Bell, 2003; Fox, 2009; Michael Quinn Patton and Michael Cochran, 2002).
In determining who to capture information from, reference was made back to the research questions which were primarily interested in the transactional relationship

between the buyer and the supplier. In the case study, the buyer was Birmingham City Council (including all those who were acting on its behalf) and the supplier was one of the two contractors being considered i.e. Thomas Vale or Wates.

From the buyer's side a selection of key players from the project team were included who were closely involved in the projects and had the greatest knowledge about the projects, process etc., as per the list below:-

- The Framework Manager
- Project Manager
- Architect
- Electrical Engineer
- Mechanical Engineer
- Quantity Surveyor
- Clerks of works

Key players from the supplier were also interviewed and scored, with their comments recorded. These included framework managers, project managers, site managers, project surveyors and also M&E co-ordinators. In a similar fashion to the buyer, these actors were selected because of their detailed knowledge of the projects and processes.

It was also decided to carry out a second set of interviews on two strategic groups, one from the buyer and one from the supplier. The objective of having a second group of interviews was twofold. Firstly, it was to seek a view on a range of similar questions that had been put to the project teams, but from a strategic point of view.

The second objective was to present some of the initial findings from the first group to the strategic group in order to see if they agreed with the findings. The reason for this was to bring a degree of verification to the data gathered in the first exercise. The strategic buyer group was made up of BCC senior managers from all professional disciplines, framework managers and senior clients. Again, these were selected in view of their knowledge of dealing with the partnership. The supplier group was made up of the two framework managers from the two contractor partners. A total of 40 interviews were carried out: - 29 for the projects and 11 for the strategic group (Interviewee titles listed in appendix 3).

3.7 - Research considerations

There were a number of issues that needed to be considered when conducting the research. The first of these was the position of the researcher. It was recognised that, in many situations of qualitative research, the researcher could approach the situation with some prior view, bias etc. The important thing was to recognise that such a position could influence the results and, therefore, be prepared to establish a method to test the credibility or independence of data found.

In regard to the researcher's personal position – the author had worked for BCC and has been involved with the two suppliers in the case study over the seven years of the BCP. The author has therefore acquired a degree of prior knowledge which could lead to bias. That said, the involvement was at a strategic level not at a project level. The author has had no involvement with any of the individuals on the four projects selected, which has mitigated, to some extent, the potential for bias.

Likewise as a researcher, the author needed to be aware that some of the data could have been more reflective of a personal relationship. Consequently there was a risk

that the interviewee may have been tempted to supply information that they felt they should be supplying (to sound collaborative) rather than that concerned with the objective situation of the question owing to personal relations. This reinforced the importance of objectivity throughout. Moreover, this concern has been addressed by guaranteeing confidentiality, as well explaining how the data would be used and the need for candour. Assurances were also given of the governance separation between this research and any work-related activities. To summarise, the author recognised several risks which could compromise the approach that the research was taking, both in terms of the ontological and epistemological position and in taking measures to mitigate those risks.

3.8 – Research ethics

For each interview, the interviewee was given an information sheet which set out what the research topic was and how it would be conducted, why they had been asked to take part and whether it was voluntary, while advising that they could withdraw at any time and that their participation in the study would be kept confidential. In addition, the information sheet also dealt with what happened to the information / results obtained. Having been given a copy of the information sheet, the interviewees were then asked to sign a consent form which, in essence, was for them to agree to take part in the research on the basis of the key points in the information sheet. This approach, which included the issues in section 3.7, was submitted to and approved by the University of Birmingham Humanities and Social Sciences Ethical Review Committee.

3.9 - Interview and scoring methods

As mentioned earlier the research was constructed under the three headings of power resources, (independent variable) , the extent of collaboration (intervening variable) and benefits delivered, (dependant variable).

For the independent variable the questions for the buyer were grouped into three categories: utility, scarcity and information. For the supplier the questions were grouped into two categories: utility and scarcity combined and information. Use of Chicksands (2015) methodology allowed the power resources to be scored and the relative power positions of the buyer and supplier to be compared.
The utility and the scarcity were combined for the supplier because it was a long term partnership consisting of only three suppliers. Whilst scarcity was still important, it was considered not to be as important as when individually tendering was involved.

For the intervening variable, a set of questions was posed to determine the extent of collaboration taking place. For the dependent variable the questions were grouped under the three headings of time benefits, cost benefits and quality of product (conducted for both the buyer and supplier).

Consideration was given to both descriptive and numerical scoring approaches but it was decided to opt primarily for a numerical approach, as this would allow a greater degree of manipulation of data to represent information that can be complex and also allow comparison (Yin, 2003). However, for each interview, relevant comments were also noted to allow descriptive comments to be evaluated in the context of the scores received.

Each of the questions was scored on a range of 1 to 4, with criteria predetermined for each question as to what would constitute each of the ratings. For example, if a question referred to how important a particular aspect was, then '4' would be not very important or critical to the business and '1' would be very important and vital to the business, with '2' and '3' defined at intermediate stages between these two points. (In this example a low score in the sub element would mean not very powerful and a high score would mean powerful). A numerical approach thus allowed for the weighting of the scores, and plotting on a matrix or category rating.

It was recognised that maintaining consistency in scoring between interviewees was important and represented a major challenge. Therefore, the actual scoring was done by the interviewer in conjunction with the interviewee to try and introduce some degree of consistency. Another difficulty was to try and avoid the temptation of answering the question by going for the middle score. The reason for wanting to avoid a middle score was to try and achieve a clearer view of the individual question. Choosing a 1 to 4 range thus ensured that either a 2 or a 3 was chosen. Fractional or decimal scoring by the interviewee was therefore avoided.

The interviewees were asked to reflect and score (retrospectively) at two stages in the project life:-

i) at the beginning of the project

ii) at the end of the project.

On completion of each interview, a set of scores was available for the independent, intervening and dependent variables for the interviewee who was either a buyer or a supplier. These scores for each of the variables were then collected from all the interviews for that particular project and processed as described below.

3.10 Analytical Process

The following is an example of how the questions were set out in the question sheets.

A full set of the questions asked are listed in the appendices 4 to 7

Fig 8, Sample Question Box (e.g. utility)

Question Sheet for Buyer			
Question 1			
'How critical was the project to the Council's ability to deliver its service to the public? '			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was not critical to the operation and alternative solutions could be easily found
3			The project was not critical but alternative solutions could not be easily found
2			The project was very important but temporary alternatives could be found
1			The project was vital to the clients operation and it was critical that it was completed on time
Notes/ Comments			

The scores were then collected for the utility questions and a mean score calculated:-

Question Sheet for Buyer	**Beginning of the Project**	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Mean Score for Utility		

Fig 9, Sample Summary Mean Score

For each interviewee, whether a buyer or a supplier, a set of scores was gathered under the headings that made up the three variables:-

The Buyer:-

- Independent variable – power resource dimensions: utility, scarcity and information
- Intervening variable - extent of collaboration
- Dependent variable - time and cost benefits and quality of products

The Supplier:-

- Independent variable – power resource dimensions: utility and scarcity combined and information
- Intervening variable - extent of collaboration
- Dependent variable - time and cost benefits and quality of products

The analytical process employed for each of the variables is described in more detail below.

3.11 - Independent Variable

The independent variable, post-contractual balance of buyer-supplier power, was made up of the sub-dimensions of utility, scarcity and information (Cox, Sanderson and Watson, 2000; Chicksands, 2015). Questions were constructed for each of the three elements and the interview was centred on the different groups of questions.

For the buyer, the questions of utility centred on how important the project was to BCC and its ability to deliver its services. Would BCC be vulnerable if the project failed, both from an operational and reputational dimension?

For scarcity, the questions were focused on potential competition in the framework: were there credible alternatives and was there a choice to deliver the work in a different way?

For information, the questions were centred on how much the buyer knew (or didn't know) of the technical details of the project. How much did the buyer know about the supplier and the market, and did he have the time and resources to research information on the supplier and the products?

For the supplier, the combined scarcity and utility questions were centred on how important the BCC work was in terms of regularity, predictability. How much of the company's turnover was made up of BCC work and how did this project figure in their overall volume of work? How easy would it be to replace this type of work and what were the missed opportunities if it was lost? The information questions to the supplier focused on what the supplier knew of BCC budgets, what BCC was prepared to pay and how easy was it to get that information i.e. was it public/private information and what did the supplier know that BCC didn't?

For each buyer question, in conjunction with the interviewee, the interviewer scored the answer on a range of 1 to 4 against a set of given criteria. It was repeated for all the questions to give a mean score for each of the categories (Utility, Scarcity and Information). For each interviewee an average score was obtained for each of the power sub-dimensions of utility, scarcity and information. A weighting was then applied to this average score of utility 40 %, scarcity 25% and information 35%. The

resultant scores were then combined to give a score for buyer power resources for that particular interviewee. The scores were calculated at the beginning of the project and at the end of the project.

Consideration was given to having a straight equal split between the sub-elements but instead slightly different weightings were decided on to reflect the circumstances of the partnership.

The weighting for utility was given the highest at 40% since this was deemed to be the most important aspect. The partnership was the principal resource for delivering BCC's capital programme which at the time was very important to the political leadership (i.e. delivery of decent homes, new schools etc.) and this meant that the individual projects in the case study could have a very high importance i.e. utility. The rating for scarcity was lowest because it was a partnership of only 3 suppliers. What this meant was that although there was some choice, in reality this was limited, and the ability to easily bringing in substitutes was difficult. Therefore the potential effect on the relative power rating was smaller than it would be in different circumstances.

This process of scoring was repeated for all the buyer interviewees on that particular project. The average of the buyer interviews was then calculated to obtain an overall score for buyer power resources for that project.

Two ways of representing the average score were looked at. Firstly, as a mode score (most likely or most common number), one that was originally chosen over the mean (average), on the basis that the average can be significantly influenced by extreme results or out riders, since the mean is simply the sum of the scores divided by the number of scores. Another alternative would have been to use the median which

represents the middle point of the scores. However, the objective of this exercise was to try and establish a score that was most representative of the group being interviewed.

When the results were gathered it soon became evident that it was difficult to collect the mode, being that all of the scores were different. Therefore, the task of identifying the mean that occurred most was extremely difficult, given that the majority were unique scores and the quantity of numbers was small. Likewise there were very few examples of significant outriders that could influence or affect the scores. Therefore it was decided to revert back to the mean on the basis that this was the most representative way of showing the scores. The midpoint score was also still calculated and shown to see if there were any significant variations which acted as a check to make sure there were not any rogue scores that were having an undue effect.

The same process was carried out for the supplier interviewees, although the scarcity and utility sub-dimensions were combined into one set of questions, with the following weighting: 65% Scarcity and utility (combined) and 35 % Information. These were the same as the buyer weightings to maintain a consistent scoring.
The relative power balance (independent variable) could not be assessed until the buyer and supplier power resource scores were compared. To achieve this comparison, the scores were plotted on the power matrix to show what the power relationship was between buyer and supplier. This was then repeated for the scores at the end of the project.

Shown below is an example of a power matrix plot showing both the beginning and end of projects scores for power.

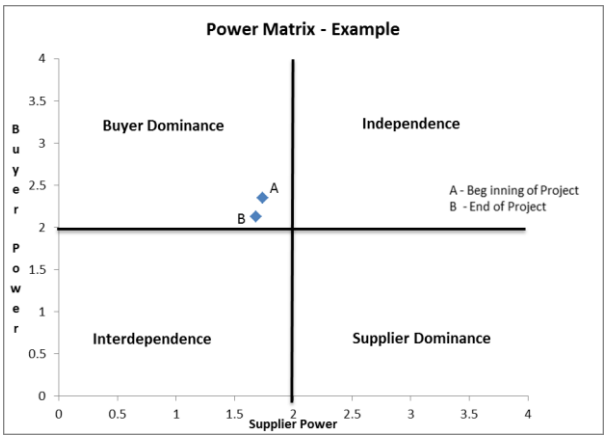


Fig 10, Example Power Matrix Plot

3.12 - Intervening Variable - Extent of Collaboration

The second of the variables, 'intervening variable', was the extent of the buyer-supplier collaboration. It is the extent to which the buyer and supplier work together to build strong relationships, generate extra value by sharing information, best practice and ideas, taking an early involvement in projects, joint problem-solving and working in an open and honest manner.

The questions for the intervening variable were again scored using the same methodology of 1 to 4 against a set of criteria which then allowed a mean score for the buyer interviewee to be calculated. The process was then repeated for all the buyer interviewees on that project. The average of the buyer interviews was then calculated for that particular project according to the extent of collaboration. The same process was then repeated to calculate the mean supplier score for the group of interviewees for the extent of collaboration.

The buyer and supplier questions on the extent of collaboration were quite similar and generally concerned with how much collaboration took place on both this project and

on the framework as a whole. Was there much evidence of team working, sharing information and best practice and improvements in performance? Were also there any situations where the supplier chose not to collaborate?

Having determined the mean score for buyer collaboration, it was then categorised. Four categories were used where:-

Low = 0 to1,

Medium = 1.01 to 2,

Medium to high = 2.01 to 3

High = 3.01 to 4.

The supplier scores were also categorised using the same method which meant that, for each project, the collaboration category ratings could now be compared to the power matrix plots. This allowed consideration of the relationship between the power structure of the project and the extent of collaboration taking place.

3.13- Dependent Variable – Benefits delivered to the buyer

From the buyer perspective, these key benefits are: cost benefits, time benefits and quality of product. Although the proposed research questions were focused on the benefits delivered to the buyer, it was also decided as part of this research to measure the same benefits delivered to the buyer but from the supplier's perspective. The reason was to establish how the supplier perceived what the buyer was getting in terms of benefits and to see if there was a difference in the two.

For the buyer, the interview was built around the questions that made up the three sub-dimensions of the dependent variable, i.e. cost and time benefits and quality of product.

For the buyer, the questions for cost were: was the project delivered to budget, value for money and at current market price? Did using the collaborative post-contract mechanisms of pain/ gain, open book, target cost, at cost work with compensation events etc. improve value and reduce costs? Were there any examples of exploitation? For time, the questions focused on whether the project was delivered to schedule, how good was the programme in terms of accuracy, transparency and robustness, and did working collaboratively reduce the programme?

For quality, the questions concerned the quality of the building constructed i.e. how good was the build quality, how good were the products and specialist installations, were there many defects?

For each question, the interviewer, in conjunction with the interviewee, scored the answer on a range of 1 to 4 against a set of given criteria. The process was repeated for all the questions which then gave a mean score for each of the sub-dimensions (cost, time and quality). For each interviewee, an average score for each of the dependent variable sub-dimensions of cost, time and quality was obtained. A weighting was then applied to the sub dimensions of cost 40 %, time 30% and quality 30 %. The resultant scores were then combined to give an overall score for the dependent variable – 'benefits delivered' - for that particular interviewee. The scores were calculated at the beginning of the project and at the end of the project.

In a similar manner to the sub-elements of power, consideration was also given to having a straight equal split between cost, time and quality as all were deemed as

important deliverables. After consideration it was decided to have a slightly higher rating for cost (40%) as this was the one area where there was an expectation that by working in partnership there would be an increase in the benefit of value for money as a direct result of extra value generated from collaboration. It was one of the clear aims of the Latham and Egan reports – 'to reduce costs', and therefore it was given a slightly higher rating in the contributions to the benefits category.

The aforementioned scoring process was repeated for all the buyer interviewees on each project. The average of the buyer interviews was then calculated for that particular project for the dependent variable. The process was then repeated for the supplier using the same questions.

Having determined the mean scores for the buyer and supplier for the benefits delivered for a specific project, these were then categorised to give a rating for the buyer and a rating for the supplier. Four categories were used where:

Low = 0 to 1,

Medium = 1.01 to 2,

Medium to high = 2.01 to 3,

High = 3.01 to 4.

Having established which of the four benefit categories the buyer and supplier scores sat under, this was then compared to the position of power for that project. For the purpose of this research, the '*expected benefits'* are defined as medium to high and high

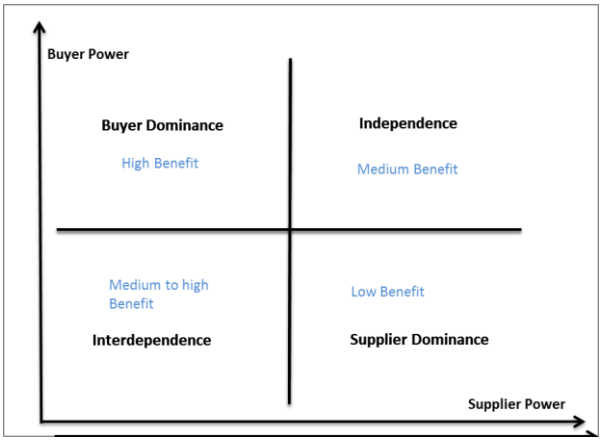


Fig 11 Power Matrix overlaid with Benefits gained category

As noted earlier, after each of the questions on the questionnaire a section was added for additional comments, further facilitated by the interviewer asking the interviewee if there was anything they would like to add or expand upon in relation to the specific question. This was performed for both the buyer and supplier of the project and strategic groups.

3.14 Strategic Group

As described earlier, the information gathered from the strategic group fell into two sections. The first section followed the same format as the projects, but using an abridged version of the same questions under the three headings of independent, intervening and dependent variables, with each one split into the various subsections i.e. utility, scarcity and information. The data gathered from this was treated in the same way as the project group, which ultimately allowed it to be compared broadly with the project data.

The second section had two parts. The first part consisted of a set of general questions designed to seek their views on the overall partnership which were developed around

the research question subject areas of power, collaboration and benefits. The answers to the questions were not scored but noted down which gave a source of qualitative data on high level views on these key areas. The second part consisted of presenting the initial findings of the project group to the strategic group to see if they agreed/disagreed with the project findings and record their views The aim of this second section was to use both sets of data in the analysis stage to compare both the comments from the strategic group on the case study projects together with the more general views of the strategic group to seek if they confirmed or conflicted with emerging findings from the project groups and also to gain some potential explanation / understanding of the findings.

For the strategic group, the same methodology was applied to calculate scores and ratings for the independent variable, intervening variable and dependent variable. In the case of the strategic group, the questions were not project specific but more general and broadly covered the same topic areas.

3.15 – Summary and next chapter

The aim of this thesis was to look at the impact power has on buyer-supplier collaboration and the benefits delivered by using a case study approach. This chapter has described the strategy for gathering the data (mixed methods) and evaluation together with research considerations. The last part of the chapter has set out the interview process and scoring mechanisms, together with the analytical process for the independent, intervening and dependent variables.

The next chapter gives a brief background to the case study projects

Chapter 4

Brief Background to Case Study Projects

4.1 Introduction

The Birmingham Construction Partnership (BCP) was run by Birmingham City Council from 2004 to 2011. It was established partly in response to the governments drive for greater use of collaborative based partnerships as advocated by Latham (1994) and Egan (1998) but also as a mechanism for delivering a significant capital programme (approximately £750m worth of construction over its life span) in a timely and cost effective manner. In particular this was for refurbishment programmes in housing to achieve decent home standards and in the later stages for education for additional primary places. BCC was at the time politically aligned with national government and as the largest local authority in Europe was keen to be supporting national policy. Therefore there was a strong will within the Council leadership for the partnership to succeed. It proved a significant example of where collaborative partnership working in construction based on Egan principles was applied and was regularly cited by the government of the time as good practice (it became an OGC exemplar project). At the same time it was also expected that by working in partnership, BCC as a buyer would gain significant benefits, especially in the cost of delivery, as a result of collaboration. There was a political expectation that by using this approach the BCP would allow a lot more to be delivered for its available resources especially in housing and education. In terms of meeting delivery targets there was considerable success, for example the high levels of 'decent homes

standard' achieved through the BCP allowed BCC to achieve a 2 star 'excellent' rating from the Audit Commission for its Housing service in 2009. Likewise the BCP meet its targets in constructing the additional school places.

But despite this success doubts remained as to whether all the expected benefits from collaboration were received, especially around value for money. As mentioned earlier one of the explanations, which is at the heart of this thesis, is that the impact of power was not considered on either the likely hood or effectiveness of collaboration or how any benefits generated from collaboration would be shared. As mentioned earlier there was an expectation and will from the political leadership within BCC that the partnership should succeed for political reasons which may have over ridden any power considerations. It is a point which was almost certainly not lost on and was exploited by the suppliers.

How the four projects were selected is set out in detail in section 3.5 but was based on size of company, value and size of project and type of Service client (with at least one housing and one education project selected). Listed below is a description of the individual projects.

4.2 Case study Project No 1 - Wyndley Leisure Centre

Wyndley Leisure Centre is located in Sutton Coldfield, north Birmingham. Delivered by Wates Ltd, the scheme started when ceiling tiles began to collapse over the main swimming pool. These were subsequently found to contain asbestos which forced the centre to be closed in 2008 and remained closed for 18 months. Initially this was a minor refurbishment project with a budget of £60k to cover repairs to the ventilation, replacement of ceiling tiles and removal of asbestos. It very quickly became clear that even this limited brief was more than the available budget and consequently the

scheme became a more significant project. Wates were selected as the supplier on the basis that they were advising on a number of leisure centre schemes and at the time were working up an options appraisal for an Olympic 50m swimming pool and therefore were judged to have the most relevant experience. In addition they had previously done several projects at Wyndley Leisure Centre so were familiar with the site and its operations.

An appraisal exercise was subsequently conducted which produced a number of options of which two were selected and further developed to feasibility stage.
Of the two feasibility options developed, the scheme chosen was the lower budget option (£2.7m). The option consisted of stripping out asbestos, new ceilings and lighting, additional cooling, new café and changing rooms with some minimal redecorations. The scheme commenced in April 2009 and was completed in December 2009 to programme and budget (£2.7m).

The project was a high profile scheme which attracted considerable attention in the local media and was the subject of a lot of discussion and scrutiny by local politicians due to it being the only public leisure facility in the area.

4.3 Case study Project No 2 - Nansen Primary School

Delivered by Wates Ltd, Nansen Primary School was a 3 form extension carried out under the 'Additional Primary Places Programme', (APPP). APPP was a £44m programme of works designed to increase the capacity of primary school places at various locations in Birmingham. Nansen Primary School is located in the Washwood Heath area of east Birmingham and was part of phase 3 of the APPP programme involving 19 schools. Nansen was the largest project in this phase with a budget of £7.1m. Wates had been allocated the whole of the APPP programme following an

earlier competitive selection process between the three BCP suppliers based on innovation and quality. Design work started in October 2010 and construction commenced on site in October 2011 finishing in September 2013.

It was one of the last schemes carried out by Wates under the BCP and made extensive use of modern construction techniques and off site prefabrication technology. The project was delivered to budget and on programme.

4.4 Case study Project No 3 - 'The Cricket Blocks'

Century, Wickets and Boundary Towers or more commonly known as the 'The Cricket Blocks' was a refurbishment project delivered by Thomas Vale for BCC Housing department. The blocks are located in Edgbaston close to Edgbaston cricket ground (hence their names). The tower blocks are in a strategic position acting as a gateway into Birmingham City Centre which led to a sense of urgency in the requirement to upgrade them although not critical in the sense of any immediate risk of structural danger. The refurbishment work consisted of structural repairs and refurbishment to three high rise residential housing blocks. The works was primarily external and in communal areas and apart from some minor elements did not affect or intrude inside resident's accommodation which meant the building remained in occupation throughout the project. With an approximate value of £7.2m it was one of the last big projects to be allocated to Thomas Vales under the BCP. During the design phase the project was delayed for 6 months as the owners of the Land, attempted to persuade BCC via a planning objection, to demolish the blocks. Despite the objection, work proceeded in May 2011 and was completed October 2012. The actual scheme came in over budget and behind programme as a result of the discovery of asbestos, window supplier problems and difficulty in gaining access. Consequently

both programme and budget were adjusted with compensation events which meant that technically the job was delivered within KPI targets. There was a high turnover of personnel on this project with key players from both the supplier and buyer leaving during the life of the project.

4.5 Case study Project No 4 - Alexander Stadium

The Alexander Stadium 'Back Stand' project delivered by Thomas Vale Ltd was a new £13m grand stand together with associated offices and gym and was a jointly funded project between Sport England and BCC. Thomas Vale was selected because they were already on site completing a new high performance indoor centre and was very familiar with the client. The project was a fast track scheme and had to be ready for the 'Diamond League' athletics event to be held at Alexander Stadium. Consequently there was a lot of publicity surrounding the scheme which made it a high profile project with potential reputational damage if the opening date was not met. In addition, the project had a high degree of uncertainty as there were multiple agency stake holders which meant that the brief kept changing. This coupled with difficult ground conditions made it a challenging scheme. The new main stand was opened in time for the Diamond League event but the gym and offices were delivered after this date. In addition the project came in £1m over budget. Nonetheless because there was a large number of compensating events issued technically the project was delivered on time and to budget. The project started on site in August 2010 and was completed in July 2011.

Chapter 5

Evidence on the Independent Variable: Buyer - Supplier Power Relations

5.1 Presentation of Findings and Evaluation

The following chapter presents the findings for the independent variable of post-contract 'power', for both the buyer and the supplier for each of the case study projects. The mean scores (1 to 4) are presented for utility, scarcity and information together with a table of the power resources for the project (combination of weighted utility, scarcity and information scores). The power scores were then plotted on a power matrix to show where the power position was at both the beginning and the end. This is followed by an evaluation of the results, supported by some comments extracted from the interviews for both the buyer and supplier on projects and also for the strategic group.

5.1.1 Project 1 - Nansen school

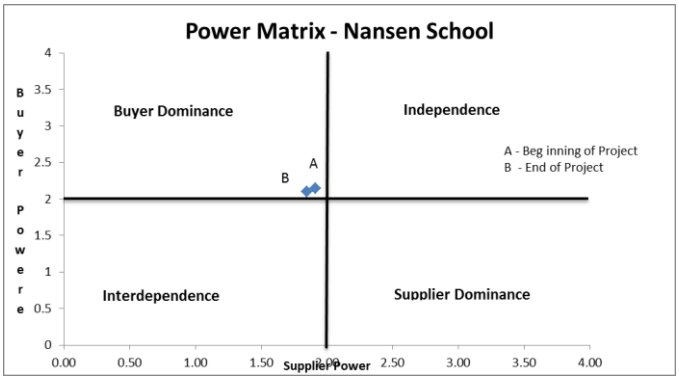
Table 5.1.1 Summary of weighted scores for Utility, Scarcity and Information

Summary of Weighted Scores			**Buyer**			
		Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Mean score
Beginning	Utility	0.48	0.64	0.4	0.56	0.52
	Scarcity	0.56	0.5	0.5	0.25	0.45
	Information	1.31	1.31	1.01	1.05	1.17
	Power Resource	**2.35**	**2.45**	**1.91**	**1.86**	**2.14**
End of Project	Utility	0.4	0.64	0.4	0.56	0.50
	Scarcity	0.44	0.5	0.5	0.25	0.42
	Information	1.31	1.31	1.05	1.05	1.18
	Power Resource	**2.15**	**2.45**	**1.95**	**1.86**	**2.10**
			Supplier			
		Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8	Mean score
Beginning	Utility and scarcity	1.06	0.90	1.06	0.81	0.96
	Information	0.99	0.99	0.82	0.82	0.91
	Power Resource	**2.05**	**1.89**	**1.88**	**1.63**	**1.86**
End of Project	Utility and scarcity	0.98	0.90	0.90	0.81	0.90
	Information	0.99	0.99	0.82	0.82	0.91
	Power Resource	**1.97**	**1.89**	**1.72**	**1.63**	**1.80**

Table 5.1.2 Nansen School Summary of Power Resources

Summary Sheet					
Power resources – Buyer	**Beg**	**End**	**Power Resources - Supplier**	**Beg**	**End**
Interviewee 1	2.35	2.15	Interviewee 5	2.05	1.97
Interviewee 2	2.45	2.45	Interviewee 6	1.89	1.89
Interviewee 3	1.91	1.95	Interviewee 7	1.88	1.72
Interviewee 4	1.86	1.86	Interviewee 8	1.63	1.63
Buyer Power resoures (mean) for group	**2.14**	**2.10**	**Supplier Power resoures (mean) for group**	**1.86**	**1.80**
Buyer power resources - Mid point	2.16	2.16	Supplier power resources - Mid point	1.90	1.8
Range (Diff between Highest to lowest)	0.59	0.59	Range (Diff between Highest to lowest)	0.42	0.4

Fig 12, Nansen Power Resources scores plotted on Matrix



Evaluation of Findings for Nansen School

The mean of the scores for the independent variable show that, when plotted on the power matrix, the positions are very close to the centre but slightly in favour of buyer dominance. By the end of the project, the scores remained pretty much the same for the buyer, although they had slightly dropped for the supplier.

For the buyer, there was not a significant range of difference in power resources between the highest and lowest with the highest being 15% above the mean and lowest 15% below the mean. Looking at the individual scores, two of the buyer group scores were 2.36 and 2.45 whilst two were 1.86 and 1.91. It suggests that two of the

team thought that they were in a slightly stronger power position than the other two. The two higher scores were from interviewees 1 and 2, who were the [redacted] and the [redacted]. The majority of their work was in preconstruction activities, whereas the two lower scores were for the [redacted] and the [redacted] who were more involved in the construction stage. What this suggests is that although the interviewees were asked to score at both the beginning and at the end, they didn't really score the two much differently. Instead their scores were more influenced by where the majority of their involvement was i.e. preconstruction or construction.

Buyer

Utility**: -** The comments supported the view that this was an important project for BCC and its ability to carry out its business for example, *"The need to add additional school places was absolutely critical to BCC"* (Interviewee 2 - [redacted], BCC). Therefore the project had a high utility value which gave low scores across the group (average of 0.52 at beginning and 0.50 at the end).

Scarcity**: -** The general consensus was that, from a buyer's point of view, the scarcity was quite high in terms of being able to bring in credible alternatives. It may have been possible at the beginning to bring in alternatives, notably the LEP (Local Education Partnership) which had been set up to deliver the Building Schools for the Future Programme (BSF). Therefore, as noted by interviewee 1 ([redacted], BCC), *"there was no real competition from within the BCP but there was competition with the BSF at a strategic level."* What this meant was that there was a perception that the BSF programme offered some competition but the way it was set up meant that this option was only available very early on – once the decision was made to put

the project work into the framework then it was not possible to change minds later on. Consequently, this resulted in a fairly high scarcity value across the group which also resulted in low scores (0 .45 at beginning and 0.42 at the end).

Information: - The buyer had sufficient time and resources to research information because the project was part of a much larger programme and information on suppliers was relatively easy to find. Specialist 'off site' construction techniques were used in the supply chain but these were well researched as highlighted by interviewee 1, (, BCC), *"a lot of research was carried out on suppliers and products and money and time was made available to do this."* Some of the headline budget information was public but the supplier never officially had access to the more detailed information.

The scores were therefore high overall for buyer information (1.17 beginning and 1.16 at the end). The information scores for interviewees 1 and 2, were 30 % higher (1.31) than for interviewees 3 and 4 (1.01). It was this factor that gave the difference between interviewees 1, 2 and 3, 4 in power scores, i.e. it was the level of buyer information at preconstruction stage as opposed to the construction stage that caused the difference in the buyer power scores. This is not surprising as control of the project shifts significantly to the supplier once the project moves into the construction phase. Therefore the information balance is likely to shift more in favour of the supplier.

Supplier

Utility and Scarcity**: -** From a supplier's point of view this project and the BCP overall had a high utility and scarcity value. The project was very important as it represented part of a major programme of work (£44m) of which *"this project at*

£7.5m was a flagship scheme in the programme" (Interviewee 5, [redacted] and Wates). The high volume of work helped the supplier develop long term business plans and grow a significant part of his business.

There was a lot of external business won on the back of the reputation of the BCP so its value to the supplier was high, although from a profit point of view it was not that high. Interviewee 6, ([redacted], Wates) noted that, *"predictability of work was the most important element – even more important than profit as it allowed the business to plan"*. Work of this type was deemed to be scarce and was hard to come by and, *"When the framework was lost it took 12 months for the company to re-adjust to its loss"* (Interview 13 - [redacted], Wates). These relatively high values for utility and scarcity for the supplier gave it a low score of 0.96 at the beginning and 0.9 at the end which was generally the same as the buyer.

Information: - The score for the supplier's information was generally lower than for the buyer which was slightly at odds with the evidence from the comments which tended to support the view that the information was good (0.91 at both the beginning and at the end). Budget information would have been easy to work out as pointed out by interviewee 2, ([redacted], BCC), *"there was a standard formula used to allocate funds to each school, therefore it would have been quite easy to work out."* The spread of three of the supplier interviewee's scores at the beginning of the project were within 10% of the mean (0.91).

To summarise for the Nansen school project, the power resources position was close to centre on the matrix suggesting slight buyer dominance, but there was not a significant range in the scores. The buyer had high utility and scarcity value giving low scores, but a high score for information. The supplier also had high values for

utility and scarcity giving it a low score, but it was lower on the information. It was this difference in information scores that gave the edge to the buyer in terms of power.

5.1.2 Project 2 - Wyndley Leisure Centre

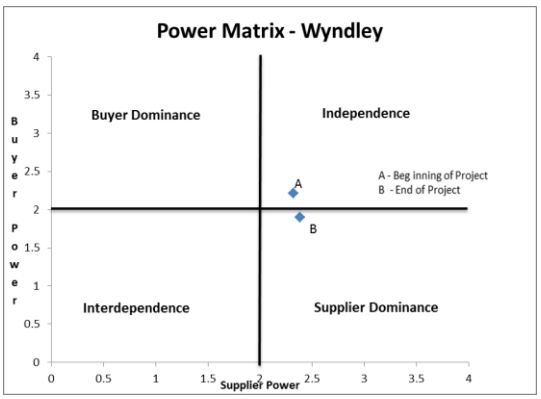
Table 5.2.1, Summary of weighted scores for Utility, Scarcity and Information

Summary of Weighted Scores			**Buyer**			
		Interviewee 9	Interviewee 10	Interviewee 11	Interviewee 12	Mean Score
Beginning	Utility	0.64	0.56	0.56	0.64	0.60
	Scarcity	0.56	0.56	0.63	0.5	0.56
	Information	1.01	1.09	1.05	1.01	1.04
	Power Resource	**2.21**	**2.21**	**2.24**	**2.15**	**2.20**
End of Project	Utility	0.48	0.48	0.48	0.48	0.48
	Scarcity	0.5	0.44	0.25	0.44	0.41
	Information	1.05	1.01	1.05	0.95	1.02
	Power Resource	**2.03**	**1.93**	**1.78**	**1.87**	**1.90**
			Supplier			
		Interviewee 13	Interviewee 14	Interviewee 15	Interviewee 16	Mean Score
Beginning	Utility and scarcity	1.20	0.94	1.12	1.65	1.23
	Information	1.20	1.13	1.13	0.86	1.08
	Power Resource	**2.40**	**2.07**	**2.25**	**2.51**	**2.31**
End of Project	Utility and scarcity	1.2	0.90	1.05	1.65	1.20
	Information	1.20	1.20	1.20	0.86	1.12
	Power Resource	**2.40**	**2.10**	**2.25**	**2.51**	**2.32**

Table 5.2.2, Summary of Power Resources

Summary Sheet					
Power resources – Buyer	**Beg**	**End**	**Power Resources - Supplier**	**Beg**	**End**
Interviewee 9	2.21	2.03	Interviewee 13	2.4	2.4
Interviewee 10	2.21	1.92	Interviewee 14	2.1	2.1
Interviewee 11	2.28	1.78	Interviewee 15	2.25	2.5
Interviewee 12	2.15	1.86	Interviewee 16	2.51	2.51
Buyer Power resoures (mean) for group	**2.21**	**1.90**	**Supplier Power resoures (mean) for group**	**2.32**	**2.38**
Buyer power resources - Mid point	2.22	1.91	Supplier power resources - Mid point	2.31	2.31
Range (Diff between Highest to lowest)	0.13	0.25	Range (Diff between Highest to lowest)	0.41	0.41

Fig 13, Wyndley Power Resources scores plotted on Matrix



Evaluation of Findings

The mean of the scores for the independent variable place Wyndley Leisure Centre in the 'independence' quadrant of the power matrix at the beginning and in the supplier dominance at the end, although neither by a significant margin. The buyer's position weakens between the beginning and the end of the project whereas the supplier's marginally increases. The scores for the buyer group at the beginning are pretty consistent with a very small spread of 5%. The spread of buyer scores had increased slightly by the end to 10%.

The supplier group of scores had a spread of 17% but were consistent between the beginning and the end. Overall, the evidence suggests that the supplier had more power than the buyer which did lead to a position of either independence or supplier dominance, but with only a slight difference in scores between the two.

Buyer

Utility: - Generally the project had a high utility value to the buyer group as it was important to complete the work and reopen the centre as soon as possible which resulted in a consistently low score for utility (average 0.6). There was a lot of publicity surrounding its closure and the lack of alternative facilities. So from a reputational perspective, there was a need to minimise closure time as interviewee 9, ([redacted], BCC) noted that, *"The closure of the pool was highly political and was the main story in the local paper for months."* In addition there was a significant loss of income as a result of closure as there were, *"not many other public swimming baths in the north of Birmingham - high income generation"* (Interviewee 10, [redacted], BCC). These reputational issues meant the

importance (and therefore utility) increased which resulted in the utility score going down 20 % by the end of the project (from 0.6 to .48).

Scarcity: - From a buyer's viewpoint, the project had a high scarcity value (and again a consistent and low score 0.56). This view is illustrated by interviewee 12 (, BCC) who comments, *"There was only a limited number of supply chain companies who were capable of carrying out the specialist swimming pool work and what limited choice there was, was further constrained by the tight timescales."* These tight time scales meant that the buyer's group scored the scarcity 27% less by the end of the project (from 0.56 to 0.41).

Information**: -** Generally the information value was quite high because the buyer was well informed and the supplier did not have much information that was not known to both sides. It was easy to research information on the supplier, but there were limitations on time and budget to do the research. Overall, this resulted in a good information score (1.04) which remained constant between the beginning and the end with little variation between the interviewees

Supplier

Utility and Scarcity**: -** From a suppliers point of view this project had a high utility and scarcity value which resulted in a fairly low score (1.2) although this was slightly higher than the buyers combined score (1.16). Although not especially high in financial terms (£2.7m), there was a considerable amount of publicity surrounding the project and therefore potentially a lot of good will to be gained in making it a success, as highlighted by interviewee 13, (, Wates), *"Birmingham were the company's number one client in the country and was seen as vital to Wates business plan."*

There was awareness that any one project was always capable of affecting the longer term business if things went wrong. Such a strategic consideration may have been a factor in the individual score of interviewee 14 who scored the utility and scarcity lower than his colleagues (25% lower than the mean 1.23). Interviewee 14 was the [redacted] on this project but went on to become the [redacted]. He therefore may have taken into account a more strategic view when scoring this project. Interviewee 16 was another individual score that stood out because he carried a much higher score for the utility and scarcity (37% higher than the mean 1.23). The interviewee was part of Wates internal supply chain and the evidence suggests that the project didn't carry the same importance or scarcity value to the supply chain.

Information: - From a supplier point of view there was a high value for information as a lot was known with Wates being, *"involved from the very beginning and full information was known about the clients budget"* (Interviewee 14, [redacted], Wates). In view of the project requirements, timescales, political pressures etc., it was necessary for the supplier to have a good understanding in order for the close working necessary to deliver the project and *"because of the excellent access (to key players) the information was very reliable and easy to obtain"* (Interviewee 13, [redacted], Wates). This resulted in a good information score which was slightly higher than the buyer. In addition the supplier knew the urgency and importance of the timescales, *"Wates were closely involved with the construction of the various options together with the relevant costings / budgets."* (Interviewee 10, [redacted], BCC). The company were therefore in a position to take advantage of this information if so chosen. It resulted in the information value increasing slightly (1.08 – 1.12), whilst the buyers reduced slightly (1.04 -1.02) giving the supplier a 10% advantage

overall. Again, interviewee 16 stood out with a much lower score for information which suggests that the supply chain had less access to information.

To summarise for Wyndley Leisure Centre, the power position was close to centre on the matrix but just in the independence sector at the beginning and just in the supplier dominance at the end. There was not a significant range in the scores. The buyer had high utility and scarcity giving low scores but a high score for information. The supplier also had high values for utility and scarcity giving it a low score but was higher on the information. It was this difference in information that gave a slight edge to the supplier in terms of power.

5.1.3 Project 3 – The Cricket Blocks

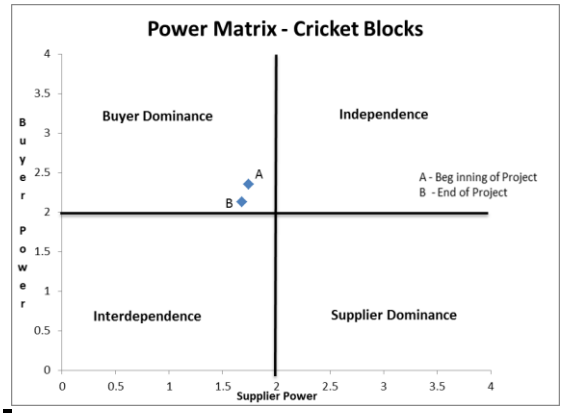
Table 5.3.1, Summary of weighted scores for Utility, Scarcity and Information

Summary of Weighted Scores			**Buyer**			
		Interviewee 17	Interviewee 18	Interviewee 19	Interviewee 20	Mean score
Beginning	Utility	0.4	0.72	0.88	0.96	0.74
	Scarcity	0.38	0.44	0.56	0.38	0.44
	Information	1.26	1.1	1.14	1.18	1.17
	Power Resources	**2.04**	**2.26**	**2.58**	**2.52**	**2.35**
End of Project	Utility	0.4	0.72	0.88	0.8	0.70
	Scarcity	0.38	0.44	0.56	0.31	0.42
	Information	1.05	0.88	0.92	1.18	1.01
	Power Resources	**1.83**	**2.04**	**2.36**	**2.29**	**2.13**
			Supplier			
		Interviewee 21	Interviewee 22	Interviewee 23		
Beginning	Utility and scarcity	0.81	0.90	0.81		0.84
	Information	0.91	0.99	0.64		0.85
	Power Resources	**1.72**	**1.89**	**1.45**		**1.69**
End of Project	Utility and scarcity	0.81	0.90	0.81		0.84
	Information	0.91	0.83	0.64		0.79
	Power Resources	**1.72**	**1.73**	**1.45**		**1.63**

Table 5.3.2, Summary of Power Resources

	Summary Sheet				
Power resources – Buyer	**Beg**	**End**	**Power Resources - Supplier**	**Beg**	**End**
Interviewee 17	2.04	1.83			
Interviewee 18	2.25	2.03	Interviewee 21	1.72	1.72
Interviewee 19	2.58	2.36	Interviewee 22	1.89	1.73
Interviewee 20	2.52	2.3	Interviewee 23	1.45	1.45
Buyer Power resoures (mean) for group	**2.35**	**2.13**	**Supplier Power resoures (mean) for group**	**1.69**	**1.63**
Buyer power resources - Mid point	2.31	2.1	Supplier power resources - Mid point	1.67	1.59
Range (Diff between Highest to lowest)	0.54	0.53	Range (Diff between Highest to lowest)	0.44	0.28

Fig 14, The Cricket Blocks Power resources scores plotted on Matrix



Evaluation of Findings

The mean of the scores for the independent variable (power) for the Cricket Blocks shows that when plotted on the power matrix, in a similar manner to the first two projects, there is a position towards the middle but with a slight bias towards buyer dominance, both at the beginning and the end. For both buyer and supplier, the power score dropped towards the interdependence quadrant at the end of the project, but not significantly. Although all of the buyers group were above the mid-point line, there was a spread of 0.54 with the highest score 20% above the mean (Interviewee 18,) and the lowest at 5% below the mean (Interviewee 17,).

Buyer

Utility: - In terms of buyer utility, the general comments across the group indicate a moderate level. Interviewee 19, (, BCC) stated that, *"It wasn't critically urgent",* while interviewee 18, (, BCC) added that the only real *"Importance came from its location which was seen as the gateway to Edgbaston cricket ground."* The blocks were in need of structural repairs but were not in a

critical condition and therefore housing could carry on its service provision if the project did not go ahead at this point of time. This led to a higher score (and therefore low utility value) than the other projects.

The exception here was the score for interviewee 17, [redacted], who felt there was quite a high value of utility (46 % higher than the buyer mean). One possible reason given in the comments as to why the [redacted] (Interviewee 17) may have had a different view on the value of the utility is that he had a lot of dealings with tenants and politicians and had reached the view that the project had greater importance than his project colleagues as his following comment suggests, *"highly political with Cal Thorpe estates who owned the land and wanted to demolish the blocks so big political imperative that the scheme went ahead."*

Scarcity: - The buyer scarcity value was quite high which gave a relatively low score across the group of 0.44 because there was limited opportunity for competition and very limited credible alternatives. In addition, due to the nature of the work, which was quite specialist structural repair work on high rise buildings, there were few options for alternatives in the supply chain. These were highlighted by interviewee 18, ([redacted], BCC) because, *"very few specialist subcontractors had a similar structural strengthening solution."*

Information: - The value of the buyer information gave an average information score at the beginning. There were no resources put aside for research, nor did it appear as though there was an appetite for it, *"as there was considered to be no option to go elsewhere"* (Interviewee 20, [redacted], BCC). The information values did drop between the beginning and the end in 3 out of the 4 interviews, with interviewees 18 and 19 dropping from 1.1 and 1.14 to 0.88 and 0.92 respectively. A number of the

comments suggested that this change was a result of a key member of staff on the buyer side leaving and taking a lot of information with him. *"[redacted] (from housing) had a good idea but he left and [redacted] (who took over) knew a lot less"* (Interviewee 19, [redacted], BCC).

Supplier

Utility and Scarcity: - The evidence from the supplier suggests that the project had a high value of utility and scarcity (which gave it a low score of 0.84). It was significantly lower than the supplier scores from the first two projects. In addition the project had the potential to be part of a much bigger high rise refurbishment programme which was considered at the time. Likewise the scarcity value was high because, *"work both in the framework and externally was dropping so it would have been very difficult to replace"* (Interviewee 21, [redacted], and Thomas Vales). It made the scarcity value of a £7m scheme even more important.

Information: - The supplier's information value gave a good score although less than the buyer's score. The supplier had, *"worked closely with the client to build up the target cost and the housing programme so had detailed knowledge"* (Interviewee 22, [redacted], Thomas Vale) and gained a lot of information and insight into all the key information on budgets, programme etc. Consequently this put them in a strong position, *"we had a very good idea what the client was prepared and able to pay"* (Interviewee 22, [redacted], and Thomas Vale). One exception, interviewee 23, gave a lower score, 25% lower than the mean (0.64 compared to 0.85). Interviewee 23 was the [redacted] and would have spent more of his time with the supply chain than with BCC.

To summarise for the Cricket Blocks, the power position was close to centre on the matrix, but just in the buyer dominance quadrant at the beginning and just in the interdependence at the end. The buyer had moderate utility but high scarcity giving medium and low scores respectively, although with a high score for information. The supplier also had higher values for utility and scarcity resulting in a low score, but was high for information although lower than that of the buyer. The evidence points to the supplier placing greater value on the utility and scarcity of the project than the buyer which may have been as a result of the timing – i.e. towards the end of the framework and an emerging recession.

5.1.4 Project 4 – Alexander Stadium

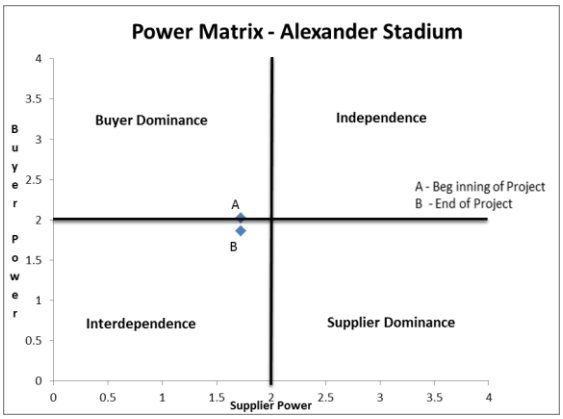
Table 5.4.1, Summary of weighted scores for Utility, Scarcity and Information

Summary of Weighted Scores			**Buyer**			
		Interviewee 24	Interviewee 25	Interviewee 26	Interviewee 27	Mean Scores
Beginning	Utility	0.56	0.48	0.48	0.72	0.56
	Scarcity	0.31	0.31	0.5	0.5	0.41
	Information	1.31	1.1	1.5	0.75	1.17
	Power Resources	**2.18**	**1.89**	**2.48**	**1.97**	**2.13**
End of Project	Utility	0.56	0.48	0.48	0.72	0.56
	Scarcity	0.25	0.25	0.31	0.44	0.31
	Information	1.09	1.1	1.1	0.75	1.01
	Power Resources	**1.9**	**1.83**	**1.89**	**1.91**	**1.88**
			Supplier			
		Interviewee 28	Interviewee 29			
Beginning	Utility and scarcity	0.81	0.90			0.855
	Information	0.64	0.99			0.815
	Power Resources	**1.45**	**1.89**			**1.67**
End of Project	Utility and scarcity	0.81	0.90			0.855
	Information	0.64	0.99			0.815
	Power Resources	**1.45**	**1.89**			**1.67**

Table 5.4.2, Summary of Power Resources

Summary Sheet					
Power resources – Buyer	**Beg**	**End**	**Power Resources - Supplier**	**Beg**	**End**
Interviewee 24	2.19	1.9			
Interviewee 25	1.89	1.83			
Interviewee 26	2.03	1.8	Interviewee 28	1.45	1.45
Interviewee 27	1.97	1.9	Interviewee 29	1.89	1.89
Buyer Power resoures (mean) for group	**2.02**	**1.86**	**Supplier Power resoures (mean) for group -**	**1.67**	**1.67**
Buyer power resources - Mid point	2.04	1.85	Supplier power resources - Mid point	1.67	1.67
Range (Diff between Highest to lowest)	0.30	0.10	Range (Diff between Highest to lowest)	0.44	0.44

Fig 15, Alexander Stadium Power Resources scores plotted on Matrix



Evaluation of Findings

The mean of the power resource scores placed Alexander Stadium on the line between buyer dominance and interdependence on the power matrix. The buyer's position weakens marginally between the beginning and the end of the project. The spread of the buyer's scores is relatively small (0.30).

Buyer

Utility: - The project was important for BCC so it had a high utility value amongst the buyer group which gave it a low score. Although it was not critical for delivery of its services, it would have had a significant reputational impact if it was not delivered on time, which as interviewee 24, ([redacted], BCC) said, *"If the Council failed to deliver the stand in time - it would call into question its ability to stage major events."*

Scarcity: - The comments supported the view that the project had a high scarcity value to the buyer group which gave it a low score. There was little opportunity to look at credible alternatives because of the critical timescales although, *"an open competition was considered at the beginning following a request from Sport England but there*

would not have been enough time to complete the process", (Interviewee 24, [redacted], BCC). Competition itself was limited to within the BCP and *"the project was allocated to Thomas Vale because they had done three schemes on the site and were therefore familiar with the layout, requirements, operation etc."* (Interviewee 25, [redacted], BCC). The scores for interviewee 24, [redacted], and interviewee 25, [redacted], were especially low. This may have been down to the fact they were both involved very early on in the project and had more knowledge on the limiting issues (such as time imperatives) than other team members. What was also significant was that, for all four interviewees, there was a significant drop (25 %) between the beginning and the end in the scarcity scores.

Information: - The buyer information value was rated as medium. Some research was done but, *"it was time that was the limiting factor"* (Interviewee 25, [redacted], BCC). Also the nature of the scheme kept changing because of third parties i.e. Sport England, which placed Vales in a stronger position because of the uncertainty, a view that was supported in interviewee 26, ([redacted], BCC) comments that *"it was a complicated, joint funded scheme, so information was not clear and up front, even to the QS."*

There were a lot of changes which gave Vales the potential opportunity to exploit the situation. There was a significant spread in the information scores between interviewee 24, [redacted] (11% above mean of 1.17), interviewee 26, [redacted] (22% above mean of 1.17), and interviewee 25, [redacted], (9% below mean of 1.17), and interviewee 27, [redacted], (36% below mean of 1.17). It was these differences in information scores that caused the variances in power scores in the buyer group and, in particular, those involved more in preconstruction activities who had better information.

Supplier

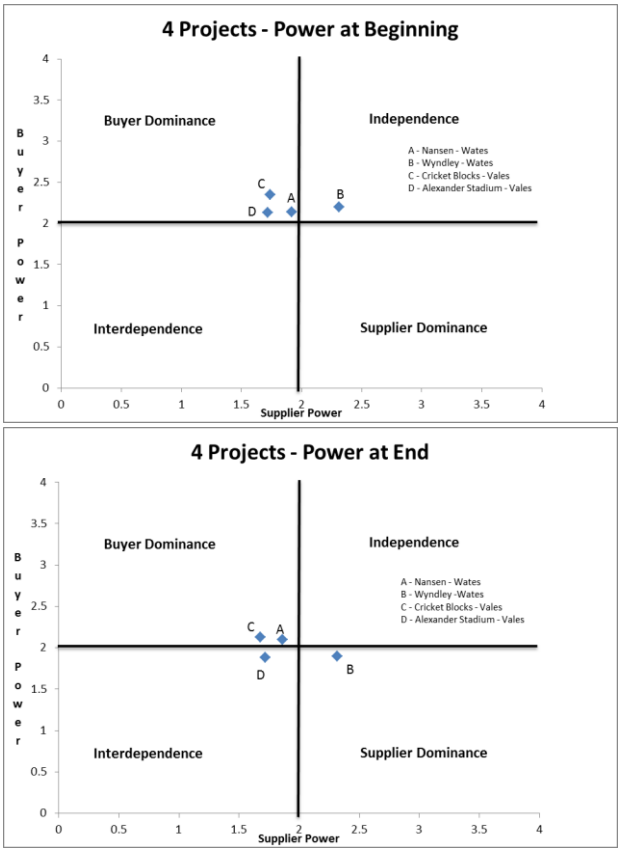
Utility and Scarcity: - The supplier evidence suggests that the utility and scarcity value to the supplier were high which gave a low score and was amongst the lowest of the four projects. The view from interviewee 29, (, Thomas Vale) was that, *"BCC was our No 1 client- couldn't rate it highly enough for a load of reasons"* and made up to 50 to 60 % of the regions business. Interview 29 went on to add that at a time when work outside was reducing rapidly it would be *"difficult to replace this type of work especially a big project like Alexander Stadium" (£13m).*

Information**:-** The comments suggest that the supplier information value was not particularly high because of the difficulty in getting any reliable information e.g. interviewee 29 (, Thomas Vale) comments that, *"this was a complicated project with a lot of people involved so it was difficult to find much info out at all."* The comments suggest this was down to the complicated and multi-stakeholder situation of the scheme and the constantly changing requirements as noted by interviewee 28, (, Thomas Vale), *"The brief seemed to change a lot."*

The supplier's information scores were amongst the lowest and were 20% lower than the buyer. There was a significant difference in the information scores between interviewee 28 – score 0.64 and interviewee 29 - score 0.99. Interviewee 29 was the and was closely involved in managing the internal supply chain – in particular, the Mechanical & Electrical suppliers. It suggests again that those staff from the supplier side involved with or managing the supply chain had less information than other supplier staff e.g. in this case interviewee 29 - .

To summarise for Alexander Stadium, the power position was close to the buyer dominance/interdependence line at the beginning moving slightly to interdependence by the end. The buyer had high utility and high scarcity giving low scores and a medium score for information. The supplier also had higher values for utility and scarcity giving it a low score but was significantly lower on the information (much lower than other projects). In this case, it was the buyer who had better information scores, but because of the high utility and scarcity value it meant that the buyer and supplier were largely inter-dependent or very slightly in favour of the buyer.

Fig 16, Comparison of Power Scores between suppliers at beginning and the end of the projects



Evaluation of Findings

Generally, all of the projects were grouped around the centre although the evidence shows that in all cases the buyer power dropped off in varying degrees from the beginning of the project to the end which is not surprising for a number of reasons. Firstly once a project moves to the construction phase then the contractor (supplier) takes much greater control over events and is in a position to influence what happens whereas at design (pre-contract) stage the project process was led by the buyers design team and project managers. In particular at the construction phase the supplier has much greater control over the flow of information which gives him an increase in power which at the same time results in a drop for the buyer. In addition once into the construction phase the scarcity value drops since it would be very difficult and costly to switch suppliers hence a degree of 'lock in' occurs. It also reduces the buyer power. Because this is a partnership neither of these factors had a dramatic effect since there was (in theory) the ultimate sanction of future work but nevertheless on a project by project basis it was consistently noticeable. Given that the construction phase is where the majority of money on a construction project is spent this is an interesting point when it comes to considering how power might affect how surplus generated from collaboration is shared.

When looking at the individual scores broken down by individual projects it shows that at the beginning, one of the projects, Wyndley Leisure Centre, was just in the 'independence' quadrant. The remaining three projects were in the buyer dominance quadrant although Nansen was close to the independence line and the Cricket Blocks close to the interdependence line.

By the end of the project, due to a drop in the buyer power, Wyndley Leisure Centre had moved to the supplier dominance sector. Nansen School and the Cricket Blocks moved slightly but stayed in the same sectors and Alexander Stadium moved slightly into the interdependence sector. The second observation is that there is a difference in the supplier power between Wates (projects A and B) and Vales (projects C and D) with Wates being in a stronger position and that this difference remained fairly constant from the beginning to the end.

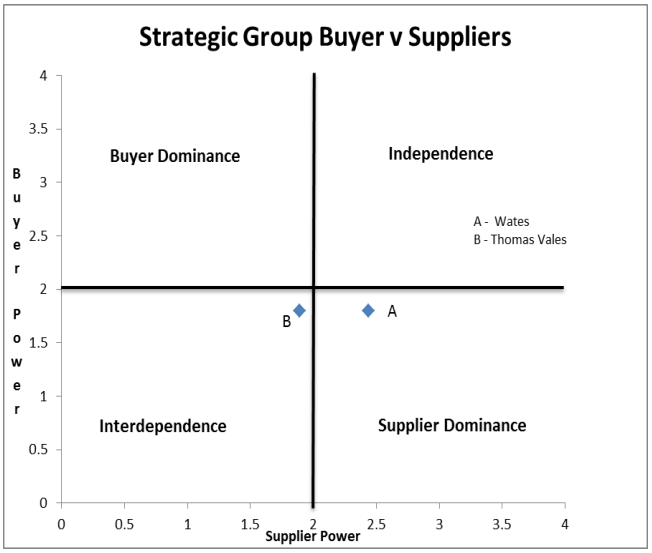
5.1.5 Strategic Group Scores

To recap the buyer strategic group was made up of senior managers from all professional disciplines, framework managers and senior clients. The supplier strategic group was made up of the framework managers from the two suppliers.

Table 5.5.1, Summary of weighted scores for Utility, Scarcity and Information

Strategic Group		Summary	of	Weighted	Scores
Name					
	Utility	Scarcity	UT + SC	Information	Power Resource
Buyer Strategic					
Interviewee 30	0.6	0.75	1.35	0.88	**2.23**
Interviewee 31	0.6	0.69	1.29	0.35	**1.64**
Interviewee 32	0.8	0.69	1.49	0.35	**1.84**
Interviewee 33	0.5	0.44	0.94	0.35	**1.29**
Interviewee 34	0.9	0.44	1.34	0.53	**1.87**
Interviewee 35	0.9	0.44	1.34	0.53	**1.87**
Interviewee 36	0.7	0.56	1.26	0.35	**1.61**
Interviewee 37	0.4	0.69	1.09	0.53	**1.62**
Interviewee 38	1	0.44	1.44	0.35	**1.79**
Mean Score	**0.71**	**0.57**	**1.28**	**0.47**	**1.75**
Supplier Strategic					
Interviewee 40			0.91	1.4	**2.31**
Interviewee 41			0.91	0.88	**1.79**
Mean Score			**0.91**	**1.14**	**2.05**

Fig 17 Strategic group Buyer v Supplier Power resources scores plotted on Matrix



Evaluation of Findings

The power scores from the strategic group placed Vales just in the interdependence sector but close to the supplier dominance line (1.79) and Wates in the supplier dominance. Wates had a significantly higher score than Vales (2.31).

In general terms, the overall view at a strategic level was that the buyer had less power than was thought by individuals working on projects. Likewise, the supplier's view at a strategic level was that they had more power than was thought by the individuals working on projects. There was quite spread of views on the buyer side ranging from interviewee 30, [redacted] at 27% higher than the (1.70) mean to interviewee 33, [redacted], BCC at 27% lower than the mean although the majority were around the mid-point of 1.80. Interestingly the [redacted], who gave it the highest score, probably had the least involvement with the operational detail of the partnership, whereas the [redacted] who gave the lowest score had some of the greatest detail involvement in the BCP.

Buyer

Utility: - Overall the buyer's comments supported the view that the framework had a medium to high value in terms of utility. It was important to BCC as it was a good mechanism for delivering the capital programme a point noted by interviewee 32, (, BCC) that the, *"The massive amount of work put through in a relatively short time, it would have been difficult to achieve this without the BCP*." However, there was a theme of scepticism in the comments which was not evident in the project comments e.g. *"It achieved what it set out to achieve in terms of delivering certain programmes of work but at what cost?"* (Interviewee 38, , BCC). Their comments suggested that financial value for money for the buyer was not being achieved. Although there was a spread of scores for utility for the strategic group they were at 0.71, generally in line with the project group buyer utility scores. The two exceptions were interviewee 37, who was 50% below the mean, and interview 38 who was 40 % above the mean.

Interviewee no 37 was the lead for housing works and the BCP was vital to delivering the programme to reach 'Decent Homes' standard and consequently the BCP had been very important to him in achieving his objectives. Interview no. 38 was a designer who had extensive experience working elsewhere and the evidence suggests that he did not place the same high utility on the BCP as others.

Scarcity:- The value of scarcity was considered to be lower by the strategic group than at project level resulting in a higher score for the strategic group for scarcity of 0.57, whereas across all the four projects it was 0.46. The view was there were credible alternatives available which were not used very often, *"We could have gone out to*

tender (on projects) if we really had insisted, after all we did it on the Birmingham Library." (Interviewee 30 - [redacted], BCC).

Had these alternatives been used this may have lowered the scarcity value further, but it was BCC policy to use the framework. There was a very small range of scores with only two – interviewees 33 and 34 having significant difference. Both of these were senior managers who had very close operational involvement at a strategic level and had clear views on the scarcity as noted by interviewee 33, ([redacted]), *"There was no real genuine competition – certainly between the BCP contractors but also in the supply chain."*

Information: - The comments from the buyer strategic group gave information a low value as they felt the suppliers got very close to the key players, *"often by volunteering to have staff based in both client and UD offices so as to be able to access information"* (Interviewee 36 - [redacted], BCC). They used this approach to extract a lot of high value detailed information. What the evidence also suggested was that the buyer was disjointed in his approach which was reflected in consistent low scores across the group with a mean score for information (0.47) of less than 40% of the mean project scores for information (1.14). The result meant the buyer project group was on average scoring information two and half times higher than the strategic group. These results explained the substantial difference in power between the project group and the strategic group. The one exception was interviewee 30 whose score was nearly 90 % higher than the mean. As mentioned earlier, interviewee 30, the [redacted] had the least detailed operational knowledge of the framework.

Supplier

Utility and Scarcity: - The overall strategic suppliers view gave a high value of utility and scarcity to the BCP which resulted in a consistent low score. It was vitally important to their business plans and meant that they could plan their growth**.** Over time the suppliers became dependent on the volume which increased further its utility and scarcity value. Their view was that the buyer had credible alternatives available if it chose to use them, *"There were other choices which the Council could and did use such as the PFI frameworks and the LEP"* (Interviewee 40 - [redacted], Wates).

Information: - The supplier's strategic group supported the view that the information levels were high and found it easy to obtain any necessary information. Interviewee 41, ([redacted], Thomas Vale) comment that, *"We worked very closely with the clients, the budgets were developed jointly, which meant that the budget was usually a fair representation of the costs, but it also meant that we had a good understanding of the clients available budgets."* Their view was that this information was not used to take advantage or exploit but to generate extra value, *"Information was always used to get the most efficient project delivery which will give maximum gain for clients and contractors alike"* (Interviewee 40, [redacted], Wates).

The supplier information levels were over two and half times the value of the buyer and it was this difference that put the power position in either the interdependence or supplier dominance. An interesting observation is that the highest information scores were from Wates and the lowest from Vales which reinforces previous comments about Wates being better at managing information

5.2 General discussion on power

The evidence shows that for the four case studies there were no extremes in the scores and that all of the projects are located towards the centre of the power matrix but with a slight bias or emphasis to one of the sectors.

There are a number of points that came out from the findings as follows:-

i) When broken down by supplier there was a difference between Thomas Vales who were in a position of buyer dominance/interdependence and Wates who were in, or close to, a position of independence/supplier dominance.

ii) The Information scores in the evidence had a significant influence on power resources.

iii) Size of project and type of client did not appear to have any impact on power (but size of organisation may have done).

iv) There were some examples of a difference in power scores between those involved in preconstruction activities and those involved in construction.

v) Generally the strategic buyer group rated the power position of the buyer lower than the project buyer group but with a significant difference in supplier power between Wates and Vales.

vi) Compared to the project buyer group, the strategic buyer group generally rated utility as the same, scarcity lower but had significantly lower scores for information.

vii) On all the projects, buyer power dropped between project beginning and project end.

Difference between Suppliers

Both the strategic groups and project teams of buyers and suppliers felt there was a difference in power between suppliers. The findings suggest a number of possible reasons for this.

i) The first point to come out of the comments was that size of organisation was felt to be a significant factor, as noted by interviewee 30, (, BCC), *"Wates seemed to be the bigger and more prominent player."* The comments suggest that because Wates were a much bigger organisation operating at both a national and international level, '*they could pick and choose work'* (Interviewee 35, , BCC) and therefore the utility value to them of the BCC work was less than it was to Vales. Consequently, it was perceived that Wates could choose to take a more robust position, *"They could stand up for themselves when they wanted to whereas the other two would give in."* (Interviewee 34, , BCC).

It was a point highlighted by the difference in scores for utility and scarcity with Wates having higher scores than Vales. The situation may have been made worse by the fact these projects were towards the end of the framework and there was then a recession emerging (i.e. in these conditions work of this type was scarce and important). Yet Nansen School (Wates), delivered at about the same time, did not score as low on utility and scarcity as Vales which supports the view that, overall, the work was not as important to Wates as it was to Vales.

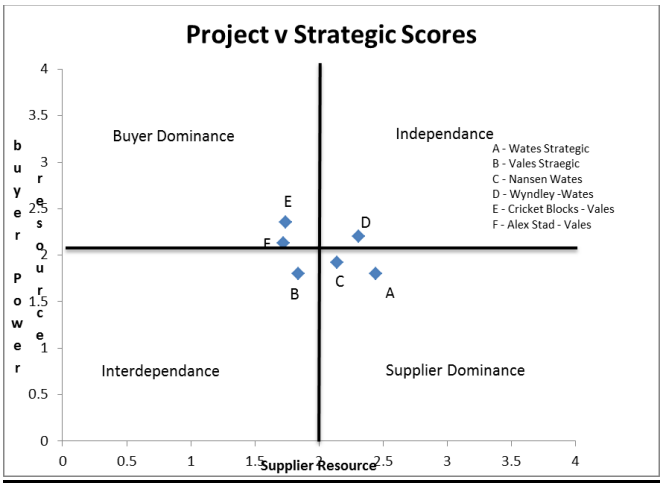
ii) The comments also highlight the fact that Wates was very good at getting and using information on projects to their advantage from the clients or end users, in terms of programmes, budgets, future plans etc. They had a strategy of embedding themselves within the organisations which resulted in them having more information

than the other suppliers, and often more and better information than the buyer would have liked, as illustrated by interviewee 37 (, BCC), *"Wates (were in a stronger position) by a long way because of the relationship they had built up with the client."*

iii) The third point arising from the comments was that Wates seemed to have the ability to call on a lot more expertise and specialisms in terms of project delivery simply because of experience elsewhere, *"Wates staff had done a lot collaborative working elsewhere therefore very easily adapted to the BCP"* (Interviewee 37, , BCC). It gave them an important edge in terms of value to the buyer. The evidence suggests that these three factors of a bigger, more skilled and experienced and well-informed contractor combined to put Wates in a stronger position by increasing their relative power. Interestingly, it didn't have much impact on the buyer power resources, but it did result in pushing Wates more towards the independence/supplier dominance sector, as opposed to Vales who were more in the buyer dominance/interdependence sector.

In the case study, the evidence shows that in all four projects the power position on the matrix was broadly in the middle region with little or no extremes. In such situations, certain factors may influence a bias or slant towards one of the four sectors. In the four case studies, it was information that seemed to have the biggest influence on the power resource score. The evidence also shows there was a difference for the buyer in those involved in pre-construction (higher) and construction (lower) information levels.

Fig18. Difference between project group and strategic group scores



The evidence shows that the scores for both the strategic group and the project group are generally centred on the middle, but with a range of different bias which reinforce previous observations.

The most striking point is that both the strategic and project scores for Wates are clearly in the independence/supplier dominance sector, while the strategic and project scores for Vales are in the interdependence and buyer dominance sector. The evidence is pretty consistent in both groups.

Comparison between Strategic and Project Groups

A further observation is that the evidence confirms that the buyer strategic scores are lower than each of the project buyer scores. Put simply, the project teams felt the buyer was in a more powerful position and the supplier less powerful than the strategic group. The strategic group conversely felt that the supplier was a lot more powerful and the buyer a lot weaker than the project team thought. This raises the question as to the reasons for the differences in perception of power position between these two groups.

It is possible that those involved in projects genuinely believed that they were in a stronger power position as they were dealing with an actual live project and were potentially in a position to influence and exercise that power. Likewise the supplier staff involved in the project may have had a view that they are not in a strong position, being that their next project depended on them acquiescing to the buyer's demands. The strategic group on the other hand is looking at the picture as whole and not just individual projects. The comments suggested there was a general feeling amongst the strategic group that the buyer could have exercised more power but chose not to, *"BCC were in position to exercise a lot more power than they actually did"* (Interviewee 36, [redacted], BCC).

What the strategic group saw was a close, unhealthy relationship between the project team and the supplier which they saw as a, *"general perception that the relationship was far too cosy between BCC and the partners"* (Interviewee 36, [redacted], BCC). The comments also suggest that there was a view held by the strategic group that, even if there was the means to exercise power (through work allocation), it wasn't done as much as it should have been by the buyer because it was *'perceived as being anti-partnering to do so'* (Interviewee 35, [redacted], BCC). It was against a backdrop of a *"culture of being accused of being adversarial if you challenged costs"* (Interviewee 33, [redacted], BCC). The comments suggest that the buyer would be reluctant to exercise too much power because it would have been against the strategic aims of the collaborative working partnership of 'working together' and being 'non-adversarial'. Certainly, there was a view that the suppliers at a strategic level knew this dilemma which interviewee 35, ([redacted], BCC) commented on, *"[redacted] and [redacted]*

challenged robustly some of the contractor's costs but were told to back off as it was against the ethos of partnering and the contractors knew this."

In some respects, there may have been an element of truth in this as the partnership was the major delivery mechanism for construction projects for BCC. As long as the overall programmes and budgets were achieved, then the buyer didn't want to create too much adversarial conflict since from a strategic point of view it may not have been in their interests to do., *"it allowed BCC to achieve its aims in terms of delivery and for a long time the adversarial nature of construction significantly reduced"* (Interviewee 36, [redacted], BCC). The scores certainly show that the strategic buyer group felt they were in a weaker power position than those staff involved in projects. The same evidence also applies but in an opposite direction to the supplier staff.

5.3 Summary

The evidence shows that, for the four case studies, there were no extremes in the scores and that all of the projects were located towards the centre of the power matrix but with a slight bias or emphasis to one direction. However, in the case of the strategic scores there was a more pronounced view with the strategic buyer group rating their power levels as much lower than the project group. The scores show that all four projects had a fairly high utility and scarcity value for both buyer and supplier.

Given that this was a long term relationship, with a significant level of expenditure, this is not surprising i.e. it was important to both the buyer and supplier both of whom had invested a lot of time and money in the relationship. It explains why the relative power relationship between the buyer and supplier was not extreme but was more

balanced with a slight shift one way or the other. That said, there was a difference in the utility and scarcity levels between the two suppliers. The evidence suggests that this framework was more important and valuable to Vales than it was to Wates.

The other element that was more variable was information. The evidence suggests it was this element, information, which had the greatest impact on the power position in the four case studies for both buyer and supplier.

The level of information can be affected either way; for example, on Nansen School it was the buyer who had higher information levels which gave it a stronger power position leading towards buyer dominance/interdependence whereas, for Wyndley, it was the supplier who had the higher information levels which lead to a position of supplier dominance/independence.

A breakdown of the individual information scores for the buyer show that there was a clear difference in information levels between those involved in preconstruction activities and those involved in construction (on site). Again, this is not surprising as preconstruction is likely to be more buyer led. Once the project starts on site it is likely to be more supplier led.

The way in which the supplier approaches and manages its ability to obtain information will influence its power levels. What the evidence shows is that overall Wates were better than Vales at managing this which, together with the difference in utility and scarcity, led them to being in a stronger power position. This is a very important consideration because, has the evidence suggests, in balanced frameworks such as the BCP, the level of information can be the key factor that influences power and, subsequently, the extent of collaboration and benefits delivered.

Finally, three of the projects - Nansen School, the Cricket Blocks and Alexander Stadium - were all just in the buyer dominance sector at the beginning whereas Wyndley Leisure Centre was in the independence sector. How these relate to the research questions in terms of collaboration is considered in the next chapter and chapter 7 presents and evaluates the benefits delivered.

Chapter 6

Research Findings for Intervening Variable – 'Extent of Collaboration'

6.1 Presentation of Findings

The following chapter presents the findings for the intervening variable - the 'Extent of Collaboration' - for both the buyer and supplier for each of the case study projects. For each project there is a table of summary scores and a category rating for both the beginning and the end of the project. There is then a short evaluation of the results, supported by some comments extracted from the interviews, performed for both the buyer and supplier and for the strategic group.

6.1.1 Project 1 - Nansen School

Table 6.1.1, Intervening variable scores and collaboration rating

	Summary					
Intervening Variable – Buyer	**Beg**	**End**	**Intervening Variable - Supplier**	**Beg**	**End**	
Interviewee 1	4	4	Interviewee 5	3.43	3.43	
Interviewee 2	4	3.71	Interviewee 6	3.71	3.85	
Interviewee 3	3.71	3.71	Interviewee 7	2.86	2.86	
Interviewee 4	3.7	3.7	Interviewee 8	2.85	2.85	
Mean Score - Buyer	**3.85**	**3.78**	**Mean Score - Supplier**	**3.21**	**3.25**	
Mid point - Highest - Lowest	3.85	3.85	Mid point - Highest - Lowest	2.28	3.25	
Range	0.30	0.30	Range	0.86	1	
Collaboration Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Collaboration category**
3.01 - 4	3.85	3.78		3.21	3.25	**High**
2.01 -2						**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

Both the buyer and the supplier rated the extent of collaboration as high, with the buyer rating it 20% (3.85) higher than the supplier (3.21) at the beginning. The buyer score reduces from the beginning to the end marginally (0.07), whereas the supplier increases marginally (0.04). There was a small spread of the scores with interviewees 1 and 2, who were involved on the preconstruction activities, giving slightly higher scores.

The buyers comments supported the view that there was a high extent of collaboration that took place on the project as highlighted by interviewee 1, (, BCC), *"It is very unlikely the project would have achieved its financial or programme targets without extensive collaboration."* The willingness to work together was epitomised by the "*co-location of clients, designers and contractors" (*Interviewee 2 - , BCC), i.e. sitting and working together as one team. The good working was helped by the fact that the team had being kept together from project to project, *"With best practice and knowledge being shared from project to project although this was felt to be down to the fact that it was the same team."* (Interviewee 2, , BCC).

The comments from the supplier also supported the view that there was a high degree of collaboration on the project. The buyers comments about the benefits of keeping the same team together were also expressed by the supplier, *"where there are a large number of projects been delivered by the same team everyone could work together."* (Interviewee 5, , Wates).

6.1.2 Project 2 - Wyndley Leisure Centre

Table 6.1.2 Intervening variable scores and collaboration rating

	Summary					
Intervening Variable – Buyer	**Beg**	**End**	**Intervening - Supplier**	**Beg**	**End**	
Interviewee 9	3.57	3.71	Interviewee 13	4	4	
Interviewee 10	3.57	3.85	Interviewee 14	3.85	4	
Interviewee 11	2.7	2.85	Interviewee 15	3.57	3.85	
Interviewee 12	3.7	3.85	Interviewee 16	3.85	3.85	
Mean Score - Buyer	**3.39**	**3.57**	**Mean Score - Supplier**	**3.82**	**3.93**	
Mid point - Highest - Lowest	3.14	3.35	Mid point - Highest - Lowest	0.379	3.93	
Range	0.87	1.00	Range	0.43	0.15	
Collaboration Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Collaboration category**
3.01 - 4	3.39	3.57		3.82	3.93	**High**
2.01 -2						**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

Both the buyer and the supplier rated the extent of collaboration as high. In the case of the buyer, this increased marginally from 3.39 at the beginning to 3.57 at the end. The supplier rates the extent of collaboration as very high at both the beginning and at the end with the end score of 3.93 being almost the maximum it could be (4) with only a small spread (10%) in the scores.

The majority of the buyers comments supported the view that there was a high extent of collaboration on this project e.g. interviewee 10, (, BCC), *"This was typical of Wates who were by far the best and most collaborative company"* and that *"a lot of problems were headed off because of effective collaboration"* (Interviewee 9, , BCC). As interviewee 10, (, BCC) pointed out, this meant working *"with lots of joint workshops (to solve problems) and presentations (to share info and ideas)."* The one exception to the high scoring was interviewee 11, ( ) who scored it 20% lower than the mean. He

later went on to become the [redacted] which may have influenced his scoring in that his knowledge and experience gained on other schemes may have influenced his scoring on this project.

The comments from the supplier also supported the view that there was a high extent of collaboration on this project. Interviewee 15, ([redacted], Wates) noted that because there was *"early involvement - there was a complete understanding about what was important in the scheme to the client and what were the critical issues - therefore could align priorities – collaboration allowed this to happen."*

6.1.3 Project 3 – The Cricket Blocks

Table 6.1.3 Intervening variable scores and collaboration rating

	Summary					
Intervening Variable – Buyer	**Beg**	**End**	**Intervening Variable - Supplier**	**Beg**	**End**	
Interviewee 17	3	2.3				
Interviewee 18	3	2.1	Interviewee 22	2.85	2.85	
Interviewee 19	2.71	2.14	Interviewee 23	3.14	2.57	
Interviewee 20	2.7	2.28	Interviewee 23	2.85	2.85	
Mean Score - Buyer	**2.85**	**2.21**	**Mean Score - Supplier**	**2.95**	**2.76**	
Mid point - Highest - Lowest	2.85	2.20	Mid point - Highest - Lowest	3	2.71	
Range	0.30	0.20	Range	0.29	0.28	
Collaboration Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Collaboration category**
3.01 - 4						**High**
2.01 -2	2.85	2.21		2.95	2.75	**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

Both the buyer and the supplier rate the extent of collaboration as medium to high. In the case of the buyer, this was reduced by 22% from 2.85 at the beginning to 2.21 at the end. The supplier also rates the extent of collaboration as being reduced from the

beginning to the end (2.95 to 2.76), although not as significantly as the buyer (6%). In both cases, the spread of the scores was relatively small (10 %). The general view from the buyer comments are that the extent of collaboration was notably reduced from pre-construction to construction, a point highlighted by interviewee 17, (, BCC) that *"the collaboration was good in the pre-construction stage but not so good when the project got on site."* He went on to add that *"at design we seemed to be all working with a common purpose, everyone was flexible and relationships were open and transparent. This all changed as soon as construction started."* Interviewee 18, (, BCC) suggested that some of this might be attributed to the individuals involved at the different stages of the scheme who demonstrated different behaviours, *"the extent of the collaboration was in direct relation to the individuals from Vales and this changed as the individuals changed."*

The supplier comments seem to follow the buyer's perception that the extent of collaboration reduced when on site, for example interviewee 22, (, Thomas Vale) commented that *"it was good at preconstruction stage but less so during construction."* Interviewee 21, (, Thomas Vale) was quite critical of the buyer's staff, *"my experience was often one of frustration and one sidedness i.e. the contractor was expected to collaborate but not the client."* Interestingly, the supplier's scores did not substantiate this view, with only a 6% drop. One noticeable exception was interviewee 23 that dropped by 20%. Interviewee 23 was the who would have been heavily involved in the supply chain. It suggests that there may have been a perception of less collaboration in the supply chain as the project progressed towards completion.

6.1.4 Project 4 – Alexander Stadium

Table 6.1.4, Intervening variable scores and collaboration rating

	Summary					
Intervening Variable – Buyer	**Beg**	**End**	**Intervening Variable - Supplier**	**Beg**	**End**	
Interviewee 24	2.71	2.42				
Interviewee 25	3.42	2.14				
Interviewee 26	3.7	2.43	Interviewee 28	2.85	2.85	
Interviewee 27	2.43	2.43	Interviewee 29	2.85	2.85	
Mean Score - Buyer	**3.07**	**2.36**	**Mean Score - Supplier**	**2.85**	**2.85**	
Mid point - Highest - Lowest	3.07	2.29	Mid point - Highest - Lowest	2.85	2.85	
Range	1.27	0.29	Range	0	0	
Collaboration Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Collaboration category**
3.01 - 4	3.07					**High**
2.01 -2		2.36		2.85	2.85	**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

The buyer rated the extent of collaboration as high at the beginning of the project and medium-to-high by the end, with a significant reduction in the extent of collaboration from 3.07 to 2.36, (25%). The difference between the beginning of the project and the end is confirmed by the spread of scores (40% between the highest and the lowest) with the lowest, interviewee 27, being very involved in the construction activities and the highest, interview 26, involved in the preconstruction activities. The buyers' comments confirmed this perceived reduction in the extent of collaboration over the life of the project. At preconstruction stage, interviewee 24, (, BCC) described how there was *"extensive co-operation, working together, joint problem solving and a common aim."* Yet, *"collaboration dropped dramatically once the project got on to site"* (Interviewee 25, , BCC). The buyers seemed especially critical of the onsite staff and interviewee 24, (, BCC) observed that there was *"a certain mind-set of some of the post-contract team that was still quite adversarial and different to the preconstruction team."*

The supplier rated the extent of collaboration as medium to high with no change between the beginning and the end. Some of the comments were critical on the level of consistency and quality of buyer staff, as noted by interviewee 28, (, Thomas Vale), *"There were a couple of very ineffective individuals which made effective collaboration difficult to achieve."*

6.1.5 Comparison between suppliers

Table 6.1.5 Comparison of collaboration scores between suppliers

	Level of Collaboration by Contractor							
	Summary							
Wates				**Thomas Vale**				
	Buyer	**Beg**	**End**		**Buyer**	Beg	End	
	Nansen School	3.86	3.78		Cricket Blocks	2.85	2.21	
	Wyndley	3.39	3.57		Alexander Stadium	3.07	2.36	
	Buyer Mean Score for Wates	**3.63**	**3.68**		Buyer Mean Score for Vales	**2.96**	**2.29**	
	Supplier				**Supplier**			
	Nansen School	3.22	3.17		Cricket Blocks	2.95	2.75	
	Wyndley	3.39	3.93		Alexander Stadium	2.85	2.85	
	Supplier Mean Score for Wates	**3.31**	**3.55**		Supplier Mean Score for Vales	**2.90**	**2.80**	
	Collaboration Rating							
		Buyer				Supplier		
Score		Beg	End			Beg	End	Collaboration category
3.01 - 4	Wates	3.63	3.68			3.31	3.55	High
2.01 -2								Medium to High
1.01 -2								Medium
0 -1								Low
3.01 - 4	Thomas Vale							High
2.01 -2		2.96	2.29			2.9	2.8	Medium to High
1.01 -2								Medium
0 -1								Low

Evaluation of Findings

The scores show a marked difference in the perceived extent of collaboration between Wates and Thomas Vale. Both the buyer and the supplier rated Wates as high, whereas both the buyer and supplier scored Thomas Vale as medium to high. In addition, for the Wates projects, for both buyer and supplier, the extent of

collaboration went up between the beginning and the end, whereas, for Thomas Vale, for both buyer and supplier, the scores went down.

6.1.6. Strategic Group scores

Table 6.1.6 Strategic group scores for intervening variable

	Summary			
Intervening Variable – Buyer		**Intervening - Supplier**		
Interviewee 30	3.63			
Interviewee 31	3			
Interviewee 32	2.28			
Interviewee 33	3.38			
Interviewee 34	2.75			
Interviewee 35	3.25			
Interviewee 36	2.63	Interviewee 39	3.88	
Interviewee 37	3.9	Interviewee 40	3.88	
Interviewee 38	3	Interviewee 41	3.63	
Mean Score - Buyer	**3.09**	**Mean Score - Supplier**	**3.80**	
Mid point - Highest - Lowest	3.09	Mid point - Highest - Lowest	3.78	
Range	1.62	Range	0.25	
Collaboration Rating				
	Buyer		**Supplier**	
Score				**Collaboration category**
3.01 - 4	3.09		3.8	**High**
2.01 -2				**Medium to High**
1.01 -2				**Medium**
0 -1				**Low**

Table 6.1.7 Comparison of strategic collaboration scores versus project collaboration scores.

		Strategic buyer	% Diff Strat v Project	Strategic Supplier	% Diff Strat v Project
Strategic Score		3.09		3.8	
Wates Project mean	Beg	3.63	15%	3.31	-15%
	End	3.68	16%	3.55	-7%
Vales Project Mean	Beg	2.96	-4%	2.9	-31%
	End	2.29	-35%	2.8	-36%

Evaluation of Findings

The mean score for the buyer strategic group for the intervening variable rated the extent of collaboration as just into the high category (3.09). At the beginning this was 15 % lower than the buyer project mean (3.63) for Wates but 4 % higher than Vales (2.96). By the end, whilst remaining roughly the same for Wates it had dropped by 35% for Vales (2.96 to 2.29). The mean score for the supplier strategic group for the intervening variable rated the extent of collaboration as high (3.8) which was 23% higher than the buyer (3.09). This was between 7–15 % higher than the project scores at the beginning and 31-36 % higher than the project scores by the end.

Generally, the comments supported the view that there was a good extent of collaboration and this contributed to better outputs. For example interviewee 32, (, BCC) noted that significant *"benefit was obtained such as working at risk, inputting into design, sharing best information etc."*
A key aspect of successful collaboration is a good relationship and the willingness to work together as interviewee 36, (, BCC) stated *"the single biggest factor was the willingness to resolve things without going legal."* It was this willingness to collaborate and work together which was highly valued and *"offered (the buyer) a great deal of flexibility in changes with without additional costs."* (Interviewee 30, , BCC).

There was a clear difference between Vales and Wates, which was evident both in the scores and in the comments. For example interviewee 33, (, BCC) noted that, *"there was a huge difference between Wates and Vales in the way they approached the whole subject of collaboration*." There was also a *"significant difference (between Wates and Vales) in the level of collaboration in the pre and post*

construction process and teams" (Interviewee 35, [redacted], BCC). Another point made in the comments was the suggestion that the effectiveness of the individuals made all the difference and in the end it was this that ultimately determined the effectiveness of collaboration. Interviewee 35, ([redacted], BCC) summed this point up as, *"the individuals were critical to whether collaboration worked or not."*

Looking at the spread of the buyer scores, there was quite a wide range with the lowest score, interviewee 32, being 42% lower than interviewee 37 who was the highest. One explanation for this difference could be as a result of their respective roles with interviewee 37 being a client lead and very much involved in strategic activities. On the other hand, interview 32 was a [redacted] in charge of Quantity Surveyors and would have spent a lot of his time dealing with cost issues between BCC and the suppliers. Consequently, this difference in interaction may have influenced their views of how collaborative the supplier was.

Generally the supplier strategic group comments were very positive which was reflected in a high score which at 3.8 was nearly a maximum. Interviewee 40, ([redacted], Wates) comment supported this view, *"I felt there was extensive collaboration across the framework - better than other frameworks that I have been involved with."*

Interestingly the supplier group didn't seem to share the same view as the buyer's group about the difference in collaboration in pre-construction and construction. For example interviewee 41, ([redacted], Thomas Vale) stated that *"There was no real noticeable difference between pre-construction and construction*." Nonetheless one point was made by interviewee 40, ([redacted], Wates)

that *"At design stage it was a lot easier to be accommodating and flexible than at construction stage where things are more fixed and less able to change."* Such a comment would suggest there was some recognition of a sort that there is a difference between preconstruction and construction but that this was not indicative of collaboration levels but was reflective of simple practicalities.

6.2 General discussion on the Intervening Variable – 'Extent of Collaboration'

The observations from the evidence raise a number of issues.

1) There was a significant difference in the 'extent of collaboration' scores between Wates and Vales, with Wates scoring higher.
2) The scores indicate that not only is there a difference in the 'extent of collaboration' but Wates improves as the projects progress whereas Vales decreased as projects progressed.
3) The supplier's strategic group thought that there was a very high extent of collaboration, significantly higher than any other group.
4) Size of project and type of client didn't affect the extent of collaboration

6.2.1. Difference in collaboration scores between suppliers.

The difference in the extent of collaboration scores was consistent for both the buyer and the supplier i.e. Wates were high and Vales medium to high. One of the possible reasons suggested in the comments for the difference was the size and experience of the different suppliers may have played a factor. Wates had extensive experience from previous partnerships and knew what was required for effective collaboration, a point highlighted by interviewee 37, (, BCC) comment, *"Wates staff had done a lot collaborative working elsewhere, therefore very easily adapted to the*

BCP." Likewise, Wates was a major national supplier compared to Vales who at the time were more of a regional player and that *"the effect of the size of the company should not be under estimated*" (Interviewee 31, [redacted], BCC). The comments were suggesting that because Wates were a much bigger organisation they *"found it much easier to adapt to working to the Egan principles (of collaborative working) because they could gear themselves up for it"* (Interviewee 31, [redacted], BCC). The point being made in these comments is that the size and experience of Wates, allowed them to collaborate more effectively.

Another possible reason for the difference suggested in the comments was that *"their commitment was governed by the level of work they were delivering as it was in the commercial interests to be collaborative"* (Interviewee 34, [redacted], BCC). The suggestion was that the type and volume of work can lead to better and easier collaborative practices because commercial interests of the suppliers incentivised them to do so.

Whilst the evidence suggests volume can be a factor, it also suggests there were other factors at play in. Wates did get slightly more work out of the BCP than Vales overall. In reality, both got significant volumes of work and for the projects being considered in this case study the values were for Vales - £7m and £13m and Wates - £7.1m and £2.7m. Therefore, in the case study although Vales had the bigger schemes they still scored lower in the extent of collaboration which tends to support the view that there may have being other factors at play.

In the case study projects, both Vales and Wates did one scheme for the same BCC client, which was the Leisure Department, and both did a project for different BCC clients (Wates did an Education scheme and Vales a Housing scheme).

Notwithstanding this each contractor still performed the same whoever the client was i.e. their performance was consistent. Wates were good, regardless of the value of project and who they were working for whereas Vales were not so good regardless of value and who they were working for.

Another strong point made in the comments was the effect that the quality and calibre of the individuals employed had on the extent of collaboration, especially those in key positions. Interviewee 31, (, BCC) noted that *"it was totally down to the quality of the individuals and the quality of the staff. Wates seemed to employ much greater quality of staff."* It would be reasonable to assume that both suppliers recognised the importance of having the right type of staff in place to achieve effective collaboration. Comments from the project team would suggest that Wates managed this better than Vales and as a result, Wates achieved better levels of collaboration and had *"more successful projects but in fact was down to better management of individuals"* (Interviewee 35, , BCC).

The view that emerged from the comments on the importance of getting the right type of individuals on the projects may also suggest an explanation why for Wates projects, the extent of collaboration went up between the beginning and the end whereas for Vales for both buyer and supplier, went down. The view was reinforced by comments which suggested that Vales preconstruction staff were generally much better than their on- site staff as highlighted by interviewee 35, (, BCC), *"There was significant difference in the level of collaboration in their (Vales) pre-construction and construction activity."* It was felt that Vales on-site staff were much more of the 'traditional' mind-set and consequently more adversarial and as interviewee 34, (, BCC) stated they *"got a lot*

more contractual, once the project had started on site and the contractor got more control over the scheme", which inevitably led to conflict and adversarial situations. Wates, on the other hand, tended to keep a lot of the team together for pre- and post-construction activities which meant a continuation of the collaboration that developed and improved throughout the life of the project. The result was that the interviewees gave Waters better scores on their level of collaboration both at the beginning but also as the project progressed.

Vales changed its team between pre and post construction and as a result saw their score for the extent of collaboration drop (from an already lower position) once the project progressed to onsite. The point was illustrated by interviewee 26 (, BCC) comment that, *"The collaboration dropped dramatically once the project got on to site and this was largely down to the onsite team."*

6.2.2 Difference between Project scores and Strategic scores

The buyer and supplier project group rating for the extent of collaboration was high. The strategic buyer group score (3.09) was 15 % lower than Waters projects at the beginning (3.63) and 4% higher than Vales projects (2.96). The score remained constant for Waters by the end, but dropped significantly (35%) for Vales projects. The collaboration scores for the supplier strategic group were significantly higher.

Some of the buyers comments suggested that the supplier framework managers would advocate that collaboration was a success regardless of whether it was or wasn't, since their jobs and reputation depended on it. The suggestion was that they would always score the relationship very high at a strategic level since not to do so would reflect badly on them. Such a suggestion is not surprising when you consider that one of the partnership KPI'S was on how collaborative were the supplier and the framework

managers. Individual bonus schemes (for supplier managers) were in part *"Linked to KPI's so it became an imperative to ensure that they did everything to make sure they achieved top scores"* (Interviewee 34, [redacted], BCC). Therefore there was a view from the comments that this led to a position, where *"generally, although not always, there was a willingness to try to collaborate as long as it didn't cost them anything"* (Interviewee 36, [redacted], BCC). The point being made here is that they would always appear to be willing to collaborate because it was in their interests to do so and also be seen to do so.

6.3 Summary

To summarise, the research question asked;-

'What impact does power have on the likelihood of buyer-supplier collaboration being adopted?'

The results from the case study show that in the case of Thomas Vale there is a bias towards buyer dominance/ interdependence, but the collaboration levels were only medium to high, whereas for Waters, who had a stronger power position and were located towards the independence/ supplier dominance quadrant of the power matrix, the score for collaboration was high. The next chapter presents the finding on the benefits delivered to the buyer.

Chapter 7

Research Findings on the Dependent Variable- 'Benefits Delivered'

7.1 Presentation of findings and evaluation

The following presents the findings for the dependant variable –'Benefits delivered' for both the buyer and the supplier for each of the case study projects.

For each project a table of the summary scores and a category rating is provided for both the beginning and the end of the project. There will then be will a short evaluation of the results supported by some comments extracted from the interviews which is conducted for both the buyer and supplier. Following this is an evaluation with a comparison of the four projects by supplier together with the results for the strategic group.

7.1.1 Project 1 - Nansen School

Table 7.1.1a, Summary of Time, Cost and Quality scores

Summary of Weighted Scores			**Buyer**			
		Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4	Mean
Beginning	Cost	1.1	1.08	1.23	1.01	1.11
	Time	1.16	1.16	1.03	1.11	1.12
	Quality	1.16	1.16	1.16	1.16	1.16
	Benefits Score	**3.42**	**3.4**	**3.42**	**3.28**	**3.38**
End of Project	Cost	1.1	1.1	1.23	1.01	1.11
	Time	1.02	1.07	1.03	0.98	1.03
	Quality	1.16	1.16	1.16	1.16	1.16
	Benefits Score	**3.28**	**3.33**	**3.42**	**3.15**	**3.30**
			Supplier			
		Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8	Mean
Beginning	Cost	1.10	0.86	1.08	1.08	1.03
	Time	1.03	0.98	1.07	1.07	1.04
	Quality	1.16	1.11	1.07	1.11	1.11
	Benefits Score	**3.29**	**2.95**	**3.22**	**3.26**	**3.18**
End of Project	Cost	1.10	0.86	1.08	1.08	1.03
	Tiime	1.03	1.11	1.07	1.16	1.09
	Quality	1.14	1.11	1.07	1.11	1.11
	Benefits Score	**3.27**	**3.08**	**3.22**	**3.35**	**3.23**

Table 7.1.1b Summary of Dependent Variable score and Benefits ratings

	Summary					
Dependent Variable – Buyer	**Beg**	**End**	**Dependent Variable – Sup**	**Beg**	**End**	
Interviewee 1	3.42	3.28	Interviewee 5	3.29	3.27	
Interviewee 2	3.4	3.33	Interviewee 6	2.95	3.08	
Interviewee 3	3.42	3.42	Interviewee 7	3.22	3.22	
Interviewee 4	3.28	3.15	Interviewee 8	3.26	3.35	
Mean Score - Buyer	**3.38**	**3.30**	**Mean Score - Supplier**	**3.18**	**3.23**	
Mid point - Highest - Lowest	3.36	3.29	Mid point - Highest - Lowest	3.08	3.22	
Range	0.14	0.27	Range	0.34	0.27	
Benefits Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Benefits category**
3.01 - 4	3.38	3.30		3.18	3.23	**High**
2.01 -3						**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

Both the buyer and supplier scores for the benefits delivered for Nansen School fall in the high category. For the buyer, the score reduces marginally (2%) from beginning (3.8) to end (3.3) and, for the supplier, it increases marginally (1.5%) from the beginning (3.18) to the end (3.23). There was very little spread of the scores which were consistent for both the buyer and supplier.

Buyer

Costs: - Overall the buyer's comments supported a view that a high level of benefits had been obtained. It was felt that value had been achieved with a good price per sq. m construction costs as noted by interviewee 2, (, BCC), *"The price was very good at £2100 per sq. m which, compared to all the other schools, was very competitive."* There was a small shared gain on the project of which the supplier took £70k. Some of the comments expressed concerns that the open book process may have been exploited, but not much evidence of this was put forward as noted by interviewee 2, (, BCC), *"It was very difficult to weed out as it was*

almost certainly going on in the supply chain where it was much more difficult to find."

Programme: - In terms of programme benefits, Nansen school was a very tight programme with significant implications if it wasn't opened on time. Wates managed the programme well despite incurring problems with the discovery of asbestos which *"slightly delayed the programme but due to good collaboration it was much less than it would have been."* (Interviewee 4, [redacted], BCC).

Quality: - The buyer's comments generally reflected a view that BCC had received a good quality of product from Wates as illustrated by interviewee 1, ([redacted], BCC) comment, *'the client and the school were very happy with the project'*.

Supplier

Cost Benefits: - Overall the supplier's comments on the cost benefits support the view that the project was good value for money which was achieved because it was part of a big programme coupled with good collaboration, *'because of the high degree of collaboration the construction costs were very good'* (Interviewee 5, [redacted], Wates). The supplier also felt that the gain share was not very important in the overall picture (£70 -110k out of a £7m project) as interviewee 6, ([redacted], Wates) stated that we, *"didn't think pain / gain was a significant factor in performance as Wates wanted to get the job right anyway and the numbers were relatively small so didn't think it was big incentive."* They were very much in favour of an open book, which interviewee 8 ([redacted], Wates) felt allowed all the energy to go into driving down costs, *"It wasn't done in a crafty way, the BCP work allowed us to cover a lot of our fixed overheads which meant we could make bigger*

profits on non BCP work – this meant small profit levels on BCP work was ok - so win – win."

Programme: - The supplier's comments on the programme benefits gained highlighted the effective collaboration that allowed a very tight timescale to be achieved using modern off site construction techniques. Interviewee 5, ([redacted], Wates) stated that, *"A lot of off-site construction techniques were employed in order to get the scheme built as quickly as possible, which would not have been possible to do if there had not been close collaborative working*."

Quality: - The supplier's comment indicated that they believed a good quality building was delivered, which given the timescale was down to good partnership working as noted by interviewee 6, ([redacted], Wates), *"Good working-together meant good build quality."*

7.1.2 Project 2 - Wyndley Leisure Centre

Table 7.1.2a Summary of Time, Cost and Quality Scores

Summary of Weighted Scores			**Buyer**			
		Interviewee 9	Interviewee 10	Interviewee 11	Interviewee 12	Mean
Beginning	Cost	1.08	1.2	0.92	1.1	1.08
	Time	1.03	1.07	0.94	1.03	1.02
	Quality	1.07	1.07	0.98	1.07	1.05
	Benefits Score	**3.18**	**3.34**	**2.84**	**3.2**	**3.14**
End of Project	Cost	1.04	1.17	1.04	1.1	1.09
	Time	0.98	1.07	0.98	1.11	1.04
	Quality	1.03	1.03	0.9	1.03	1.00
	Benefits Score	**3.05**	**3.27**	**2.92**	**3.24**	**3.12**
			Supplier			
		Interviewee 13	Interviewee 14	Interviewee 15	Interviewee 16	Mean
Beginning	Cost	1.08	1.10	1.08	1.04	1.08
	Time	1.11	1.03	1.07	1.16	1.09
	Quality	1.11	1.20	1.16	1.11	1.15
	Benefits Score	**3.30**	**3.33**	**3.31**	**3.31**	**3.31**
End of Project	Cost	1.08	1.08	1.05	1.04	1.06
	Tiime	1.11	1.16	1.16	1.07	1.13
	Quality	1.11	1.07	1.03	1.11	1.08
	Benefits Score	**3.30**	**3.31**	**3.24**	**3.22**	**3.2675**

Table 7.1.2b Summary of Dependent Variable scores and Benefits Rating

	Summary					
Dependent Variable – Buyer	**Beg**	**End**	**Dependent Variable – Sup**	**Beg**	**End**	
Interviewee 9	3.18	3	Interviewee 13	3.3	3.3	
Interviewee 10	3.34	3.27	Interviewee 14	3.33	3.31	
Interviewee 11	2.84	2.92	Interviewee 15	3.31	3.24	
Interviewee 12	3.2	3.24	Interviewee 16	3.31	3.22	
Mean Score - Buyer	**3.14**	**3.11**	**Mean Score - Supplier**	**3.31**	**3.27**	
Mid point - Highest - Lowest	3.09	3.10	Mid point - Highest - Lowest	3.31	3.3	
Range	0.50	0.35	Range	0.02	0.09	
Benefits Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Benefits category**
3.01 - 4	3.14	3.11		3.31	3.27	**High**
2.01 -3						**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

Both the buyer and supplier's scores for the benefits delivered for Wyndley Leisure Centre fell in the high category. For both the buyer (3.14 – 3.11) and supplier (3.31 – 3.27), the score falls marginally from beginning to end with the supplier having a slightly higher benefits rating than the buyer. Overall, the spread of the buyer scores is about 16% from highest to lowest but one interviewee, no 11, scored all the elements lower. As have previously identified, one explanation is that this individual went on to become the [redacted]. Therefore, he may have being scoring this project more from a strategic point of view, rather than from this specific project perspective.

Buyer

Costs: - From a cost benefit point of view, the comments suggest that good value for money had being achieved with the scheme delivered to budget. As noted by interviewee 10, ([redacted], BCC), *"The overall perception was that the project delivered value for money."* There was only minimal gain and no evidence of

exploitation, although a lot of the comments were suspicious that it went on, a view illustrated by interviewee 10, (, BCC) comment that there was *"no evidence but there was an underlying suspicion that this was going on by some parties."* Most felt that the open book arrangement was good, provided good value and improved relations as noted by interviewee 9, (, BCC) *"*(*open book) improved the relationship with the contractor."*

Programme: - Being that the opening date was very important, management of the programme was critical, especially for a refurbishment project where there is a lot of uncertainty. The fact that Wates achieved this difficult target was put down to good collaboration, as interviewee 12 notes (, BCC), *"The project would not have been achieved were it not for close and extensive collaboration."*

Quality: - The buyer's comments on the quality of product were generally good, with acknowledgement that there are limitations to what can be achieved when carrying out refurbishment projects but that, *"everyone was happy with the end product"* (Interviewee 12, , BCC).

Supplier

Cost Benefit: - In terms of financial benefit, the view was that the BCC got a lot of value for its money, which interviewee 14 (, Wates) stated was *"A competitive rate which was achieved because of the collaborative nature in which costs were kept down."* The open book arrangement with allocated work was also thought of as a success, as noted by interviewee 14 (, Wates) where an *"Open book meant that energy could be put into different activities other than playing games or having a dance with the QS."* In addition, they did not think shared pain / gain was a big incentive.

Programme: - The supplier's comments suggest that meeting the programme was the most important challenge on this project and was also the biggest risk if they got it wrong from a reputational point of view, *"because there was so much interest in the project and progress as to when it was going to open, the programme had to be regularly updated and was quite a public document"* (Interviewee 14, [redacted], Wates). Overall the view given was that a complex and challenging programme was achieved, *"because of the collaboration and careful planning, managed to get the programme down to a minimum"* (Interviewee 15, [redacted], Wates).

Quality: - The supplier's comments generally reflected the view that the quality of the end product was good, but that a lot of this good work was not really appreciated because they were hidden e.g. structural repairs or in engineering services, a point illustrated by interviewee 14, ([redacted], Wates) that *"a lot of money had gone into 'hidden services' which people could not see where the money had gone*."

7.1.3 Project 3 – The Cricket Blocks

Table 7.1.3a Summary of Time, Cost and Quality scores

Summary of Weighted Scores			**Buyer**			
		Interviewee 17	Interviewee 18	Interviewee 19	Interviewee 20	Mean
Beginning	Cost	1.1	1.1	0.86	0.95	1.00
	Time	0.73	0.68	0.73	0.77	0.73
	Quality	0.94	0.9	0.77	0.68	0.82
	Benefits Score	**2.77**	**2.68**	**2.36**	**2.4**	**2.55**
End of Project	Cost	1.1	0.86	0.86	0.89	0.93
	Time	0.56	0.56	0.64	0.73	0.62
	Quality	0.81	0.86	0.77	0.68	0.78
	Benefits Score	**2.47**	**2.28**	**2.27**	**2.3**	**2.33**
			Supplier			
		Interviewee 21	Interviewee 22	Interviewee 23		Mean
Beginning	Cost	1.10	1.11	0.89		1.03
	Time	1.03	0.99	0.90		0.97
	Quality	1.07	0.90	0.90		0.96
	Benefits Score	**3.20**	**3.00**	**2.69**		**2.96**
End of Project	Cost	1.10	1.11	0.89		1.03
	Tiime	1.03	0.99	0.98		1.00
	Quality	1.07	0.9	0.9		0.96
	Benefits Score	**3.20**	**3.00**	**2.77**		**2.99**

Table 7.1.3b Summary of Dependent Variable scores and Benefits rating

	Summary					
Dependent Variable – Buyer	**Beg**	**End**	**Dependent Variable – Sup**	**Beg**	**End**	
Interviewee 17	2.77	2.47				
Interviewee 18	2.68	2.28	Interviewee 21	3.2	3.2	
Interviewee 19	2.36	2.27	Interviewee 22	3	3	
Interviewee 20	2.4	2.3	Interviewee 23	2.69	2.77	
Mean Score - Buyer	**2.55**	**2.33**	**Mean Score - Supplier**	**2.96**	**2.99**	
Mid point - Highest - Lowest	2.57	2.42	Mid point - Highest - Lowest	2.95	3	
Range	0.41	0.24	Range	0.51	0.43	
Benefits Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Benefits category**
3.01 - 4						**High**
2.01 -3	2.55	2.33		2.96	2.99	**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

The buyer's benefits rating for the Cricket Blocks is medium to high reducing between the beginning and the end of the project. The supplier's benefit rating is medium to high rising to high at the end of the project. Therefore, the buyer thought the benefits worsened as the scheme progressed whereas the supplier thought they got marginally better. The benefits scores are quite a bit lower than for the Nansen and Wyndley projects. However, when the scores are broken down, it's the difference in time and quality which seem to have been the largest with consistently lower buyer scores on both these two categories i.e. the scores reflected poor programme management and a poor end product. There was not a significant spread of scores on the buyer side.

Buyer

Cost Benefit: - The buyer comments generally reflected the view that the financial benefits were medium. There were a number of comments that reinforced the view

that value decreased as the scheme progressed for example interviewee 18, (, BCC) commented that, *"There was a drop in the value for money as the project drew to completion*." Moreover, although delivered to budget, some of the comments suggest that this was more down to manipulation of the Compensation Events (CE) process. Interviewee 18, (, BCC) supported this view that, *"CE's seem to let the contractor off the hook in terms of delivering to budget and programme."* Overall, there was a lot of suspicion conveyed over the fact that exploitation was taking place, *"All the QS's believe this is going on extensively but it has been very difficult to prove"* (Interviewee 20, , BCC).
The comments also suggested a view that there wasn't much desire to collaborate and that the supplier was more interested in reducing risk and pain avoidance as noted by interviewee 18, (, BCC) they, *"were motivated more by the threat of pain rather than gain."*

Programme: - Generally, the buyer's comments reflect dissatisfaction with the way the programme was managed as interviewee 18, (, BCC) noted that, *"the project was delayed in the preconstruction phase slightly but was significantly late in the construction phase."* The comments seem to support the view that whilst they recognise that not all the delays were Vales fault, they (Vales) were trying to claim for everything and took no responsibility. For example, interviewee 20, (, BCC) commented that, *"the contractor tried to claim all the delay in CEs."*

Quality: - In terms of quality, the view from the comments was that it was a very *"average project and was a missed opportunity - could have been much better"* (Interviewee 19, , BCC).

Supplier

Cost Benefit: - In terms of cost benefit, the supplier felt BCC got a project that was *"generally it was good value for money"* (Interviewee 23, [redacted], Thomas Vale*).*The supplier had made a small gain, but the project was delivered within budget (albeit with a CE). Nonetheless there were a number of criticisms of the buyer's performance and that *"if the client had done more, better costs could have been achieved"* (Interviewee 21, [redacted], Thomas Vale).

Programme: - From a time benefit point of view, the suppliers comments seem to suggest that there were a number of delays which didn't help the planning of the project. They felt the design team didn't do enough to help and more could have been achieved if the buyer had collaborated better, as interviewee 22, ([redacted], Thomas Vale) observed, *"It (the programme) was about right but it could have been done quicker it there had being better collaboration on site."*

Quality: - The supplier's comments generally reflected the view that a good product was delivered, but limited by BCC designs and budgets as noted by interviewee 23, ([redacted], Thomas Vale), *"we complied with the design teams performance spec – if we have had more flexibility then we could have done better*."

7.1.4 Project 4 – Alexander Stadium

Table 7.1.4a Summary of Time, Cost and Quality scores

Summary of Weighted Scores			**Buyer**			
		Interviewee 24	Interviewee 25	Interviewee 26	Interviewee 27	Mean
Beginning	Cost	0.58	0.58	0.86	0.74	0.69
	Time	0.94	0.86	1.03	0.9	0.93
	Quality	0.9	0.81	0.77	0.77	0.81
	Benefits Score	**2.42**	**2.25**	**2.66**	**2.41**	**2.44**
End of Project	Cost	0.58	0.56	0.8	0.74	0.67
	Time	0.86	0.73	0.81	0.9	0.83
	Quality	0.9	0.81	0.77	0.77	0.81
	Benefits Score	**2.34**	**2.1**	**2.38**	**2.41**	**2.31**
			Supplier			
		Interviewee 28	Interviewee 29			Mean
Beginning	Cost	0.89	1.08			0.99
	Time	0.90	0.90			0.9
	Quality	0.90	0.90			0.9
	Benefits Score	**2.69**	**2.88**			**2.79**
End of Project	Cost	0.89	1.08			0.99
	Tiime	0.98	1.03			1.01
	Quality	0.90	0.9			0.90
	Benefits Score	**2.77**	**3.01**			**2.89**

Table 7.1.4b, Summary of Dependent Variable scores and Benefits rating

	Summary					
Dependent Variable – Buyer	**Beg**	**End**	**Dependent Variable – Sup**	**Beg**	**End**	
Interviewee 24	2.42	2.34				
Interviewee 25	2.25	2.1				
Interviewee 26	2.66	2.38	Interviewee 28	2.69	2.77	
Interviewee 27	2.41	2.41	Interviewee 29	2.88	3.01	
Mean Score - Buyer	**2.44**	**2.31**	**Mean Score - Supplier**	**2.79**	**2.89**	
Mid point - Highest - Lowest	2.43	2.26	Mid point - Highest - Lowest	2.79	2.93	
Range	0.40	0.31	Range	0.19	0.24	
Benefits Rating						
	Buyer			**Supplier**		
Score	**Beg**	**End**		**Beg**	**End**	**Benefits category**
3.01 - 4						**High**
2.01 -3	2.44	2.31		2.79	2.89	**Medium to High**
1.01 -2						**Medium**
0 -1						**Low**

Evaluation of Findings

Although the buyer's benefits rating for Alexander Stadium was medium to high, falling between the beginning (2.44) and the end (2.31), it was the lowest score of the

four projects. The supplier scores were higher than those of the buyer, but they were still also the lowest of the four projects (2.79 at the beginning and 2.89 at the end). The buyer thought that the benefits were reduced as the scheme progressed, whereas the supplier thought they got marginally better. There was not a significant spread of scores confirming that these views were pretty consistent across both buyer and supplier.

Buyer

Cost Benefit: - The general view was that this was an expensive project and that, *"It certainly didn't feel like value for money"* (Interviewee 25, [redacted], BCC). This was reflected in very low scores (0.69 and 0.67) for cost and in particular from interviewee's 24 and 25 (The [redacted] and the [redacted]) which were as much as 50% lower when compared with scores for cost on other projects. The supplier knew that it was imperative to deliver the project on time because of the reputational damage to BCC which led to a number of comments expressing suspicion that there was exploitation going on, although these were difficult to prove. Interviewee 25, ([redacted], BCC) observed that, *"There was a lack of a commercial edge to everything they did for us although the strong suspicion was that behind the scenes they were maximising the supply chain to their benefit*." The project was over budget *"yet the contractor was still able to claim a gain – not right."* (Interviewee 24, [redacted], BCC).

Programme: - The buyer's comments on the time benefits were more positive. The programme, whilst not managed that well, did achieve the opening date although some of the other works were delivered late.

Quality: - The buyer's view on the quality of the product was that it was average despite the speed and the number of changes that had to take place. As interviewee 25, (, BCC) stated there were *"mixed views - there were problems on the job but the stand was open for the event."*

Supplier

Cost Benefit: - The comments from the supplier suggest that a good level of benefits was delivered. In terms of the financial benefits, the supplier felt the cost of the project was at market rates and represented good value, a view supported by the assertion of interviewee 28 (, Thomas Vale) that, *"Vales kept a good cost data base and this project was good value."* They didn't think that pain/gain was a specific issue as there was more focus placed on delivering the project and didn't think any exploitation went on as, *"It would have been against the spirit of partnering"* (Interviewee 29, , Thomas Vale).

Programme: - The supplier's comments on time benefits felt that the key target of opening the main stand was achieved so this was good. However, a number of elements of the subsequent works were delayed which the supplier blamed on changes and additional work put into the project. As stated by interviewee 28, (, Thomas Vale) the project *"started off very quick but slowed down as things were changed on site."* Plus, the supplier felt the programme was all down to them with no input from the supplier, *"it was us who did the programme"* (Interviewee 29, , Thomas Vale). They (Vales) did not think they were responsible for any of the delays.

Quality: - The supplier's comments on the quality of the product seemed to suggest that they felt it was good but was limited by the client's design (as opposed to the

quality of the build, which they thought was good) as interviewee 28, (, Thomas Vale) commented, *"The design was not joined up very well because of the multiple clients."*

7.1.5 Comparison of Benefits Scores between Suppliers

Table 7.1.5a Comparison of benefits scores

	Benefits							
	Summary							
Wates				**Thomas Vale**				
	Buyer	**Beg**	**End**		**Buyer**	Be	End	
	Nansen School	3.38	3.3		Cricket Blocks	2.55	2.33	
	Wyndley	3.14	3.12		Alexander Stadium	2.44	2.31	
	Buyer Mean Score for Wa	**3.26**	**3.21**		Buyer Mean Score for Val	**2.50**	**2.32**	
	Supplier				**Supplier**			
	Nansen School	3.18	3.23		Cricket Blocks	3.31	3.3	
	Wyndley	3.31	3.3		Alexander Stadium	2.96	2.99	
	Supplier Mean Score for V	**3.25**	**3.27**		Supplier Mean Score for V	**3.14**	**3.15**	

Table 7.1.5b Comparison of Benefits ratings

	Benefits Rating							
		Buyer				Supplier		
Score		Beg	End			Be	End	Benefits category
3.01 - 4	Wates	**3.26**	**3.21**			**3.25**	**3.27**	High
2.01 -3								Medium to High
1.01 -2								Medium
0 -1								Low
3.01 - 4	Thomas Vale					**3.14**	**3.15**	High
2.01 -3		**2.5**	**2.32**					Medium to High
1.01 -2								Medium
0 -1								Low

Evaluation of Findings

There was a significant difference in the benefits ratings of the two contractors. For Wates, both the buyer and the supplier rated them as delivering high benefits both at the beginning and the end of the projects. However, for Vales, the benefit rating is

markedly lower and is rated as medium to high by both the buyer and supplier. In both cases, it decreased in the time span from the beginning to the end of the projects.

7.1.6 Strategic Group Scores

Table 7.1.6a Summary of Time, Cost and Quality scores

Summary of Weighted Scores			**Buyer**								
		Int 30	Int 31	Int 32	Int 33	Int 34	Int 35	Int 36	Int 37	Int 38	Mean
Beginning	Cost	1.2	1.12	0.96	0.64	0.4	0.8	0.64	0.88	0.88	0.82
	Time	0.7	0.5	0.6	0.5	0.6	0.4	0.5	0.8	0.5	0.56
	Quality	0.98	0.75	0.83	0.45	0.75	0.6	0.53	0.9	0.6	0.84
	Benefits Score	**2.88**	**2.37**	**2.39**	**1.59**	**1.75**	**1.8**	**1.67**	**2.58**	**1.98**	**1.94**
			Supplier								
		Int 39	Int 40	Int 41							Mean
Beginning	Cost	0.80	0.72	0.64							0.72
	Time	0.78	1.10	1.10							0.99
	Quality	1.05	1.05	0.98							1.03
	Benefits Score	**2.63**	**2.87**	**2.72**							**2.74**

Table 7.1.6b Summary of Dependent Variable scores and Benefits rating

	Summary			
Dependent Variable – Buyer		**Dependent Variable - Supplier**		
Interviewee 30	2.88			
Interviewee 31	2.37			
Interviewee 32	2.39			
Interviewee 33	1.59			
Interviewee 34	1.75			
Interviewee 35	1.8			
Interviewee 36	1.67	Interviewee 39	2.63	
Interviewee 37	2.58	Interviewee 40	2.87	
Interviewee 38	1.98	Interviewee 41	2.72	
Mean Score - Buyer	**2.11**	**Mean Score - Supplier**	**2.74**	
Mid point - Highest - Lowest	2.24	Mid point - Highest - Lowest	2.75	
Range	1.29	Range	0.24	
Benefits Rating				
	Buyer		**Supplier**	
Score				**Benefits category**
3.01 - 4				**High**
2.01 -3	**2.11**		**2.74**	**Medium to High**
1.01 -2				**Medium**
0 -1				**Low**

Evaluation of Findings

The score of the buyer's strategic group for benefits was rated as just in the medium to high but this was in fact a low score, the lowest of all the scores and was significantly less than the individuals involved in projects. The scores for the supplier strategic group were a bit more in line with the other scores for the supplier project, albeit a little lower, and rated at medium to high. It suggests that, strategically, the suppliers shared the same view as the supplier staff whereas the management on the buyer side had a different perspective to the project staff.

In terms of the spread of scores there was quite a large range (1.29) with the highest, interviewee 30, having the least operational involvement in the framework and the lowest interviewee 33, having the greatest involvement. When the scores are broken down it reveals that there is a big variance on the cost scores with, again, the highest interviewee 30 scoring 1.2 which was 3 times that of the lowest interviewee 34 at 0.4. What this evidence implies is that, in the strategic group, those closely involved in the projects didn't think that using the framework was offering good value for money (i.e. interview no 34), whereas those more involved in a more strategic capacity (i.e. interview no 30) viewed things slightly differently.

The comments from the buyer strategic group suggest that, overall, they felt the suppliers got the better share of benefits generated, although most acknowledge BCC did get many benefits, especially around claims avoidance as interviewee 33, ([redacted], BCC) noted, *"BCC got better quality buildings and fewer defects with early involvement in the design process but didn't see any real tangible benefits in terms of cost reduction."*

In terms of financial benefits, it was felt that the supplier did well and was rarely robustly challenged on his costs, a view illustrated by interviewee 35 (, BCC.), who commented that, *"It was perceived to be adversarial to challenge the contractors and not in keeping with the spirit of partnering. Whereas in reality all this did was open the door to the contractor to maximise opportunities."* The buyer's comments suggested that they felt the supplier exploited the system for his own benefit in terms of prelims and overheads, while using the open book target cost mechanism to do this. There was also a lot of criticism against the pain/gain arrangement, which most thought was exploited by the suppliers to gain advantage in terms of risk avoidance. This view was supported by interviewee 33 (, BCC) that, *"Throughout the 7 years there was hardly any pains but there was nearly always a gain. So whilst it proved to be a risk ceiling it was done at a cost to BCC."*

In terms of time benefits, the comments of the strategic group felt that although BCC generally did well with programme management which resulted in very few project overruns, this was totally in the hands of the supplier and therefore could be exploited. As interviewee 33 (, BCC) explains, *"The initial deadlines may have bet set by the client but from that point on it was the contractor who did all the programming and has such could make sure it suited their needs."*

The comments suggested that programme management skills / knowledge were widely recognised as a weakness on the buyer part e.g. interviewee 34, (BCC) commenting that, *"It was a big weakness which the contractor had recognised and exploited to the full – Why wouldn't they if they knew there wasn't the skill to be able to challenge them?"* Consequently, the comments suggested there was

not a great deal of collaboration on programming as it was the contractors who determined most things, usually to suit themselves.

The buyer's comments relating to quality of product were quite mixed. Some felt quality had improved and that, *"Overall better than average although there has been some issues with some projects"* (Interviewee 32, [redacted], BCC). On the other hand interviewee 34 ([redacted], BCC) did not *"think there was much difference between partnered work and traditional tendered work, yet there should have been, as this was one of the main selling points."*

Overall, the strategic supplier's group comments were a lot more positive on the benefits delivered by the framework. They acknowledged that both parties derived a lot of benefits from the framework, but felt that BCC got the better part of the deal. A comment by interviewee 41, ([redacted], Thomas Vale) illustrated this point, *"I think the buyer saved a lot of money because of working collaboratively but there were also a lot of other non-financial benefits as well which BCC got out of the relationship."*

The comments on financial benefits seemed to suggest that they felt BCC saved a lot of money and they (the suppliers) were robustly challenged on costs; for example interviewee 41, ([redacted], Thomas Vale) stated, *"I think we were challenged robustly and sometimes too much to the point where some of the benefits of collaboration were lost."* The supplier's scores for cost which were generally lower than the project scores reflected this point. They admitted that it may have been possible to exploit certain elements but felt this would have been counterproductive. They also admitted that the pain/gain mechanism was less about gain and more about

minimising pain i.e. risk avoidance. The supplier's scores for cost were generally lower than the supplier's project scores.

The supplier's group comments relating to time benefits suggested that whilst the overall programme was set by the buyer, the rest was done by the supplier which was viewed as a missed opportunity, *"programmes should have been more jointly owned"* (Interviewee 40, [redacted], Wates) and therefore the benefits were lower than they could have been.

In terms of quality of product, the supplier felt that BCC received a good product and one which was much better than non-BCP work with additional benefits as a result of partnership working. As interviewee 40 ([redacted], Wates) observed, *"The overall quality was good and what was not measured was the cost avoidance of abortive works and waste which working collaboratively helped to iron out."*

7.2 General discussion on dependant variable

A key observation that can be drawn from both the scores and the comments is that the buyer groups, (project and strategic) felt they were getting more out of the Wates relationship than they were out of the Vales relationship.

7.2.1 Difference between Project scores and Strategic scores

The strategic buyer group rated the benefits delivered as medium to high, although the mean score at 2.11 was actually a very low score. The strategic group rated the benefits delivered as approximately 35% less than the buyer project group for Wates (3.26) and 9% less than Vales (2.5). The strategic buyer group felt that BCC got a lot less out of the relationship than those involved in the projects. Whilst this trend may

have varied between Wates and Vales, it only varied in degree i.e. those involved in projects thought BCC got more than those at a strategic level.

One possibility suggested in the comments that could explain this difference is that those involved in projects may judge 'benefits delivered' purely according to their own experience of one particular project. For example, at Nansen School the target cost had been set at £7m with the project delivered at £6.9m and ahead of schedule. Therefore, understandably, the project team were of the opinion that collaboration had delivered good benefits with costs below target and ahead of programme. Nonetheless those involved at a strategic level, could see that this project was part of a £44m programme, would be thinking that BCC should be getting the scheme delivered for less than the £7m and the programme should be much shorter i.e. BCC should be getting more out of this relationship because of the scale of the programme etc. This point was highlighted by interviewee 34, (, BCC) who noted *"A very big trick was missed because had BCC better planned all its work out then a lot more benefits could have been achieved with a lot more collaboration."*

The strategic group would look at this situation and believe that a lot of surplus value is being generated. While you would expect the supplier to do reasonably well out of the arrangement, the view was that the supplier was getting the greater share of the benefit, as expressed by interviewee 36, (, BCC) that, *"Whilst BCC did get some benefits around the deliverability it was definitely the contractor who got the most - it was 75% contractor, 25% BCC.*"
What they saw was that projects were being delivered to budget and programme but it was usually the supplier that was informing these key targets. Hence, as interviewee 38 (, BCC) noted, *"Increased performance but against*

what target? If the target cost has already been artificially inflated." Yet, overall it was felt that BCC *"didn't see any real tangible benefits in terms of cost reduction."* (Interviewee 33, [redacted], BCC). There was an acknowledgement of some of the benefits being delivered in terms of fewer project overruns, no claims, minimal risk and some additional value in terms of up-front advice and assistance in securing funding and as interviewee 34, ([redacted], BCC) added, "*It did allow a lot of schemes to be worked up and delivered which may not have been possible otherwise."*

At the same time what they also saw was the supplier benefit from significant growth, stability and predictability of work and increases in financial returns on non BBC work. As interviewee 33 ([redacted], BCC) stated, *"All three made lots of money and saw their business grow significantly especially by securing work elsewhere on the back of the BCP."*

7.2.2 Why didn't BCC obtain a greater share?

If the evidence is correct then why didn't BCC, as the buyer, obtain a greater share of the additional value that was generated? Given that this was a collaborative relationship performed on an open book basis, at cost, with ring-fenced profits and overheads and where the supplier incurred no tendering costs and minimal risk, the view was that it was surely inconceivable that there were no financial savings made. Therefore this leads onto a question of appropriation of the additional value rather than one of value creation. The perception was that the buyer did have a degree of power through the ultimate sanction of future work allocation, i.e. 'contingent renewal' (Bowles and Gintis, 1998). Therefore, why was this power not exercised more to improve the appropriation of the surplus value? As interviewee 38 ([redacted]

[redacted], BCC) pointed out, *"It should have had a much greater effect than it did in reality as it wasn't used at all."* There was little evidence in the interviews of any 'blood on the carpet' and the relationship between the buyer and the supplier was perceived as being *'far too cosy'* (Interviewee 36, [redacted], BCC).

Moreover, there was not much in the way of robust hard nose challenges to the supplier's costs, a view captured in interviewee 38, ([redacted], BCC) comment, *"I think they had a field day as it was men against boys with BCC deluded that in a partnership everything was done in openness and honesty! Very naïve"* Comments like this generally led to the cynical view that the strategic group held, which was that the suppliers were getting a lot more benefit out of the relationship than the buyer as noted by interviewee 35 ([redacted], BCC), *"The BCP didn't really produce much in the way of value for BCC and we were played brilliantly by the contractors! They managed us a treat."*

7.2.3 Embracing the partnering ethos – Over enthusiastic or naïve?

The comments suggest that one explanation may lie in the over-enthusiasm to embrace collaborative partnership working as a philosophy to the point whereby it overrode other (financial) considerations and that there was *"A culture of being accused of being adversarial if you challenged costs"* (Interviewee 33, [redacted], BCC).The introduction of the collaborative partnership working ethos engendered a spirit of 'working together' in a non-adversarial manner. What this meant was that there was a reluctance to get into disputes and that by 'working together' issues could be resolved without contractual arguments.

The irony was, as pointed out by interviewee 38 ([redacted], BCC) that, *"The very people who could have challenged the contractors were removed because they were perceived as being awkward and not very collaborative."* The BCP was a major flag ship partnership, meaning that everyone wanted *"to be seen to be following/ leading the government's agenda on Collaboration - politically it was important. The Leader / Deputy Leader got a lot of kudos out of it"* (Interviewee 35, [redacted], BCC).

Therefore, the use of power against this backdrop would have been seen as an anathema and very much against the spirit of partnering. The comments suggest that this point was not lost on the suppliers who had identified this and tried to exploit it. Indeed, the comments suggest a view that when looking at the supplier, overriding commercial interests influenced their philosophy to partnering. Interviewee 38, ([redacted], BCC) reinforced this view stating that, *"The contractor has one objective and that is to make a profit. Anything that helps towards achieving / improving that, they will work with. Anything that is against that, they would oppose – their objective was opposite to ours."* The evidence suggests that whilst the buyer was concerned about being accused of undermining the collaborative nature of the relationship, the suppliers presented financial incentives to their staff based on making as much money as possible which as interviewee 33 ([redacted], BCC) noted that, *"(they had) bonuses linked to financial performance which is why the contractor would always be out to maximise on opportunities to make money."* Therefore, whatever rhetoric was attached to partnership working, it was ultimately in their personal interests to maximise as best as they could from any gains made out of the relationship. As interviewee 34, ([redacted], BCC) pointed out, *"It was an anathema because it was a total contradiction that their own*

pay cheques were dependant on screwing us for as much as possible which flew in the face of collaborative working".

The evidence and comments suggests that buyer power in the relationship was not used fully because of a fear of being accused of being anti-partnering. The comments also support the view that, whilst acutely aware of the danger of not being seen to be collaborative themselves, the suppliers recognised this weakness in the buyer and exploited it. The suppliers recognised that there was political pressure on the buyer to be seen to be embracing collaboration, being that this was a leading public example of good collaboration and took advantage.

7.2.4 Benefits Delivered - Hard or Soft?

What the comments indicate is that, in terms of benefits delivered, there was recognition that the buyer did see some of those benefits, especially in terms of delivering projects on time, to budget, with fewer defects and a smoother construction process which *"achieved delivery very quickly and saved on time, fees, claims etc."* (Interviewee 31, [redacted], BCC). Despite these benefits, *"the one area it didn't (deliver) was in lower costs"* (Interviewee 36, [redacted], BCC). There was widespread doubt in the comments on whether any financial benefits were received. HAs mentioned earlier given that this was a collaborative relationship set up with all the 'best practice' of open book, ring-fenced profits and overheads etc., then it was inconceivable that there were no financial savings made. Interviewee 35 ([redacted], BCC) then posed the question, *"Did BCC see any of the benefits generated by working collaboratively or was it going straight in the back pocket of the contractors?"* Yet this was apparently

not the case, and as a result, the question was what happened to the savings if they were not realised in lower costs?

The comments suggest that some of these gains were realised in terms of the softer benefits to the buyer in the form of better managed projects which were delivered on time and budget as noted by interviewee 38 (, BCC), *"If success was defined as delivering a significant programme of work in a very tight timescale then it was very successful."* Therefore, it would appear that whilst the buyer saw some of the softer benefits, the supplier received the financial ones. The evidence suggests this was particularly the case with Wates, a company that proved very good at managing and delivering on the softer aspects of the relationship. It could of course also be argued that, in fact, this apportionment of gain could be acceptable in a partnership, if the priority for the buyer was in achieving the softer benefits. However, in this framework the buyer expected to see financial savings as well as the softer benefits, being that this was, after all, was one of the objectives.

7.2.5 The BCP: An opportunity too good to miss?

The buyer's comments suggest that they felt that one of the main reasons why the supplier was able to obtain greater financial benefits out of the relationship than the buyer, was due to the way that the framework had been set up to facilitate collaborative partnership working. The contractual mechanism used to run the projects allowed the suppliers the opportunity to maximise their own position. They were those advocated by and based on Egan Principles which included an open book approach, at cost, using target cost, with a pain/gain share incentive and ring-fenced profits and overheads. These principles were designed to create a non-adversarial situation where the supplier got paid at cost and its profits and overheads were ring

fenced. The supplier could therefore concentrate his energy and efforts on getting the construction cost down for the client, delivering projects on time and with a better quality. Why then did the buyers think that the framework was to blame if it had been set up based on Egan principles and best practice?

The general opinion from the buyers comments was that the suppliers would, whenever they could, exploit the situation as highlighted by interviewee 32 (, BCC) that, *"There is always both the potential and the likelihood of this happening and it is very difficult to police."* They always maintained a perception of enthusiasm for embracing collaboration and *"played the game and did what they thought people wanted to see"* (Interviewee 38, , BCC). To this end the comments suggest that the supplier would collaborate *"but only because it was in their commercial interests to do"* (Interviewee 34, , BCC). In other words they would collaborate as long as it was in their interest to do which of course may have been a significant portion of the time. The view ultimately was that the suppliers were there to make money and, whatever the superficial appearance was of collaborative working, this remained their sole purpose, as pointed out by interviewee 38 (, BCC) *"The contractor has one objective and that is to make a profit."*

Open Book: - One of the points raised by the comments is that if you look at the 'at cost', open book process set up for the framework then, on paper, it looked as though the supplier were making a small profit and BCC was getting a good deal out of the arrangement. However, the view was that they were using the high volume of the BCC work to cover their overheads, which then allowed them to make high profits on non BCC work. Therefore, as interviewee 35, (, BCC)

observed, *"It created a situation for the companies to make more money on the non BCP work."* Likewise the comments suggest there was a general suspicion that a lot of the prelims, such as on-site costs, supervision etc. for other non BCC schemes were booked against BCC projects, as this can be done very subtly. Interviewee 37 (, BCC) recalled his own experience that he would *"Often ring up to speak to someone and would be told they are working on another project, yet they were claiming 100 per cent of their time against a BCP project."*

There was also a suspicion that the suppliers were getting volume discount on materials and products, but using the discount values on non-BCP projects. Sometimes these discounts can be very hard to track down unless all of their non-BCP accounts are examined as interviewee 37 , BCC) explained, *"The benefits (to the suppliers) were received via rebates and or bulk buying but used on their other non BCP projects."*

Target Cost: - Another issue to come out of the comments was that the contractors produced the target cost which presented them with a great opportunity. Firstly, it allowed them to cost every potential activity, thereby minimising the potential risk to them. This was very important because the construction industry is an inherently high risk business and this allowed them to minimise their expose to risk as noted by interviewee 33 (, BCC), *"The contractors made sure they covered all their risks by driving up the target costs."* What the comments also suggest is that it allowed them to put in prices for activities that they knew could be done for a lower cost i.e. *"They would build in hidden costs into the target costs knowing full well that there would be a value engineering exercise and they could come up with savings."* (Interviewee 35, , BCC). What these moves effectively

did was to build in a contingency to cover any unforeseen risks that materialised. If these risks didn't materialise, then they obtained a share of the additional savings so it was a win / win situation for them. They could *"avoid a pain hit as they always covered every risk in the target cost and secondly to build in a possible gain."* (Interviewee 36, [redacted], BCC).

Pain/Gain Arrangement: - The way the pain/gain arrangement was managed resulted in it effectively becoming a 'risk avoidance/underwriting' process. Yet it was supposed to be an incentive for innovation and cost savings which even the suppliers admitted was the case, as interviewee 40, ([redacted], Wates) confessed, *"Although Wates made some money, the main aim was to avoid taking a pain, which I guess would have been the same for the other contractors."*

Compensation Events: - A further issue raised in the comments concerned Compensation Events (CE's). Compensation events were meant to be a contractual tool which had been included to allow consideration to be taken when events occurred that were out of the supplier's control. It would prevent them from being penalised on KPIs for failing to deliver projects on budget and to programme, both of which carried penalty clauses for failing to achieve when it was not their fault. The suppliers clearly recognised the importance of CEs and became experts at manipulating situations so that CEs were issued with anything that might potentially have an adverse effect on them. As interviewee 36 ([redacted], BCC) highlighted, *"The contractors were very good at managing CE's as they knew the importance of them and the impact they had on a range of KPIs."* By doing this, not only did they avoid penalty clauses but it made their performance look much better. In turn, it espoused the virtue of how good collaboration was, as noted by interviewee 37

([redacted], BCC), *"The contractor was very good at managing the KPIs to make sure that they looked good."*

A strong view was expressed that BCC had a serious weakness in this area which allowed the suppliers to exploit the use of CE's as noted by interviewee 36 ([redacted], BCC), *"BCC were poor (at managing CE's) and I am sure this was exploited by the contractor'*. Despite this weakness the KPI figures were often used and quoted at many different forums to illustrate how successful the BCP partnership was, *"The BCP was well known nationally as a flag ship partnership"* (Interviewee 36, [redacted], BCC). Therefore, ironically, it almost suited the buyer from a reputational/success dimension to have good KPIs and issue lots of CEs to enable this to be achieved!

The range of comments from the buyer suggests that there was various subtle ways of making extra money. The big problem for BCC was that there was a lack of ability, expertise and experience to challenge the suppliers. A situation made worse by the apparent lack of appetite to do so because it was deemed to be anti-partnering.

7.2.6 Benefits received

Therefore this leads to the question of what benefits did BCC receive from the partnership?

Firstly, the comments did acknowledge that BCC had a delivery mechanism which allowed an investment programme of £750m worth of construction works to be delivered over the life of the partnership. As stated by interviewee 32, ([redacted], BCC), *"The massive amount of work put through in a relatively short time, it would have been difficult to achieve this without the BCP."*

Secondly the comments suggest that the framework allowed a lot of projects to happen because of the upfront involvement and contribution of the suppliers which without this input, some projects may not have preceded. Interviewee 34, (BCC) explained that, *"What they brought to the table was the ability to get some of the schemes developed to a stage which allowed the projects to proceed which may not have happened otherwise."* It was especially true where there was external funding arrangement's and bids for grants had to be made such as Sports Lottery or Heritage Funding. In these circumstances it helped secure significant streams of additional funding for BCC.

Thirdly notwithstanding the concerns around how target costs were determined, once reached, *"nearly all of the 300 plus projects delivered were within target cost and on programme"* (Interviewee 34, , BCC). Given the history of public sector procurement, this was a very good achievement. Interviewee 32, (, BCC), stated that, *"There were generally no claims and it was a cost avoidance which didn't get the credit as a benefit that it deserved."* In an industry which was notorious for its claims culture, this was also a major achievement. In addition, *"There were generally fewer defects on site."* (Interviewee 38, , BCC). All of these were direct benefits from the BCP collaborative partnership arrangement. It is difficult to quantify their value in monetary terms, but they clearly had a value in terms of the BCC strategic objectives.

7.3 Summary

To summarise, the conclusion to be drawn from the comments of the buyers is the general view that the supplier obtained the better share of the financial benefits although it is recognised that BCC did receive a considerable amount of other benefits

out of the partnership. The relevance of this discussion to the research questions concerns whether the buyer could have got more out of the relationship if it had chosen to use the power it did have to obtain more. It supports the issues on the 'willingness to use power' identified in chapter 2 (2.8) (Kahkonen, 2014; Hingley, 2015). In the next chapter, these questions are considered along with the findings of the independent, intervening and dependant variables in relation to the research questions

Chapter 8

An Analysis and Discussion of the Case Study Findings

8.1 Introduction

The aim of this thesis was to explore the impact that power had on the buyer / supplier relationship in two areas. Firstly how did power affect the extent of collaboration taking place between the buyer and supplier? Secondly what impact does power have on the effectiveness of governance mechanisms put in place to control potential opportunistic behaviour to ensure that the buyer receives the appropriate share of any value generated from successful collaboration?

To help explore these two areas of collaboration and benefits received a number of research questions were developed in chapter 2 (2.9) as follows:-

Q1 – What impact does power have on the likelihood of buyer-supplier collaboration being adopted?

Q2 – What impact does power have on the working effectiveness/success of buyer-supplier collaboration?

Q3 – What impact does power have on the distribution of value/benefits from a collaborative interaction?

The following chapter will now discuss the findings from the case study and how they relate to these research questions.

8.2 Analysis of the findings

To help set the scene for analysis and discussion the various high level findings from the case study projects are recapped and summarised in the following table.

Table 8, Case Study findings

Opportunism Risks (TCE / Agency Theory)	**Summary of findings to come out of the different case studies**		
Incomplete contracts.	Contracts were incomplete because schemes were only part designed with lots of gaps in information on costs outputs and programme		
Uncertainty	Supplier treated uncertainties has risks in buyers risk register and managed to put in to gain share arrangement. It became a risk avoidance for the supplier and a method for the supplier to make extra money – did not act as a control measure		
Asset specificity	Only applied to BCC – suppliers used assets and investment in partnership working on other partnerships to gain work elsewhere. BCC could not		
Information asymmetry	Moral Hazard present with supplier having information advantage. Suppliers in position to set programme, target cost and final design outputs, reporting and monitoring etc. Information levels for the buyer dropped from Beg to end and increased for the supplier		
Other findings			
	Agency factors had more impact on how effective Collaboration was than power did		
	Both Suppliers had better individual competencies, capacity, experience etc. than the buyer but Wates were better than Vales		
	There was a lack of willingness of the buyer to use the power it had for various reasons i.e. political		
	Size of and type of project did not affect power levels of extent of collaboration		
Power / Collaboration / Benefits	**Power position**	**Extent of collaboration**	**Level of Benefits received**
Supplier			
Wates	Slight Supplier dominance. / Independence	High	High
	Increases from beginning to end of projects	Increases from beginning to end of projects	
Thomas Vale	Slight Buyer dominance / Interdependence	Medium to High	Medium to High
	Decreases from beginning to end of projects	Decreases from beginning to end of projects	

What the findings showed was that, for each project, there was generally a balance of power with a small emphasis for the each of the suppliers. For the two Wates projects the supplier was in a slightly stronger position of power yet these same two projects also had a high 'extent of collaboration' and high benefits delivered. On the other hand, Vales who were in a slightly weaker power position had a medium to high level rating for collaboration and a medium to high level of benefits delivered. The conclusion to be drawn from the case study is the fact that the buyer was in a stronger power position with Vales than they were with Wates did not entail that they got more benefits out of the relationship.

The main arguments to come out of the evidence as to why Wates were more successful in collaboration are as follows. Firstly, they put a lot of energy and effort into managing the relationship between the buyer and supplier by getting the right people in place, resourcing the projects well and having good information on what was important to the buyer. The second argument was that, by being in a stronger position, the collaboration that did take place was more effective, as Wates was incentivised to make it work through the prospect of making more money rather than the use of power to force them. The evidence suggests that in a relationship where there is a degree of supplier strength, this can lead to greater collaboration if both sides chose to do so, than would necessarily be the case with buyer dominance.

If this is related to the research question on how relative power affects the extent of collaboration taking place then the evidence suggests that there was more effective collaboration with Wates even though they were in a stronger power position and less effective collaboration with Vales who were in a weaker power position. That said, has noted earlier, the actual power difference between buyer and supplier for both

suppliers was not significant. Therefore it is possible to draw a conclusion from the evidence that in situations where there is not significant differences in power levels, power will not have a big effect on the extent of collaboration but rather it is likely to be other factors that determine how effective it will be.

That said, the fact that Wates was in a stronger power position meant that they could have chosen not to collaborate to the same extent. The fact that they did collaborate suggests that it was in their financial interests to do so either through legitimate means or by acting opportunistically. Vales on the other hand were in a weaker power position and therefore as argued in chapter 2 (2.6) had less options in terms of not collaborating. Where there is a position of buyer dominance or interdependence then it is more likely that the supplier will collaborate because the buyer could force them to do so.

Therefore, it is possible to draw a conclusion from the evidence that being in a very strong position of buyer power may mean you can force collaboration but that does not necessarily mean it will be the most effective collaboration. This supports similar findings in previous studies (Nyaga, Lynch, Marshal and Ambrose, 2013).

The evidence from the case study suggests that the buyer can get equal or if not better benefits from different power positions especially when there is high levels of trust and or incentives/benefit for the supplier. However, the fact that the buyer is getter good benefits doesn't mean that the supplier is not acting opportunistically and is taking a bigger slice of surplus value than that of which the buyer is aware. What the evidence above and in the proceeding chapters suggests that in fact the relationship in the case study was more complicated than could be explained by the power matrix alone.

8.3 Discussion

8.3.1 Opportunism and the BCP

From the literature in chapter 2 (2.3, 2.4), it was identified that when a business transaction is carried out there will always be a risk of opportunism and exploitation. Underpinning this statement is the two arguments of firstly Williamson's (1985) assertion that all individuals have the propensity to act opportunistically with self-interest and will try to disguise the fact that they are doing it (TCE). And secondly that buyers and suppliers will often have divergent/conflicting goals or objectives and therefore suppliers will always act in self-interest to achieve their goals (agency theory). There are a number of elements that Williamson (1985) identifies as contributing to this situation namely incomplete contracts, uncertainty, and asset specificity and information asymmetry. All of these elements were found in the case study findings as shown in Table 8, (p168) which can be considered in a bit more detail.

Looking at the first of those elements, 'incomplete contracts', in the case study, the projects were only part designed before being handed over to the supplier which meant a lot of the design detail was incomplete and therefore contracts were incomplete. Construction is notorious for its uncertainty (TCE) and also its inherently high risk (agency theory), (Pilcher, 1992; Berheim and Whinston, 1998; Winch 1988, 2010; Hillebrant, 1974). The way that the BCP was set up involved the supplier identifying the major risks and quantifying them. A decision was then made by the buyer as to whether that went into the target cost or not, based on probability and value. What this meant was that, in the BCP, a major part of the traditional risk which most construction suppliers would normally carry was passed over to the buyer. The

issue was picked up in the comments by both the buyer and supplier, who freely admitted that it was a big bonus. Financially, this one factor alone should have contributed to a reduction in construction costs because, normally, any tenderer would include an element of cost to cover potential risk. In the BCP, not only were potential risks not carried by the supplier but because the majority of those that were identified went in the target cost, if it didn't happen then they could take a share of the gain (i.e. it was a win /win situation for them).

Williamson (1985) also identifies asset specificity as another major factor. It is clear that in the case of the BCP, both buyer and supplier invested heavily in the partnership. For the buyer this investment was specific to use for BCC whereas for the suppliers, they openly admitted that they used the knowledge and experienced gained on the BCP to win work on other frameworks and both had seen their businesses grow significantly as a result. The imbalance in asset specificity clearly benefited the supplier the longer the framework persisted; it also strengthened the supplier's position.

The final element that was evident in the BCP was information asymmetry, where one side has more information than the other which they can potentially exploit. Information asymmetry is the principal concern of agency theory in terms of potential opportunism (Mitnick, 1975; Eisenhart, 1989). Of the two forms of opportunist behaviour identified in the agency theory (adverse selection and moral hazard), it is that of moral hazard which is most relevant to this discussion i.e. post-contract where the supplier was using its information advantage to act opportunistically and exploit a situation (Jensen and Meckling, 1976; Eisenhart, 1989; Milgrom and Roberts, 1992).

The evidence suggests this is what happened in the case study with Wates being considerably better at exploiting it than Vales. The case study provides support for previous studies that if the supplier has greater information than the buyer then the potential for opportunism increases (Baiman and Rajan, 2002). Put together, these various risks of opportunism inform us that the very things that TCE and agency theory identified as potential areas of exploitation were, in this case study, all present as potential opportunities, and were ready to be taken advantage of by the supplier.

8.3.2 The BCP – A collaborative arrangement governed by 'Trust'

Chapter one described how collaboration was seen to be the way to improve performance in construction which required a method of governance to underpin this and that the one most advocated in construction partnerships is the use of relational governance (trust). It was an approach recommended by Egan (1994), Latham (1998) and was used by many other organisations around the country, has advocated by the government (NIEP, 2012).

However has identified in chapter 2 (2.1), there doesn't seem to have been a great deal of consideration given in the literature to the impact of power on collaboration (Hingley, 2014). Therefore if trust is seen to be vital for facilitating good collaboration then it follows that the impact of power on trust will indirectly have an influence on how effective collaboration will be. From chapter 2 (2.8) it was argued that the most effective collaborations take place when there are certain balances of power (Hingley, 2005; Gulati and Sytch, 2007; Kahkonen, ,2014). The argument being that that when there is a balance of power then this will create the right environment for trust to flourish and develop good collaboration. This is an important point because as was noted earlier the abuse of power can be very destructive in a

collaborative arrangement (Hingley, 2005). It is possible to draw a conclusion that power may not directly affect how good collaboration will be but it does affect the conditions for which good collaboration can take place.

In the case study although there was differences in power between Wates and Vales and BCC these were not significant and overall were generally towards the centre of the power matrix i.e. broadly balanced. Therefore what was going on the case studies to explain the difference in collaboration levels?

8.3.3. What was happening in the case study?

Wates:-

What the comments in the case study suggest is that Wates applied a successful 'relationship management strategy and management style' (Cox, Lonsdale, Sanderson, Watson, 2004) to achieve greater gain. As interviewee 34 , BCC) said, they were, *"doing it with guile – especially Wates who seemed to get a lot more out of the partnership than the other two."* At the heart of this was the management and use of information combined with a strategy to control the relationship (moral hazard). Wates appeared from the evidence to behave in an opportunistic manner but BCC did not have the ability to spot this or power to control the behaviour.

One of the contributory factors identified in the evidence was that Wates employed high quality staff who behaved differently and it was this behaviour which could influence a relationship and therefore affect the power position (Meehan and Wright, 2012). What defines high quality of staff is where there are high levels of competency, capability, knowledge, experience and expertise (Nyaga, Lynch, Marshall and Ambrose, 2013; Kahkonen, 2014).

A conclusion that can be drawn from this is that Wates had worked out that, by effective collaboration and by managing the buyer/supplier relationship, they could appear to give the buyer what they wanted but, at the same time as the comments above suggest, maximise their own position (both in a legitimate way but also in an opportunistic way). They had, in effect, taken over control of the relationship in a subtle way. Cox et al. (2003) identified that in a collaborative arrangement, information is one of the most important issues that need to be considered. If a supplier can identify what the buyer wants, what the budget is, and what they are prepared to pay, they are in a very strong position. It is the very problem identified by the agency theory where there is information asymmetry between the principal (buyer) and the agent (supplier) and the agent uses this asymmetry to its advantage, 'moral hazard' (Rosenfeld and Geltner, 1991; Ceric, 2010; Winch, 2010; Yiu et al., 2002; Ive and Chang, 2007; Jäger, 2008). When this happens the buyer does not have enough information to know whether the supplier has behaved appropriately (Eisenhardt, 1989).

The evidence and comments suggest that Wates did exactly this through a deliberate strategy of embedding itself with the key decision makers. On top of this, company decision-makers also made sure that they put in place individuals who had the right skills in key positions, in order to make sure they had good communication and effective collaboration. Wates had recognised that power was not just about organisational structures but also was a factor of individual's competencies, capability and capacity. This supports previous studies, highlighted by Kahkonen, (2014) which identified these individual resources are an essential source of power that can affect the ability of an organisation to monitor and manage a supplier.

The comments suggest that Wates were aware of the importance of getting these elements right, which resulted in Wates having a strong advantage in information levels. Effective collaboration is about working together; therefore the challenge is to get the balance right between, on the one hand, transparency and, on the other, not giving away too much information (from the buyer) otherwise you end up putting the supplier in a stronger position (Bresnen and Marshal, 2001). In the case study, the buyer was not necessarily aware he was giving away too much information because of the enthusiasm to embrace partnership working. He also clearly felt that Wates was doing the same.

Another element that came out from the findings was there was perceived to be more 'trust' in Wates than there was in Vales which, in part, was driven by Wates' management of information but also by their competencies, capability and reputation. In addition as highlighted previously in chapter 2 (2.8) the expertise and reputation of an individual (s) can create a differential effect which gives deferential power (Nyaga, Lynch, Marshall and Ambrose, 2013). The high quality of Wates staff led to a deference which in turn led to more confidence in Wates thus creating a feeling of trust.

In addition the use of information combined with a high level of competency, expertise and reputation led Wates to being in a stronger power position and this consequently would have affected the ability of any additional post-contract governance measures put in place to control, even if the buyer was aware and minded to use them.

Thomas Vales:-

The comments appear to suggest that Vales lacked the experience, guile and subtly of Wates. Therefore, Vales' manoeuvres to put themselves into a stronger position were much more transparent and this elicited a response from the buyer which resulted in much greater tension. They were seen as more adversarial and often trying to claim for extras, as pointed out by interviewee 18, (, Alexander Stadium, BCC), *"The contractor (Vales) seemed to be trying to claim for everything."* Vales were viewed as always looking for the 'opportunity' to make extra money, especially during the construction phases. A number of differences were identified between Wates and Vales, such as poor quality/lack of continuity of staff who, in addition, were also more traditional and adversarial especially on site where, *"there was little collaboration and the team were adversarial"* (Interviewee 25, , The Cricket Blocks, BCC). What this suggests is that the competency, capability and expertise of Vales staff was significantly lower than that of Wates which contributed both to less effective collaboration and also to a lower power position as a result of the individuals employed (Kahkonen, 2014; Nyaga, Lynch, Marshall and Ambrose, 2013).

The comments from both project teams and the strategic group confirmed a drop in the extent of Vales collaboration between the preconstruction team and the construction team. This led to a shift towards a more adversarial relationship or, as noted by interviewee 18 (, Alexander Stadium, BCC), *"This changed as the individuals changed – there was generally a lot less trust towards the end of the project."* In reality, their behaviour may have been no different to Wates in their intent but they lacked the skill and guile of Wates and their actions were very transparent. As a result this contributed to a general lack of trust in the Vales team i.e.

they were perceived as often trying to exploit a situation which impacted on how effective the collaboration was.

8.3.4 Impact of Power on the two relationships

Earlier discussions identified that structural power in the form of buyer dominance / interdependence may potentially affect how likely it is the supplier will collaborate. However it also identified that the most effective collaboration took place under general balances of power. Being in a strong power position may allow the buyer to force collaboration but this can have a destructive force on collaboration's ability to be effective (Hingley, 2005).

In relation to the case study the BCP appeared to be more important to Vales than it was to Wates, in the sense that it had higher utility and scarcity values to Vales. The evidence would support the argument that Vales had greater dependency and less power. Looking at how this power situation manifested itself, the literature identifies two types of collaborative arrangements. One is an adversarial collaborative arrangement; the other is a non-adversarial arrangement. What differentiates them is in the way power is used. In adversarial collaborative arrangements it is possible to have either a position of buyer or supplier dominance, with this position then used to achieve a degree of dependency. For example, through the promise of a significant amount of work, a buyer might encourage a supplier to invest heavily to the point where he is dependent upon the buyer (Cox, Lonsdale, Sanderson, and Watson, 2004). Once dependent, the buyer will then use this position of power to extract more out of the relationship. Conversely, if a position of supplier dominance develops when working in a collaborative arrangement, then this will result in the supplier extracting more out of the arrangement than the buyer.

If this argument is applied to the case study, then given that Wates were either in or moving towards the supplier dominance sector, despite appearing to deliver high benefits to the buyer, it is possible to draw the conclusion they would have been extracting more out of the relationship than the buyer. It is a view supported by a number of the comments; for example interviewee 36 (, BCC), "It was the contractor who got the most; it would be 75% contractor, 25% BCC", and also interviewee 33, (, BCC), "Without doubt it was the contractor who got guaranteed profits and overheads, large volumes of predictable steady easy work."

In a non-adversarial relationship, the way in which the buyer and supplier deal with each other is different, insofar as neither will be able to manoeuvre into a dominant position (Cox, Lonsdale, Sanderson, Watson, 2004). In terms of the power matrix, it is possible to identify that, owing to their close reliance on each other; the non-adversarial collaboration will sit most comfortably in the interdependence sector (Cox, 2001). In the BCP, the objective was to have a non-adversarial collaborative arrangement and it was set up on the grounds of common aims, shared risk, mutual gains etc. i.e. a partnership.

In the case of Vales, this relationship arrangement is what, broadly speaking, was achieved and the power position was in and around the line of the interdependence/buyer dominance sector. In the case of Wates, although they may have started, at the beginning, in a non-adversarial position, over time they have moved into an adversarial collaborative arrangement, whilst the buyer remained in a non-adversarial position (fear of anti-partnering etc.). It is a situation that (Cox, Lonsdale, Sanderson, Watson, 2004, page 91) describes as 'Misalignment with

dysfunctional conflict'. It is possible to conclude from this that the buyer were either working with the wrong sort of partner, or that there may have being other factors at play.

8.3.5 A case of a smaller slice of a bigger cake or a bigger slice of a smaller cake?

Looking at the comments, the views were pretty consistent across both the project and strategic groups that Wates were making more money out of the relationship for example interviewee 33 (, BCC), *"You could trust them (Wates) to not keep coming back for extras although I think BCC paid for that i.e. they were the most expensive."* and interviewee 36 (, BCC), *"I think Wates gave us the most overall although we may have paid more."*

What this suggests is that Wates had built up a high level of good will or intentional trust; they were very good at collaboration and relationship management and, on face value, appeared to deliver more benefits to the buyer than Vales. However, being that Wates had the right experience, knowledge and better quality staff, coupled with a higher level of trust, they were able to generate more surplus value from collaborative working than Vales i.e. increase value creation.

Therefore, the suspicion is that whilst the buyer may have been getting a bigger surplus gain from Wates. In fact, as a portion of the total surplus gain made, the buyer was getting a smaller share than they were from Vales (as a percentage), i.e. a smaller slice of a bigger cake, but through good relationship management and guile this proved not to be very transparent, although, this was, of course, difficult to prove explicitly.

A further question could then be raised as to why Vales didn't try to achieve a more collaborative approach, given that there was more money to be made potentially. The evidence from the comments suggests that, whilst they did aspire to do this, they simply lacked the skills, ability and experience to achieve the same extent of collaboration as Wates. In addition, Vales lacked the same relational management strategy, so resulting in a lower extent of collaboration and subsequently less surplus value generated i.e. the cake was smaller. Notwithstanding this, being that there was a position of buyer dominance in the Vales relationship, the buyer got a bigger slice (as a proportion) of the smaller cake.

The evidence from the comments also suggest that Wates were very good at making money from the range of opportunities that existed in the way the framework had been set up e.g. with target cost, open book, shared gain, minimum risk, ring fenced profits and overheads etc. In addition to this, there were the more subtle benefits in terms of volume discounting and kickbacks (rebates) on non-BCP work. All of the above points to the potential of significant financial gains through both legitimate and opportunistic means. Moreover, being that Wates was in a strong power position, the mechanisms for controlling this was limited in their effectiveness which was further exacerbated by a lack of appetite to exercise what power the buyer did have. The comments from the Wates team tend to support this and they admitted that their business developed and grew dramatically through this period with a sustained profit on the back of the BCP. There is a degree of conjecture in this and, of course, Vales may have been attempting to achieve the same aim, although the comments suggest Wates were more successful at it.

If this scenario is correct, it then poses a second interesting question. If less restraint had been shown by the buyer would the buyer have got more out of the Wates relationship, or would this have acted as a disincentive to Wates who would have collaborated less and produced less gain? Therefore, would exercising more power simply mean that the buyer got a bigger piece of a smaller cake? The question of value appropriation was discussed in chapter 2 (2.7) where Cox et al (2004) work on value appropriation (Fig 7, p43) considered the relationship between value appropriation, power and the management style. Cox et al. (2004) argued that the relationship between the type of relationship (arm's length or collaborative) and the level of power will determine who appropriates what value from a buyer-supplier relationship.

If the findings from the case study are applied to the value appropriation chart Fig 7 (p43), then in the Wates case, where there was more of a supplier dominant collaborative relationship, the table tells us that in this situation we should expect the supplier to *"adversarially appropriate most of the commercial value created and set the price and quality trade off"* and that the *"buyer is a non-adversarial supplicant and commercially and pays whatever is required to receive given quality standards."* In broad terms this is what happened in the case study.

In the case of Vales there was a buyer dominant collaborative relationship which the table tells us the *"supplier is a non-adversarial supplicant commercially and accepts work rather than high margins/ profitability from the relationship."* Again, this is what broadly happened in the case study. Therefore the case study findings generally support Cox et al (2004) correlation between value appropriation, power and relationship management styles.

8.3.6 Transparency in Public Procurement

Of course, the case could be made - does it matter that Wates was making more as long as the buyer was getting a good deal? Previously it was argued that benefits weren't all about finance and that some benefits took other forms; hence, appropriation concerns should not be allowed to dominate thinking because they were only a subset of a wider set of objectives for partnership working (Dekker, 2004; Borys and Jemison, 1989; Dyer and Singh, 1998). Unfortunately the problem is one of perception, being that the buyer is a public body and has, therefore, a public duty to get the best possible financial value out of a transaction.

8.4 Other factors at play

As identified earlier, it is possible to draw a conclusion that there were other factors at play which were influencing both the extent of collaboration and the benefits delivered. Three of these 'other' factors identified were:-

i) Relying on 'Trust' as governance mechanism

ii) The way the BCP was managed.

iii) The impact of agency

8.4.1 Relying on 'Trust' as governance mechanism

Using trust to govern a relationship was discussed in chapters 2 (2.2) and 8 (8.3.2) together with the problem with solely relying on it as a control measure. Also highlighted was the fact that the impact of power had not been taken into account, yet power can affect trust and trust levels will ultimately effects collaboration (Hingley, 2005). The reason why this is important to the research questions is that the advocacy

of trust was deemed to be the main governance mechanism in the case study. Although other governance mechanisms had been put in place - e.g. an incentivised contract based on performance, shared pain/gain commitments etc. - there was very little consideration of the impact of power on either collaboration or on the additional governance mechanisms. The question of power in the relationship was not considered in the procurement exercise (pre-contract), nor was it monitored or controlled once the framework had started (post-contract). The evidence suggests that, in the case of the BCP, trust had substituted rather complemented other governance mechanisms in the partnership (even though, as has previously being argued, trust could not be relied upon on its own because of practical procurement and probity issues for the public sector).

8.4.2 Management of the Birmingham Construction Partnership (BCP)

The evidence from the findings suggests that the manner in which the BCP was managed by Birmingham City Council may have contributed to the buyer not receiving maximum benefits. There was clear reluctance on the part of the buyer to use structural power because this was deemed to be anti-partnering and it did not want to be seen to undermine trust in the relationship. The reason for this was the misunderstanding or misconception as to what partnering in a collaborative relationship meant.

The objective of introducing a collaborative partnership working ethos was to engender a spirit of ‘working together’ in a non-adversarial manner in order to generate extra value. The way this was interpreted by the buyer at BCC resulted in a reluctance to get into disputes and that by ‘working together’ meant issues should be

resolved without getting into contractual or legal arguments. It led to an over-enthusiasm to embrace collaborative partnership working as a philosophy, to the point whereby it over-rode other (financial) considerations. The BCP had become a major flag ship partnership nationally (an Office of Government Commerce exemplar) and the comments suggest everyone, including politicians, wanted it to be successful. Yet, in a collaborative framework such as the BCP, the case should always have being made clear that the buyer retains power because future work depends upon current performance or 'contingent renewal' (Bowles and Glints, 1998) i.e. there was a dependency.

Ultimately, the objective of entering into a partnering arrangement was to improve service delivery and value for money. Somehow a second objective has emerged which has overridden this; that of avoiding adversarial situations/challenges so as to allow better collaborative working in order to deliver the service.

Being prepared and willing to use power is an important consideration in helping to understand the consequence of the position BCC took. Having power but not being prepared or willing to use it will in effect negate a power advantage (Hingley, 2015; Kahkonen, 2014). What this did was to send a signal to the suppliers that it was not prepared to use its power which resulted in creating a door for the suppliers for opportunism; all they had to do was open it. The suppliers knew that additional governance mechanisms put in place to control opportunism were unlikely to be used to their full extent, therefore creating a situation which could be exploited.

What this meant was that the way the partnership was being managed ended up facilitating an increase in the very behaviour (opportunism) that the partnership was

supposed to be replacing and the comments suggest that this point was not lost on the suppliers.

8.4.3. The Effect of Agency

It was identified earlier that whilst power may be able to force a supplier it collaborate in doing so it can reduce the value generating capability of the relationship (Gulati & Sytch, 207; Johnson et al, 1993). The literature also advises that over use of power can be both an obstacle to collaboration (McDonald, 1999) and a destructive force (Hingley, 2005). Likewise van Weake and Rzenejier (1999) argued that collaboration can only develop when there is a situation of balanced of power where neither has any substantial dominance. As highlighted earlier the evidence has shown that this was the situation in the case study. The power positions were broadly around the centre with only a slight emphasis to one of the power definitions and that as a result it was agency that influenced how effective collaboration was rather than power.

The case study supported previous argument's that it is the quality of individuals and the relationship that will influence how effective a collaborative arrangement will be, not power (Athanasopoulou, 2009). Nyaga, Lynch, Marshall and Ambrose, (2013) identify three key elements of the relationship – communications, quality and trust which will determine how productive collaboration will be. From the evidence it is clear that in the case study Wates had more of these attributes than Vales. Wates employed a relationship management strategy (Cox, Lonsdale, Sanderson, Watson, 2004) which meant that the communication was always good i.e. accurate, timely, complete and had credibility (Mohr & Spekman (1994). The quality of Wates staff were of a higher calibre being more competent and capable and bringing knowledge, expertise and respect which gave them credibility (Palmatier, Dant, Grewal, 2007).

Consequently it created more trust and a willingness and confidence to engage in collaborative activities which subsequently generated additional surplus value. Vales on the other hand did not have the same calibre of staff which meant they were unable to operate at the same level. As mentioned earlier ultimately it was these factors that determined how effective the collaboration and subsequent surplus value generated was rather power positions hence why Wates produced more added value than the Vales. Consideration of power positions (balanced) was important however since it created the conditions for these other factors to facilitate effective collaboration. This supports the findings of Chicksand (2015), p11 who described the power position, where factors other than power (agency) determine the effectiveness of collaboration as the 'Indiscernible power position' i.e. balanced.
Notwithstanding this when it came to apportioning those benefits the difference in power, albeit marginal, did matter i.e. Wates extracted more than Vales managed to obtain. These findings again support the Cox et al. (2004) value appropriation chart (Fig 7, p43).

8.5 Conclusion

Chapter 2 (2.9) identified number of research questions which formed the basis of this thesis. In considering the evidence and subsequent discussions the following conclusions can be arrived at.

Q1 – What impact does power have on the likelihood of buyer-supplier collaboration being adopted?

What the evidence from the case study suggests is that being in a position of power means you are more able to force collaboration (Hingley, 2005). However what the literature tells us is that being in a position of power dominance can be destructive to

collaboration and overuse of power can reduce the ability to generate extra value (Hingley, 2005; Gulati & Sytch, 2007; Johnson et al, 1993). The best situation for developing successful collaboration is a broad balance of power (van Weake and Rzenejier, 1999). Under these circumstances other factors will kick in which will then determine the extent of collaboration. Therefore the conclusion is that power does affect the 'extent of collaboration' taking place in the sense that there must be a broad balance of power and not a position of dominance or overuse.

Q2 – What impact does power have on the working effectiveness/success of buyer-supplier collaboration?

What the case study has shown is that effective collaboration will generate additional value and benefits as was the situation in the case study with Wates. The evidence also shows that this effectiveness was generated by agency factors rather being in a position of power. In addition what the case study has shown is that just because a collaborative relationship is generating lots of added value doesn't mean the buyer is necessarily receiving an equal share of those benefits. The case study suggests that in the case of Wates the relationship was generating a lot of added value and whilst the buyer got a share, it was not an equal share. Therefore the extent of collaboration will determine in part the level of benefits received by the buyer since it affects the size of value of surplus value generated (size of cake) but it is not the main factor to determine apportionment (size of slice of cake).

Q3 – What impact does power have on the distribution of value/benefits from a collaborative interaction?

Following on from the conclusion of the previous question that the extent of collaboration will determine in part the level of benefits received by the buyer (size of cake) but is not the only factor (size of slice of cake) then it becomes a question of value apportionment. Relating the evidence to Cox et al (2004) value appropriation chart (Fig 7, p43), in the Wates case, where there was more of a supplier dominant collaborative relationship, the expectation should be that the supplier will "adversarial appropriate more of the commercial value created" and this is what happened in the case study. Likewise in the case of Vales there was a buyer dominant collaborative relationship which fig 7, p43 tells us the "supplier is a non-adversarial supplicant commercially and accepts work rather than high margins/ profitability from the relationship." Again this is what happened in the case study. Therefore the conclusion from this is that whilst collaboration will determine the overall surplus value generated (size of cake) it is the relative power position which will determine how that surplus value is shared or apportioned (size of slice of cake) between the buyer and supplier.

Meehan and Wright (2012) argued to fully understand power you need to consider all three of the constructs of power, namely organisations, individuals and relational in an integrated manner. As was identified in chapter 2 (2.6) the focus of this research has been on the structural organisation element of power. However the research has shown that the calibre of individuals had a big impact on the effectiveness of collaboration. It is therefore probable that although not measured in this research specifically these same attributes had a similar effect on power and that it was these elements that also contributed to Wates stronger power position. In the case study the biggest difference from the findings was in information levels which was almost certainly a product of the individual skills, experience and competencies of the Wates

staff .The conclusion to be drawn from this is that it supports Meehan and Wrights (2012) assertion that to fully understand power it needs to be considered in an integrated manner of organisational, individual and relational properties and not as a single construct.

To summarise, the findings of this research have been discussed in this chapter which revealed that although power did influence the likely hood of collaboration, in the case study where there was a balance of power it didn't impact on how effective that collaboration was. In this situation of marginal power differences other considerations come into play, namely that of agency. Nonetheless power did still have an impact when it came to apportionment of the gain. How this relates to the wider debate on power and governance mechanisms will be considered in the next chapter.

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Chapter 9

Wider Discussion and Conclusion

9.1 Introduction

The aim of this thesis was to explore the impact that power has on the buyer / supplier relationship in two areas. Firstly how does power affect the extent of collaboration taking place between the buyer and supplier? Does a more dominant position of power for the buyer increase the likelihood of successful collaboration taking place? Secondly what impact does power have on the effectiveness of governance mechanisms put in place to control potential opportunistic behaviour to ensure that the buyer receives the appropriate share of any value generated from successful collaboration i.e. how does power affect the share of benefits received?

Chapter 2 considered the literature on methods for controlling hazards in buyer/supplier relationships; namely trust, agency theory, transaction cost economics and in particular the impact of power on the buyer-supplier relationship. From those discussions a number of research questions were developed which formed the basis of this research The findings from the research was discussed in chapter 8 and the wider implications of those discussions can now be considered.

9.2 General discussion

It was argued in chapter 2 (2.2) that it is difficult to apply intentional trust as a sole form of governance to public procurement partnerships. This was because it is not possible to have the same informal social relationships between organisations in the public sector in comparison to the private sector for a range of different reasons, not

least those of public probity and accountability, corruption, EU Procurement rules etc. As a result the risk of opportunistic behaviour remained; a risk that was further raised by the inherent nature of human behaviour. It reinforced the position made in some of the literature, particularly by Williamson (1985), that the starting assumption should always be one of potential supplier opportunism (Lonsdale et al, 2014).

Therefore if it is not possible to rely on trust as the only form of governance then additional governance mechanisms are needed. However in order for these mechanisms to be realised then it is argued that the buyer needs to be in a position of power (otherwise they will simply be ignored by the supplier). Consequently this then raises the impact power has on the buyer / supplier relationship which is at the heart of this thesis.

As mentioned earlier the effect that power can have has not been given a great deal of consideration in the literature (Cox et al., 2002; Heide and John, 1992; Lamming, 1993; Morgan and Hunt, 1994; Hines, 1994; Kumar, 1996; Hingley, 2005) yet this lack of understanding can often cause partnerships to fail (Van Weele and Rozemeijer, 1999). However the fact that power is ignored, not understood, used or not used doesn't change the fact that power positions in reality do exist (Hingley, 2005; Emerson, 1962; Dapiran and Hogarth- Scott, 2003). In addition as well as existing, these positions rarely remain static i.e. they are constantly changing (Hingley, 2015). It is an argument supported in the case study which showed how buyer power dropped off between the beginning and the end of projects in a fairly consistent manner.

Also discussed in chapter 2 (2.6) were the various different types of power sources and in particular the argument that power should be considered as an integrated form of the properties of the individual, the organisation and the relationship (Meehan and Wright, 2012). The approach taken in this research was based around the properties of the organisation i.e. structural power between buyer and supplier although there was an acknowledgement of this broader approach in the discussion on the literature. The case study findings raised some interesting points to this wider argument as discussed below.

The case study revealed a broadly balanced structural power relationship with a slight emphasis to one of the power positions for each of the suppliers. In this situation the impact of power on the effectiveness of the relationship became less important. Instead it was the impact of agency that determined how productive the collaboration was. This was an important finding since it supported previous studies that effective collaboration can only really develop in certain situations of power balances (Kahkonen, 2014). It also supports the argument that whilst having power can allow the buyer to force collaboration if it is used too much then it can act as an obstacle to how productive that collaboration will be (Kahkonen, 2014).

The findings also support research carried out by Chicksand (2015) who concluded that where power differences fall on the cusp between two sectors - for example, between supplier dominance and independence - then there is a 'soft' zone where "factors other than power, play a greater role than originally envisaged in determining the outcome of buyer supplier exchanges" (Chicksand, 2015, p11). Chicksand (2015) goes on to conclude that in such situations where relationships fall into these soft

zones, there are implications for how the relationship should be managed which need to be considered other than power resources.

Another important consideration is that of the behaviour, experience, capability and capacity of the individual. In the case study the findings show that one supplier had more experienced, skilled, competent and motivated staff and that these attributes contributed to that supplier having more ability to generate added value through collaboration than the other supplier. Yet some of these very same attributes are those that were identified which facilitated individual power ((Ho, 1991; Zemanek and Pride, 1996; Meehan and Wright, 2012). An individual's ability, experiences and what motivates them will affect the way they behave. It has also been argued previously that individual behaviour is a form of power (Kahkonen, 2014). What this suggests is that there an overlap between considering how individual attributes, motivation and behaviour can be power sources (Meehan and Wright, 2012) and the role those attributes can play (agency) in generating effective collaboration. The ability to collaborate better than a competitor would be a contributory factor to obtaining a stronger power position.

Those same individual attributes will also help the supplier secure a greater share of the surplus value generated especially if the buyer lacks the same level of experience, capability and capacity. In the case study, Wates had built up high levels of perceived trust and good collaboration, and the benefits delivered were high. They had achieved this through a relationship management strategy which had put them into a strong power position; hence, because there was limited ability to challenge, Wates was able to exploit the situation. This inability to challenge was in part down to a lack of

specialist skills on the buyer's side which is required to engage successfully in collaborative partnering. The problem of a lack of specialist skills is particularly true for the public sector (Erridge, 1996; Erridge and Greer, 2002; Lonsdale, 2005; Skelcher, 2005) and "public sector buyers will often find themselves at a skill and resource disadvantage when negotiating with a potential private sector partner and subsequently managing the contract, which can result in an unbalanced relationship favouring the supplier" (Sanderson, 2009, p334).

Another issue to come out of the case study was the fact that there is a difference between having power and using that power (Hingley, 2005; Kahkonen, 2014). It was clear from the case study that there were other factors at play that drove the buyer to behave in a certain way which resulted in them holding back on using its power resources. In the case study, one of those was political reasons where the leadership of BCC wanted the partnership to be a success and support government policy. The key point is that if you are not willing to use the power you have then it will in effect negate that power which will send a signal to a supplier which can be exploited. This is what happened in the case study and supports previous studies by (Nyaga, Lynch, Marshal and Ambrose, 2013; Kahkonen, 2014) on the importance of understanding that it is not enough to just have the power but that there is a need to demonstrate a willingness to use that power.

9.3 Conclusion

In conclusion this thesis has supported the argument that power matters and that it impacts on the buyer supplier relationship in lots of ways. Power exists and cannot be ignored and is not static and can and does change in relationships (Hingley, 2005

Emerson, 1962; Dapiran and Hogarth- Scott, 2003). There is a need to be able to manage the impact power has i.e. i) establish and maintain a power balance (Kahkonen, 2014)., ii) understand the importance of the willingness to use power (Hingley, 2005; Kahkonen, 2014)., iii) have the right quality of individuals and understand that power is not just about organisation properties (Chicksand, 2015) but that individuals and relationships will impact and iv) that these need to be considered together in an integrated manner (Meehan and Wright, 2012).

These various points combine to support previous studies on the importance to have an effective relationship management strategy (Nyaga, Lynch, Marshal and Ambrose, 2013; Chicksand, 2015) in order to be able to manage power.

We can overlay these points to on Fig4, p21 conceptual landscape, to show how power and agency impact on the buyer supplier collaborative relationship and how that affects the surplus value generated and ultimately what the buyer gets outs of the relationship.

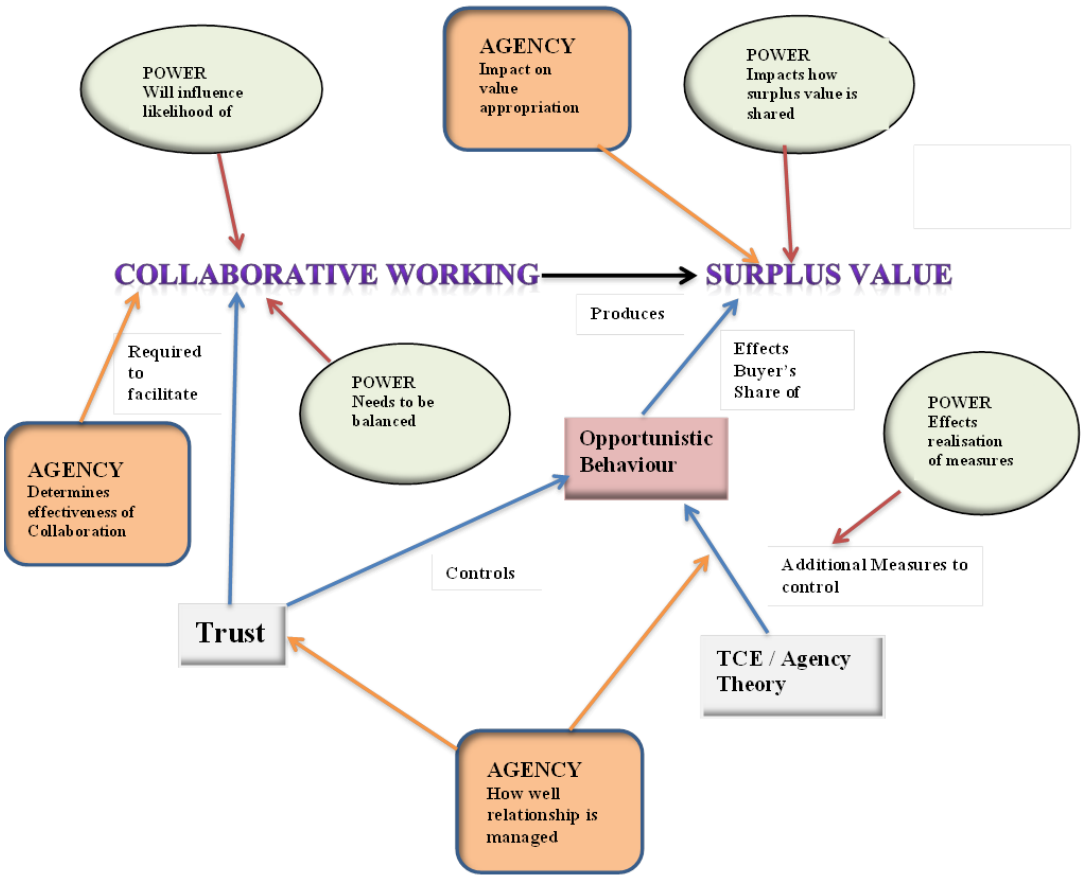


Fig 19 Interaction between collaboration, power, agency and surplus value

In chapter one it was described how despite a lot of the acclaimed success of collaborative partnerships in construction, there remained concerns around whom is getting the most value out of the relationship. These concerns have manifested has a perception that partnerships are not delivering value for money which raises the question of how collaborative relationships are being managed. This thesis has highlighted the impact and importance of understanding and managing power and the need to have in place an effective relationship management strategy in order to ensure

the buyer obtains an appropriate share of value generated from collaborative partnerships.

9.4 Contributions to Theory

This thesis makes a number of contributions to theory.

Firstly the findings builds on previous studies that effective collaboration is best achieved when there are balanced positions of power (Chicksand, 2015; Kahkonen, 2014). This is an important contribution since it suggests that power matters in the sense of the need to have a balanced position to set the right conditions for effective collaboration. Being in a too strong a position can be destructive (Kahkonen, 2014) so there is a need to understand and establish a balanced position which goes against a natural inclination to want to be in a position of stronger power (Hingley, 2005). Yet to allow effective collaboration to continue to grow it is equally important to maintain that balance otherwise too much buyer power will lead to a reduction in effectiveness and too much supplier power could lead to exploitation (Nyaga, Lynch, Marshal and Ambrose, 2013). These findings support previous studies into the importance of having an effective relationship management strategy and accompanying skills to manage collaborative partnerships (Chicksand, 2015).

The second contribution is that it in balanced situations it is agency factors that determine how effective collaboration will develop rather than power. This is an important insight since it highlights the importance of the need to take into consideration both factors.

Thirdly the findings of the case study contributes to the literature that there is a conceptual difference between having power and using it (Meehan and Wright, 2012;

Hingley, 2015; Nyaga, Lynch, Marshal and Ambrose, 2013). In the case study the buyer had structural power but was unwilling to use it for various reasons (including political ones) which in effect made their power position ineffective, a situation subsequently exploited by the supplier. It supports the argument that for power to be effective a buyer has to be seen to be seen to be both able and willing to use that power but in a selective way that that doesn't undermine the collaboration.

Fourthly the findings have supported the argument that power needs to be considered in an integrated manner rather than as separated constructs (Meehan and Wright, 2012) and in particular the impact of individual power can have. In the case study the competency, capacity, experience etc., all contributed not to just the ability to generate value through effective collaboration but also to the respective power positions. There were notable differences in these skills both between the buyer and supplier but also between suppliers. It supports the position that skills and experience, capacity and capability can all be considered as contributors to individual power (Kahkonen, 2014).This is an important insight as each of these factors will influence how good the quality and effectiveness of the buyer supplier relationship is and ultimately what benefits the buyer gets out of the relationship (Kahkonen, 2014; Hingley, 2015; Kahkonen, Lintukangas and Hallikas, 2014; Nyaga, Lynch, Marshal and Ambrose, 2013).

Fifthly it also contributes to the debate on whether formal and relational governance can be both substitutes and complements (Huemer et al., 2009; Liu, Luo and Liu, 2009; Caniels and Gelderman , 2010, 2012). Relationship governance (intentional trust) cannot act as a substitute because of its limitations of operating in a public procurement environment. This case study has also shown if the impact of power is

not taken into consideration then there is a strong likelihood that, even with a high level of trust, owing to its limitations as a governance model coupled with the inherent nature of human behaviour, opportunism will occur and additional measures put in place to control potential opportunism will not be effective without a position of buyer power to enforce them (if necessary). Therefore the conclusion of this is that a combination of governance mechanisms is the most effective way to control potential opportunism or exploitation in a collaborative based partnership, achieve good collaboration and obtain an appropriate share of surplus value but that it must be carried out within the context of managing and taking account of power positions (Liu, Luo and Liu, 2009; Haugland and Reve, 1994; Caniels, Geldman and Vermeulen, 2012; Lonsdale et al, 2014).

The final contribution concerns the methods employed in this thesis to measure structural power which built on the approach developed by (Chicksand, 2015) based on Cox et al (2002) power regimes approach. By developing a method that scores each of the subsets of utility, scarcity and information but also applying a weighting against each of these subsets this allows the measurement of power to reflect the context of a particular case study. I.e. what is important or a priority to the buyer or supplier? In addition by recording comments after each question this allows analysis of the data collected to obtain a better understanding in of findings.

9.5 Management Implications

There are a number of points which have been identified that have potential management implications. These are important to management practice as their contribution to knowledge will allow better management of collaborative relationships. In particular they will help to manage the relationship to be effective to

achieve maximum surplus value from collaboration but at the same time ensure that the buyer obtains an appropriate amount of the surplus value generated.

The first of these is the importance to understand power and the impact it can have. To effectively manage a relationship a buyer needs to be aware of their and the suppliers power position and the respective strengths and weakness. To achieve this requires a good understanding of power sources and the ability to analyse power positions (Kahkonen, Lintukangas and Hallikas, 2014).

Likewise there needs to be an awareness of the importance to achieve and maintain power balances to facilitate optimum collaboration and retain maximum benefits. In addition the ability to recognise that relationships can and do change over time which impact on power balances. All of these issues require specific knowledge and understanding to effectively manage a relationship and therefore it is important that managers acquire this knowledge.

The second implication for management is the importance of having the right type of high quality staff to both facilitate and manage effective collaboration. Having experienced, competent and capable staff are critical to facilitate effective collaboration, build trust and generate added value. Like wise to manage the relationship also requires high quality experienced staff with the right approach and competencies to recognise and understand how individual behaviour and skills will affect a relationship and also how any value generated from that collaboration is shared. It is a point that employers need to understand that the extra value that high quality staff can generate in a relationship can potentially far outweigh any potential extra cost of the high quality staff.

To summarise the above, there are two important implications for management practice from this thesis. Firstly there is a need to appreciate the importance of the ability to both understand and manage power in a buyer supplier relationship. And secondly those effective relationship management skills are essential to achieving and maintaining productive collaboration and for supporting the management of power. Both of these will significantly contribute to the ability to effectively manage collaborative partnerships and ensure the benefits expected are received from the relationship.

9.6 Limitations and areas of further research

It is recognised that the research was primarily carried out looking at power resources i.e. power as a property of an organisation. What the case study showed was that the comments section made an important contribution to the findings. Consequently future research could look to extend this element and bring in more of the individual power traits such as motivation, behaviour skills etc. to allow more measurement of the contribution individual power factors make. In addition the research could also consider how the different forms of power (organisational, individual, and relational) overlap and or contribute to each other. It also recognised from the findings that the method of determining the weightings could also be better refined by using various different weightings in a pilot to establish the different impacts for the particular case study been considered.

The thesis has not attempted to address how the selection of the most appropriate partner pre-contract can be carried out to ensure that the right power balance can be achieved; instead, it has focused on the post–contract aspect of the relationship. Nor has there been any attempt to suggest how the on-going monitoring of power in a

relationship can be best achieved. Both of these issues could be avenues for further research to help present a practical solution to the issues raised in this thesis.

In addition, it is acknowledged that this thesis has primarily dealt with the relationship between buyer and supplier. In doing so, we have recognised one area that is an integral part of collaboration - its supply chain. Most industries have supply chains, but construction has a particularly complex one with a significant value of construction work carried out by its supply chain (Winch 1989).

Latham (1994) and Eagan (1998) emphasise the importance of having strong supply chain relationships, yet from within this there is the potential of whole sub-layers of what Watson (2001) calls 'sub-regimes of power', both from a supplier and purchaser dominance position. With such large supply chains, it is inevitable that 'complex power structures' (Watson, 2001) will exist. It is not in the scope of this thesis to look at these power regimes, but it is important to be aware that they exist and that they could have an influence on how effective collaborative partnership working is and how much value is created and that this aspect could also be an avenue for further research.

Finally the findings showed a consistent drop of power for the buyer between the beginning of the project and the end. Although one explanation was offered in the discussion there may have been other reasons or factors that influence if and why power shifts within the life span of a project and this could be an area of further research.

References

Adamson, D.M. and Pollington, A.H., (2006), 'Change in the construction industry: an account of the UK construction industry reform movement 1993-2003'. Routledge.

Akintoye, A., and Main, J. (2007), 'Collaborative relationships in construction: the UK contractors' perception, Engineering', *Construction and Architectural Management Journal*, 14.6, p597-617.

Alchian, A. and Demsetz, H., (1972),'Production, Information Costs, and Economic Organisation', *American Economic Review*, 62. p77 - 795.

Anderson, J. C. and Narus, J., (1990), 'A Model of the Distributors Firm and Manufacturer Firm Working Partnerships', *Journal of Marketing*, 54. p42 - 58.

Arrow, K., (1969), 'The Organisation of Economic Activity: Issues Pertinent to the Choice of Market Versus Non Market Allocation', The Analysis and Evaluation of Public Expenditure: the PPB System, 1. U.S. Joint Economic Committee, 91st Congress, U. S Government Printing Office, p39 - 73.

Arrowsmith. S, P. B.Faustino, Heuninckx. B, Treumer. S, Fejo. J, (2010), 'EU Public Procurement Law: An Introduction'. University of Nottingham, Nottingham.

Athanasopoulou, P., (2009), 'Relationship quality: a critical literature review and research agenda'. *European Journal of Marketing*, *43*.5., p.583 - 610.

Bacharach, S. and Lawler, E., (1981), 'Power and Politics in Organisations', Jossey-Bass, San Francisco.

Baden-Hellard (1995),' Project Partnering: Principle and Practice', Thomas Telford.

Baiman, S. and Rajan, M.V., (2002), 'Incentive Issues in Inter-firm Relationships', *Accounting, Organizations and Society*, 27.3. p213 - 238.

Banwell, H. (1964), 'Report of the Committee on the Placing and Management of Contracts for Building and Civil Engineering Work', HMSO London.

Ball, M, (1988), 'Rebuilding Construction: Economic Change and the British Construction Industry', Routledge, London.

Ball, R., M. Heafey and D. King. (2000a). 'Private Finance Initiative – a Good Deal for the Public Purse or a Drain on Future Generations?' Policy and Politics, 29, 1, p95 –108.

Barney, J. B. and Ouchi, W. O., (1986), 'Organisational Economics', Jossey- Bass, San Francisco.

Barrie, D. S. and B. C. Paulson., (1991), 'Professional Construction Management: Including CM, Design-Construct and General Contracting', McGraw-Hill, New York.

Beach, R., Webster, M. and Campbell. K. M., (2005), 'An Evaluation of Partnership Development in the Construction Industry', *International Journal of Project Management,* 23.8. p611-621.

Bennett, J. and Jayes, S. (1998) 'The Seven Pillars of Partnering: a guide to second generation partnering', Thomas Telford Publishing, UK.

Bennett, J. and Jayes, S., (1995), 'Trusting the Team – The Best Practice Guide to Partnering in Construction', Thomas Telford Publishing, UK.

Bennett, J and Peace, S (2006), 'Partnering in the construction industry'. Oxford: Butterworth Heinemann.

Bensaou, M., (1999), 'Portfolios of Buyer-Supplier Relationships', *Sloan Management Review,* 40.4. p35-44.

Berthon, P., Mac Hulbert, J. and Pitt, L., 2004. 'Innovation or customer orientation? An empirical investigation', *European Journal of Marketing, 38*(9/10), p.1065-1090.

Bergen. M., Dutta. S and Walker, O.C. Jr. (1992). 'Agency relationships in marketing: a review of the implications and applications of agency and related theories'. *Journal of Marketing,* 56. p1-24

Benton, W.C. and Maloni, M.J., (2000), 'Power Influences in the Supply Chain', *Journal of Business Logistics,* 21.1. p49-73.

Berheim B. D. and Whinston M. D. (1998), 'Incomplete Contracts and Strategic Ambiguity', *American Economic Review,* 88. p902 – 932.

Betts, M. and Ofori, G.O. (1992), 'Strategic planning for competitive advantage in construction industry', *Construction Management and Economics,* 10, p511-32.

Black, C., Akintoye, A., and Fitzgerald, E., (2000), 'An Analysis of Success Factors and Benefits of Partnering in Construction', *International Journal of Project Management,* 18.6. p423-434.

Blaikie, N., (2000), 'Designing Social Research', Polity Press, Cambridge.

Blau, M., (1964), 'Exchange and Power in Social Life'. New York, Wiley.

Blois, K. J. 1999, 'Trust in Business to Business Relationships: An Evaluation of its Status', *Journal of Management Studies,* 36.2. p197-215.

Blomqvist, K., (1997), 'The Many Faces of Trust', *Scandinavian Journal of Management,* 13.3. p71-286.

Blumberg, B.F., (2001), 'Cooperation Contracts between Embedded Firms'. *Organization Studies,* 22.5. p825-852.

Borys, B. and Jemison, D. B., (1989), 'Hybrid Arrangements as Strategic Alliances: Theoretical Issues in Organizational Combinations', *The Academy of Management Review,* 14. 2. p234-249.

Bovaird, T. and Halachmi, T., (2001), 'Performance Measurement and Best Value: Ann International Perspective', *International Journal of Business Performance Management,* 3.2. p110 -134.

Bowles, S. and Gintis, H., (1998), 'The Moral Economy of Communities: Structured Populations and the Evolution of Pro-social Norms', *Evolution and human behaviour*, 19.1. p3-25.

Bradach J. and Eccles R. (1989), 'Price, authority, and trust: from ideal types to plural forms', *Annual Review of Sociology,* 15. p97 - 118.

Bresnen, M. And Marshal, N., (1999), 'Partnering in Construction: a Critical Review of Issues, Problems and Dilemmas'*, Construction Management and Economics,* 18. p229-237.

Bresnen, M., & Marshall, N. (2000), 'Building partnerships: case studies of client–contractor collaboration in the UK construction industry', *Journal of Construction Management and Economics,* 18.7, p819-832.

Bresnen, M and Marshal, N., (2001), 'Understanding the Diffusion and Application of New Management Ideas in Construction', *Engineering Construction and Architectural Management,* 8.5. p335-345.

Bresnen, M., and Marshall, N., (2002), 'The engineering or evolution of cooperation? A tale of two partnering projects*', International Journal of Project Management*, 2.7, p497-505.

Broadbent, J. & Laughlin, R., (2003), 'Public Private Partnerships: An Introduction' *Accounting, Auditing & Accountability Journal*, 16, 3. p332-341.

Brousseau, E. and Glachant, J. M., (2002), 'Theories and Applications*',* The Economics of Contracts, Cambridge University Press.

Bryman, A. and Bell, E., (2007), 'Business Research Methods', Oxford University Press.

Burrell, G., & Morgan, G., (1979), 'Sociological Paradigms and Organizational Analysis', Heinemann**.**

Butler, J. K., (1999), 'Trust expectations, information sharing, climate of trust, and negotiation effectiveness and efficiency', *Group & Organization Management*, 24.2. p217-239.

Caldwell, N. D., Roehrich, J.K. and Davis, A.C., (2009), 'Procuring Complex Performance in Construction: London Heathrow Terminal 5 and a Private Finance Initiative hospital', *Journal of Purchasing and Supply Management,* 15.3. p178-186.

Campbell, N. C. G. and Cunningham, M. T., (1983), 'Customer Analysis for Strategy Development in Industrial Markets', *Strategic Management Journal*, 4.4. p369-380.

Caniels, M. C.J., Gelderman, C.J. and Vermeulen, N.P. (2012), 'The Interplay of Governance Mechanisms in Complex Procurement Projects', *Journal of Purchasing and Supply Management,* 18. p113-121.

Caniels, M. C.J. and Gelderman, C.J., (2010), 'Safeguarding Effect of Governance Mechanisms in Inter-firm Exchange: The Decisive Role of Mutual Opportunism', *British Journal of Management,* 21. p239-254.

Caniels, M. C.J., Gelderman, C.J. and Ulijn, J.M., (2010), 'Buyer – Supplier Relationship Development: an Empirical Study among Dutch Purchasing Professionals', *Journal of Enterprising Culture,* 18.02. p107 -133.

Caniels, M. C.J. and Gelderman, C.J., (2007), 'Power and Interdependence in Buyer Supplier Relationships: A Purchasing Portfolio Approach', *Industrial Marketing Management,* 26.2. p219 -229.

Cannon, J. P. and Perreault, W. D. (1999), 'Buyer-Seller Relationships in Business Markets', *Journal of Marketing Research,* 36. 4. p439-460.

Cendon, B.V. and Jarvenpaa, S.L. (2001), 'The development and exercise of power by leaders of support units in implementing information technology-based services', *Journal of Strategic Information Systems,* 10.2. p121-158.

Ceric, A., (2010), 'The Impact of Asymmetric Information on Communication in Construction Projects', Working Paper Proceedings, Engineering Projects Organizations Conference, California.

Chicksand, D., (2015), 'Partnerships: The role that Power plays in shaping collaborative- supplier exchanges', *Industrial marketing Management,* 48. p121–139.

Chiles, T. H. and McMackin, J.F., (1996), 'Integrating Variable Risk Preferences, Trust, and Transaction Cost Economics', *Academy of Management,* 21.1. p73-99.

Chritamara, S., Ogunlana, S. O. and Bach, N.L., (2002), 'System Dynamics Modelling of Design and Build Construction Projects', *Construction Innovation,* 2.4. p269-295.

Cicmil, S., and Marshall, D. (2005), 'Insights into collaboration at the project level: Complexity, social interaction and procurement mechanisms', *Building Research and Information,* 33.6, p523-535.

CII, (1989), 'Partnering: Meeting the Challenges of the Future', Special Publication, Construction Industry Institute, Austin, TX.

CII, (1991), 'In search of partnering excellence', Special Publication, Construction Industry Institute, Austin, TX.

CII, (1994), 'Benchmarking Implementation Results, Teambuilding and Project Partnering', Construction Industry Institute, Austin, TX.

Clough, P. and Nutbrown, C., (2007), 'A Student's Guide to Methodology', London, SAGE.

Coase, R. H., (1937), 'The Nature of the Firm', *Economica,* 4. p386-405.

Connolly, C., Martin, G. and Wall, A. (2008), 'Education, education, education; the third way and PFI', *Public Administration,* 86.4. p951-968.

Cook, K.S., and Emerson, R.M. (1978). 'Power, equity and commitment in exchange networks', *American Sociological Review,* 43.5. p721–739.

Cousins, P.D. and Menguc, B., (2006), 'The Implications of Socialisation and Integration in Supply Chain Management', *Journal of Operations Management,* 24.5. p604-620.

Coyle-Shapiro, J. A-M and Conway, N., (2005), 'Exchange Relationships: An Examination of Psychological Contracts and Perceived Organizational Support', *Journal of Applied Psychology,* 90.4. p774 -781.

Cox, A., Chicksand, D. and Young, M., (2006)**, '**Collaboration in the Red Meat Industry: Understanding Power Demand and Supply Characteristics in Beef Supply Chains', IMP Group.

Cox, A., (2004), 'The Art of the Possible: Relationship Management in Power Regimes and Supply Chains', *Supply Chain Management: An International Journal,* 9.5. p346-356.

Cox, A., Lonsdale, C., Sanderson, J. and Watson, G., (2004), 'Managing Appropriately in Power Regimes: Relationship and Performance Management in 12 Supply Chain Companies', *Supply Chain Management: An International Journal,* 9.5. p357-371.

Cox, A., (2001), 'Understanding Buyer and Supplier Power: A Framework for Procurement and Supply Competence', *Journal of Supply Chain Management,* 37.1. p1-18.

Cox, A., (2001), 'Managing with Power: Strategies for Improving Appropriation from Supply Relationships', *Journal of Supply Chain Management,* 37.1. p42 -47.

Cox, A., Sanderson, J. and Watson, G., (2000), 'Mapping the DNA of Business and Supply Chain Relationships', Earlsgate Press, Boston, UK.

Cox, A. and Townsend, M., (1998), 'Strategic Procurement in Construction', Thomas Telford, London.

Cox, A., (1997), 'Business Success', Earlsgate Press, Boston.

Dahl, R.A., (1957), 'The concept of power', *Behavioral science,* 2.3., p201-215.

Daugherty, P. J., Richey, R. G., Roath, A. S., Min, S., Chen, H., Arndt, A. D., and Genchev, S. E. (2006), 'Is collaboration paying off for firms?', *Business Horizons,* 49.1. p61–70.

Dapiran, G. P., and Hogarth-Scott, S.,(2003), 'Are co-operation and trust being confused with power? An analysis of food retailing in Australia and the UK', *International Journal of Retail & Distribution Management*, 31.5. p256 – 267.

Das, T.K. and Teng, B-S., (1998), 'Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances', *Academy of Management Review*, 23.3. p491-512.

Deakin, S., Lane, C. and Wilkinson, F., (1998), 'Performance Standards in Supplier Relations: Relational Contracts, Organisational Processes and the Institutional Environment', CBR Working Paper Series, Centre for Business Research, University of Cambridge.

Dekker, H., (2004), 'Control of Inter-organisational Relationships: Evidence on Appropriation and Coordination Requirements', Accounting, *Organizations and Society*, 29. p27- 49.

Ding, R., (2008), 'How Does Partner Selection Affect Contractual Design? Evidence from Inter-firm Co-operation', *Working Paper Series*, 8.15. p2 - 20.

Dwyer, F. R., Schurr, P. H., and Oh, Sejo, (1987), 'Developing Buyer-Seller Relationships', *Journal of Marketing,* 51.2. p11-27.

Dyer, J. H. and Singh, H., (1998), 'The Relational View: Cooperative Strategy and Sources of Inter -organisational Competitive Advantage', *Academy of Management Review*, 23.4. p660-679.

Easton, G., (1992), 'Learning from case studies'. 2nd edition, Hemel Hempstead: Prentice Hall.

Egan, J., (1998), 'Rethinking Construction', DETR, London.

Eisenhardt, K. M., (1989), 'Agency Theory: An Assessment and Review', *The Academy of Management Review*, 14.1. p57-74.

Eisenhardt, K. M., (1989), 'Building theories from case study research', *Academy of Management Review*, 14.4. p532-550.

Elder-Vass, D., (2011). 'The Casual Power of Social Structures: Emergence, Structure and Agency', Cambridge Press.

Ellram, L. M., and Cooper, M. C. (1990), 'Supply Chain Management, Partnership, and the Shipper - Third Party Relationship', *The International Journal of Logistics Management*, 1. 2. p1-10.

El-Ansary, A.L., & Stern, L.W., (1972), 'Power measurement in the distribution channel', *Journal of Marketing Research*, 9.1. p47–52.

Emerson, R.M., (1962), 'Power-Dependence Relations', *American Sociological Review*, 27.1. p31-41.

Erridge, A., (1996), 'Innovations in public sector and regulated procurement', *Innovations in Procurement Management,* Earlsgate Press, UK.

Erridge, A. and Greer, J., (2002), 'Partnerships and Public Procurement: Building Social Capital through Supply Relations', *Public Administration*, 80.3. p503-522.

Erridge, A. and Nondi, R., (1994), 'Public Procurement, Competition and Partnership', *European Journal of Purchasing and Supply Management*, 1.3. p169-179.

Etgar, M., (1976), 'Channel Domination and Countervailing Power in Distribution Channels', *Journal of Marketing Research* , 13.8. p254-62.

Evans, S. and Lewis, R., (1989), `Destructuring and Deregulation in the Construction Industry in Manufacturing Change: Industrial Relations and Restructuring, ed. S. Tailby and C. Whitson, Blackwell, Oxford. p60-93.

Fehr E. and Gachter S. (2000), 'Do Incentive Contracts Crowd out Voluntary Cooperation?' Working Paper, 34., Institute for Empirical Research in Economics, University of Zurich.

Flanagan, R. and Norman, G. (1989), "Pricing policy", in Hillebrandt, P.M. and Cannon, J. (Eds), The Management of Construction Firms: Aspects of Theory, Macmillan, London.

Ford. D., and IMP Group, (1990), Understanding business markets: Interaction, relationships and networks. London: Academic Press.

Forder, J., Knapp, M., Hardy, B., Kendall, J., Matosevic, T., and Ware, P., (2004), 'Prices, Contracts and Motivations: Institutional Arrangements in Domiciliary Care', *Policy and Politics*, 32.2. p207–22.

Froud, J., (2003), 'The Private Finance Initiative: Risk, Uncertainty and the State*',* *Accounting, Organizations and Society*, 28.6. p567-589.

Gaffney, D., Pollock, A. M., Price, D. and Shaoul, J., (1999), 'PFI in the NHS- Is there an Economic Case?' *BMJ*, 319. p116–119.

Gershon Review, (2004), 'Public Service Efficiency and the Management of Change', The Work Foundation.

Gillham, B., (2000), 'Case Study Research Methods', Real World Research.

Gholshal, S. and Moran, P., (1996), 'Bad for Practice: A Critique of Transaction Cost Theory', *The Academy of Management Review*, 21.1. p13-47.

Gomm, R., Hammersley, M., Foster, P., (2000), 'Case study method: key issues, key texts'. London: Sage Publications

Grayson, K. and Ambler, T., (1999), 'The Dark Side of Long Term Relationships', *Journal of Marketing Research*, 36. p332-341.

Green, S. D.' (2011), 'Making Sense of Construction Improvement', Wiley-Blackwell.

Guba, E. G. and Lincoln, Y. S., (1998), 'Competing Paradigms in Qualitative Research'. Handbook of Qualitative Research, Thousand Oaks, SAGE, p195–222.

Gulati, R. and Sytch, M., (2007), 'Dependence Asymmetry and Joint Dependence in Interorganisational Relationship: Effects of Embeddiness on a Manufactures Performance in Procurement Relationships', *Administrative Science Quarterly*, 52. p32-69.

Gulati, R. and Singh, H., (1998), 'The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances', *Administrative Science Quarterly*, 43. p781-814.

Gulati R., (1995), 'Does Familiarity Breed Trust? The Implications of Repeated Ties for Construction Choice in Alliances', *Academy of Management Journal*, 8.1. p85 – 112.

Gummesson, E., (1996), 'Relationship marketing and the imaginary organisation: A synthesis', *European Journal of Marketing*, 30.2. p31-44.

Håkansson, H and IMP Group, (1982), 'International Marketing and Purchasing of Industrial Goods: An Interaction Approach', Chichester, Wiley.

Hamel, J., (1993), 'Case study methods', California, Sage.

Hannah, L., (1991), 'Conditions of Trust in the Construction Industry and their Relevance to Project Success', Research Implementation Report 91-01, Construction Industry Cooperative Alliance, Clemson University.

Hart, O., (1995), 'Firms, Contracts and Financial Structure', Oxford University Press.

Harvey, M., (2003), 'Privatisation, fragmentation and inflexible flexibilisation in the UK construction industry', Routledge, London, p188 – 209.

Haugland, S. A. and Reve, T., (1994), 'Price, Authority and Trust in International Distribution Channel Relations', *Scandinavian Journal of Management*, 10.3, p225–244.

Higgin, G. and Jessop, N., (1965), 'Communications in the Building Industry', Tavistock, London.

Hillebrandt, P. M., (1984), 'Analysis of the British Construction Industry', Macmillan, London.

Hines, P., (1994), 'Creating World Class Suppliers: Unlocking Mutual Competitive advantage', London, Pitman.

Hines, P., Lamming, R., Jones, D., Cousins, P. and Rich, N., (2000), 'Value Stream Management: Strategy and Excellence in the Supply Chain', FT Prentice Hall, London.

Hingley, M. K., (2005), 'Power to all our Friends? Living with imbalance in supplier – retailer relationships', *Industrial Marketing Management*, 34. p848 -858.

HM Treasury, (2003), 'PFI; Meeting the Investment Challenge', HMSO, Norwich.

Ho, D. Y. F., (1991), 'Relational orientation and methodological rationalism', *Bulletin of the Hong Kong Psychological Society*, 26.27, p81-95.

Holstrom. B. & Milgrom, P. (1987), 'Aggregation and linearity in the provision of inter-temporal incentives', *Econometrica*, p303–328.

Holmstrom, B. and Roberts, J., (1998), 'The Boundaries of the Firm Revisited', *Journal of Economic Perspectives*, 12.4. p73-94.

Huemer, L., Bostrom, G. and Felzenstein, C., (2009), 'Control – Trust Interplays and the Influence Paradox: A Comparative Study of MNC – Subsidiary Relationships', *Industrial Marketing Management*, 38. p520–528.

Hughes. D, Williams. T, Ren. Z, (2012) 'Differing perspectives on collaboration in construction', *Construction Innovation*, 12.3, p355 – 368.

Humphreys, P., Mathews, J. and Kumaraswamy, M., (2003), 'Pre-Construction Project Partnering: from Adversarial to Collaborative Relationships', *Supply Chain Management*, 8.2. p166 -178.

Ireland, R. D., Hitt, M. A. and Vaidyanath, D., (2002), 'Alliance Management as a Source of Competitive Advantage', *Journal of Management*, 28.3. p. 413-446.

Ive, G. L. and Gruneberg, S. L., (2000), 'The Economics of the Modern Construction Sector', Macmillan, Basingstoke.

Ive, G. L. and Chang, C.Y., (2007), 'The Principle of Inconsistent Trinity in the Selection of Procurement Systems', *Construction Management and Economics*, 25.7. p677-690.

Jäger, C., (2008), 'The Principal-Agent Theory within the Context of Economic Sciences', Norderstadt, Herstellung und Verlag, Books on Demand GmbH.

Jap, S. D. and Ganesan, S., (2000), 'Control Mechanisms and the Relationship Life Cycle: Implications for Safeguarding Specific Investments and Developing Commitment', *Journal of Marketing Research*, 37.2. p227–245.

Jeffries, F.L. and Reed. R., *(2000),* 'Trust and Adaptation in Relational Contracting', *Academy of Management Review*, 25 .4. p873-882.

Jensen, M. C. and Meckling, W. H., (1976), 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure', *Journal of Financial Economics*, 3. 4. p305-360.

Johnson, W. C., Chinuntdej, N. and Weinstein, A., (1999),' Creating value through customer and supplier relationships', IMP Conference, Dublin.

Jong, G. de and Klein Woolthuis, R.J.A., (2009), 'The Role and Content of Formal Contracts in High-tech Alliances', *Innovation: Management, Policy and Practice,* 11.1. p44-59.

Joshi, A. W. and Stump, R. L., (1996), 'Supplier Opportunism: Antecedents and Consequences in Buyer and Supplier Relationships', Summer AMA Educators' Proceedings, p129-135.

Joskow. P. L., (1987). 'Contract duration and relationship-specific investments: empirical evidence from coal markets', *American Economic Review*, p168 -185.

Kale, P., Singh, H. and Perlmutter, H., (2000), 'Learning and Protection of Proprietary Assets in Strategic Alliances: Building Relational Capital', *Strategic Management Journal,* 21.3. p217-237.

Kahkonen, A-K., (2014), 'The influence of Power Position on the Depth of Collaboration', *Supply Chain Management,* 19.1. p17-30.

Kähkönen, A.K., Lintukangas, K. and Hallikas, J., (2015), 'Buyer's dependence in value creating supplier relationships', *Supply Chain Management: An International Journal*, 20.2. p151-162.

Kim, K.K., Park, S.H., Ryoo, S.Y., and Park, S.K., (2010), 'Inter-organizational cooperation in buyer–supplier relationships: Both perspectives', *Journal of Business Research*, 63.8, p863–869.

Klein. B. (1996), 'Why hold-ups occur: the self-enforcing range of contractual relationships', *Economic Inquiry*, 34. p444-463

Knight, F.H., (1921), 'Risk, Uncertainty and Profit', Bostin and New York: Houghton Mifflin.

Ko de Ruyter, Moorman, L. and Lemmink, J., (2001), 'Antecedents of Commitment and Trust in Customer–Supplier Relationships in High Technology Markets', *Industrial Marketing Management,* 30. p271–286.

Kuhn, T.S., (1970), 'The Structure of Scientific Revolutions', University of Chicago Press.

Krapfel, R.E., Salmond D., and Spekman R., (1991), 'A Strategic Approach to Managing Buyer-Seller Relationships', *European Journal of Marketing*, 25.9. p72-82.

Langfield-Smith, K. and Smith, D., (2003), 'Management Control and Trust in Outsourcing Relationships', *Management Accounting Research,* 14. p281 -307

Lamming, R.C., Caldwell, N.D., Harrison, D. A. and Philips, W., (2001), 'Transparency in Supply Chain Relationships: Concept and Practice', *Journal of Supply Chain Management,* 37.3. p4-10.

Lamming R. (1993), 'Beyond Partnerships: Strategies for Innovation and Lean Supply (Manufacturing Practitioner)', Prentice Hall.

Latham, M., (1994), 'Constructing the Team: Joint Review of Procurement and Contractual Arrangements in the United Kingdom Construction Industry', HMSO, UK.

Lawson, B., Petersen, K., J., Cousins, P. D. and Handfield, R. B., (2009), 'Knowledge Sharing in Inter-organizational Product Development Teams: The Effect of Formal and Informal Socialization Mechanisms', *Journal of Product Innovation Management,* 26. p156–172.

Leiringer, R., Green, S.D and Raja, J. (2009), 'Living up to the Value Agenda: the Empirical Realities of Through-life Value Creation in Construction', Construction Management and Economics, 27.3. p271-285.

Lenard, D.J., Bowen-James, A., Thompson, M. and Anderson, L., (1996), 'Partnering - Models for Success', Adelaide: Construction Industry Institute Australia (CIIA).

Lewis, J. D. and Weigert, A., (1985), 'Trust as a Social Reality', *Oxford Journals, Social Sciences, Social Forces,* 63.4. p967-985.

Luck, R., (1996), 'Construction Project Integration Strategies', Department of Construction Management and Engineering, University of Reading.

Liu, Y., Luo, Y. and Liu, T., (2009), 'Governing Buyer-Supplier Relationships through Transactional and Relational Mechanisms: Evidence from China', *Journal of Operations Management,* 27. p294-309.

Lonsdale, C., Sanderson, J., Watson, G. R., Peng, F. (2014), 'Beyond Intentional Trust: Supplier Opportunism and Management Control Mechanisms in Public Sector Procurement and Contracting', *Policy & Politics.*

Lonsdale, C., (2005), 'Post-contractual Lock-in and the UK Private Finance Initiative: The Cases of National Savings and Investments and the Lord Chancellor's Department', *Public Administration***,** 83.1. p67-88.

Lonsdale, C., (2001), 'Locked-in to Supplier Dominance: On the Dangers of Asset Specificity for the Outsourcing Decision', *Journal of Supply Chain Management***,** 37.2. p22-27.

Lui, S. S. and Ngo, H-Y., (2004), 'The Role of Trust and Contractual Safeguards on Cooperation in Non-equity Alliance', *Journal of Management,* 30.4. p471-485.

Luo, Y., (2002), 'Contract, Cooperation, and Performance in International Joint Ventures', *Strategic Management Journal,* 23.10. p903–919.

Lyons, B. and Metha, J., (1997), 'Contracts, Opportunism and Trust: Self-Interest and Social Orientation', *Cambridge Journal of Economics,* 21.2. p239-257.

Mabey, C. and Finch-Lees, T., (2008), 'Management and Leadership Development', SAGE.

Macaulay, S., (1963), 'Non-contractual Relations in Business: A Preliminary Study', *American Sociological Review,* 28, p55-67.

Macneil, I., (1980), 'The New Social Contract', New Haven, CY, Yale University Press.

Malhotra, D. and Murnighan, J. K., (2002), 'The Effects of Contracts on Interpersonal Trust', *Administrative Science Quarterly***,** 47. 3. p534-559.

Marr, A., (2007), 'A History of Modern Britain', Macmillian, London.

Mathews, B. and Ross, L., (2010), 'Research Methods: A Practical Guide for the Social Sciences', Longman.

McDonald, F., (1999), 'The importance of power in partnership relations', *Journal of General Management',* 25.1. p43-59.

McGuinness, T., (1994), 'Markets and Managerial Hierarchies', In G. Thompson, et al. (Eds.), Markets, Hierarchies and Networks, SAGE, London, England, p66-81.

Meehan, J. and Wright, G. (2011). Power priorities: a buyer-seller comparison of areas of influence. *Journal of Purchasing and Supply Management,* 17, p32-41.

Milgrom, P. R. and Roberts, J., (1992), 'Economics. Organisation and Management', Prentice Hall.

Miller, G. J. and Whitford A. B. (2007), 'The Principal's Moral Hazard: Constraints on the Use of Incentives in Hierarchy', *Journal of public administration research and theory*, 17.2. p213 -233.

Min, S., Roath, A. S., Daugherty, P. J., Genchev, S. E., Chen, H., Arndt, A. D., and Richey, G. R., (2005), 'Supply chain collaboration: What is happening?', *International Journal of Logistics Management*, 16. 2, p237–256.

Mitnick. B., (1975), 'The theory of agency: the policing paradox and regulatory behaviour', *Public Choice*, p27-42.

Monbiot, G., (2000), 'Captive State: The Corporate Takeover of Britain', Macmillan, London.

Mohr, J. and Spekman, R., (1994), 'Characteristics of partnership success: partnership attributes, communication behaviour, and conflict resolution techniques', *Strategic management journal*, 15.2. p135-152.

Moorman, C., Zaltman, G. and Deshpande, R., (1992), 'Relationships between Providers and Users of Market Research; The Dynamics of Trust Within and Between Organisations', *The Journal of Marketing and Research*, 29.3. p314 -328.

Morgan, D.L., (1998), 'Practical strategies for combining qualitative and quantitative methods: Applications to health research', *Qualitative health research*, 8.3., p362-376.

Morgan, R. and Hunt, S., (1994), 'The Commitment-Trust Theory of Relationship Marketing', *Journal of Marketing,* 58.3. p20-38.

Murray, M. and Langford, D., Ed. (2003), 'Construction Reports - 1944-98'. Oxford, Blackwell.

Ndekugri, I. and Corbett, P., (2004), 'Supply Chain Integration in Construction by Prime Contracting: Some Research Issues', Proceedings of the RICS Foundation's International Construction and Building Research Conference, COBRA.

NEDO (1988), 'Faster Building for Commerce', National Economic Development Office, HMSO, London.

NEDO (1983), 'Faster Building for Industry', National Economic Development Office, HMSO, London.

Ness, H. and Haugland, S.A., (2005), 'The Evolution of Governance Mechanisms and Negotiation Strategies in Fixed-Duration Inter-firm Relationships', *Journal of Business Research,* 58. p1226-1239.

NIEP for the Built Environment, (2011), 'The Benefits'.

Nooteboom, B., (1996), 'Trust, Opportunism and Governance: A Process and Control Model', *Organisation Studies,* 17.6. p985-1010.

Nyaga, G.N., Lynch, D.F., Marshall, D. and Ambrose, E., (2013), 'Power asymmetry, adaptation and collaboration in dyadic relationships involving a powerful partner', *Journal of Supply Chain Management,* 49.3. p42-65.

Palmatier, R.W., Dant, R.P. and Grewal, D., (2007), 'A comparative longitudinal analysis of theoretical perspectives of interorganizational relationship performance', *Journal of marketing,* 71.4. p172-194.

Parker, D. and Hartley, K., (1997), 'The Economics of Partnership Sourcing Versus Adversarial Competition: A Critique', '*European Journal of Purchasing and Supply Management',* 3.2. p115–125.

Parkhe, A., (1993), 'Understanding Trust in International Alliances', *Journal of World Business,* 33. p219 -240.

Pawson, R. and Tilley, N., (1997), 'Realistic Evaluation', SAGE.

Perry,C., (1998), 'Processes of a case study methodology for post graduate research in marketing', *European Journal of Marketing,* 32.9.10. p785-802.

Pfeffer, J., (1981), 'Power in Organisations', Pitman.

Phillips, (1949), 'Working Report to the Minister of Works', HMSO, London.

Phua, F. T. T., (2006), 'When is Construction Partnering Likely to Happen? An Empirical Examination of the Role of Institutional Norms', *Construction Management and Economics,* 24. p615-624.

Pilcher, R., (1992), 'Principles of Construction Management', McGraw–Hill.

Pollock, A., Shaoul, J., Rowland, D. and Player, S., 'Public Services and the Private Sector: A response to the IPPR', Working Paper, Catalyst, London.

Poppo, L. and Zenger, T., (2002), 'Do Formal Contracts and Relational Governance Function as Substitutes or Complements?' Strategic *Management Journal*, 23.8. p707-725.

Porter, M.E., (1985), 'Competitive advantage: Creating and sustaining superior performance', New York: Free Press.

Provan, K. G. and Gassenheimer, J. B., (1994), 'Supplier Commitment in Relational Contract Exchanges with Buyers: A Study of Interorganisational Dependence and Exercised Power', *Journal of Management Studies,* 31.1. p55-68.

Public Services Privatisation Research Unit, (1997), 'Private Finance Initiative: Dangers, Realities, Alternatives', PSPRU, London.

Rahmana A.H., Enduta, I.R., Faisola,N. and Paydar S., (2014), 'The Importance of Collaboration in Construction Industry from Contractors' Perspectives', *Procedia - Social and Behavioral Sciences,* 129, p414 – 421.

Rajan, R. G. and Zingales, L., (1998), 'Power in a Theory of the Firm', *Quarterly Journal of Economics,* 113.2. p387-432.

Reuer, J. J. and Arino, A., (2002), 'Contractual Renegotiations in Strategic Alliances', *Journal of Management,* 28.1. p47-68.

Reve, T., (1990), 'The Firm as a Nexus of Internal and External Contracts', In: Aoki, M. Gustafsson, B., Williamson, O.E., 'The Firm as a Nexus of Treaties', SAGE.

Ring, P. S and Van de Ven, A. H., (1992), 'Structuring Cooperative Relationships Between Organizations', *Strategic Management Journal*, 13. p483-498.

Ring, P.S., Van de Ven, A. H., Angle, H., and Poole, M. S., (1989*),* 'Research on the Management of Innovation', *The Minnesota Studies,* p171-192.

Ritchie, J. and Lewis, J., (2003), 'Qualitative Research Practice: A Guide for Social Science Students and Researchers', SAGE.

Rokkan, A.I., Heide, J.B., & Wathne, K.H., (2003), 'Specific investments in marketing relationships: Expropriation and bonding effects', *Journal of Marketing Research,* 40.2. p210–224.

Rudolph, P., (2001), 'What supply chain do you want to be in?', IPSERA conference, Sweden, p765-775.

Rosenfeld, Y. and Geltner, D., (1991), 'Cost-Plus and Incentive Contracting: Some False Benefits and Inherent Drawbacks', *Construction Management and Economics,* 9.5. p481-490.

Ross, S., (1973), 'The economic theory of agency: The principal's problem', *American Economic Review*, 63, p134-139.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., and Camerer, C., (1998), 'Not so Different After All: A Cross-Discipline View of Trust', *Academy of Management Review*, 23, p393–404.

Sako, M., (1992), 'Inter-firm Relations in Britain and Japan: Prices, Quality and Trust', Cambridge University Press.

Saunders, M., Lewis, P.and Thornhill, A., (2000), 'Research methods for business students'. 2nd edition. Harlow, Pearson Education.

Sanderson, J., (2009), 'Buyer-Supplier Partnering in UK Defence Procurement: Looking Beyond the Policy Rhetoric', *Public Administration: An International Quarterly*, 87. p327-350.

Sanderson, J., (2008), 'The Challenges of Supply Strategy Selection in a Project Environment: Evidence from UK Naval Shipbuilding', *Supply Chain Management: An International Journal*, 13. 1. p16-25.

Schary, P.B. and Skjott-Larsen, T., (2001), 'Managing the Global Supply Chain', Copenhagen Business School Press, Denmark.

Simon, E., (1944), 'The Placing and Management of Contracts', HMSO, London.

Simon, H. A., (1957), 'Models of Man: Social, Rational, Mathematical Essays on Rational Human Behaviour in a Social Setting', New York: John Wiley.

Simon, H., (1997), 'Decision-Making Processes in Administrative Organizations', *Administrative Behaviour*, 4. p70–71.

Skelcher, C., (2005), 'Public-Private Partnerships and Hybridity', in E. Ferlie, L. Lynn and C. Pollitt. 'Oxford Handbook of Public Management', Oxford: Oxford University Press.

Shaoul, J., Stafford, A. and Stapleton, P., (2008), 'The Cost of Using Private Finance to Build, Finance and Operate Hospitals', *Public Money and Management*, 28.2. p. 101-108.

Smith, J.K. and Heshusius, L., (1986), 'Closing Down the Conversation: the End of the Quantitative-Qualitative Debate among Educational Inquirers', *Educational Researcher*, 15.1. p4-12.

Smith, J.K., (1983), 'Quantitative Versus Qualitative Research: An Attempt to Clarify the Issue', *Educational Researcher*, 15. p4-12.

Spackman, M. 2002. 'Public-Private Partnerships: Lessons from the British Approach', Economic Systems, 26, p283–301.

Stake, R. E., (1995), 'The art of case study research'. Sage.

Stannack, P., (1996), 'Perspectives on employees performance', *Management review news*, 19. 4.5. p38-40.

Stephens, K.J., Fulk, J., and Monge,P.R., (2009), 'Constrained choices in alliance formations: Cupids and organizational marriages', Human Relations, 62.4. p501–536.

Strategic Forum, (2012), 'Accelerating Change', Rethinking Construction, London.

Terpend, R., and Ashenbaum, B., (2012), 'The intersection of power, trust and supplier network size: Implications for supplier performance', *Journal of Supply Chain Management*, 48.3. p52–77.

Teisman, G.R. and Klijn, E.H., (2004), 'Public Private Partnership: The Right Form at the Wrong Moment? An Analysis of Institutional and Strategic Obstacles' In A. Ghobadian, D., Gallear, N., O'Regan and Viney, H., (Eds.), *Public Private Partnerships; Policy and Experience*, Houndmills, p147-161.

Thorne, A. and Meehan, J., (2005), 'Change management: Enabling or constraining action', *International Journal of Knowledge Culture and Change Management, 5*.7. p101-110.

Wang, Q, Xu, J., Weitz, B., (2008), 'Creativity in Buyer Supplier Relationships: Detailed Contract Drafting and Close Partner Selection, *Journal of Marketing*, 69, p 103-117.

Watson, G., (2001), 'Sub regimes of Power and Integrated Supply Chain Management', *The Journal of Supply Chain Management*, 37.2. p36- 41.

Wicks, A. C., Berman, S. L. and Jones, T. M., (1999), 'The Structure of Optimal Trust: Moral and Strategic Implications', *The Academy of Management Review*, 24.1. p99-116.

Williamson, O. E., (1985), 'The Economic Institutions of Capitalism: Firms, Market, Relational Contracting', The Free Press, New York.

Williamson. O. E., (1979), 'Transaction cost economics: the governance of contractual relations'. *Journal of Law and Economics*, 22. p233-261.

Williamson, O. E., (1975), 'Markets and Hierarchies: Analysis and Antitrust Implications', The Free press, New York.

Williamson, O. E. and Ouchi, W. G., (1983), 'The Markets and Hierarchies Programme of Research: Origins, Implications, Prospects', in Francis, A., Turk, J. and Willman, P. (eds.), 'Power, efficiency and institutions', London, Heinemann.

Winch, G. M., (2010), 'Managing Construction Projects', Wiley.

Winch, G H., (2002), 'How Innovative is Construction? Comparing Aggregated Data on Construction Innovation and Other Sectors, a Case of Apples and Pears', Construction *Management and Economics*, 21. p651-654.

Winch, G. M., (2001), 'Governing the Project Process: a Conceptual Framework', *'Construction Management and Economics*', 19.8. p799 -808.

Winch, G. M., (1989), 'The Construction Firm and the Construction Project: A Transaction Cost Approach', *Construction Management and Economics,* 7. p331-345.

Wolstenholme, A., (2009), 'Never Waste a Good Crisis- a Review of Progress since Rethinking Construction and thoughts for the future', Constructing Excellence, London, UK.

Wood, K., (1975), 'The Public Client and the Construction Industries', HMSO, London.

Wood, G.D. and Ellis, C.T., (2005), 'Main Contractor Experiences of Partnering Relationships on UK Construction Projects', *Construction Management and Economics,* 23.3. p317-325.

Wuyts, S. and Geyskens, I., (2005), 'The Formation of Buyer—Supplier Relationships: Detailed Contract Drafting and Close Partner Selection', *Journal of Marketing,* 69.4. p103-117.

Van Weele, A.J. and Rozemeijer, F.A., (1999), 'The role of power in partnership relationships: An empirical investigation of current body of knowledge'.

Yan, A. and Gray, B., (2001), 'Negotiating Control and Achieving Performance in International Joint Ventures: A Conceptual Model', *Journal of International Management,* 7. p295–315.

Yin, R. K., (1989), 'Case Study Research: Design and Methods', SAGE.

Yisa, S., Ndekugri, I. and Ambrose, B., (1996), 'A Review of Changes in the UK Construction Industry: Their Implications for the Marketing of Construction Services', *European Journal of Marketing,* 30.3. p47-64.

Yovovich, B. G., (1991), ' Hand in glove relationships', *Business Marketing,* April, p30-21.

Zacharia, Z. G., Nix, N. W., and Lusch, R. F., (2009), 'An analysis of supply chain collaborations and their effect on performance outcomes', *Journal of Business Logistics,* 30.2, p101–123.

Zemanek, J. E. and Pride, W. M., (1996) 'Distinguishing between manufacturer power and manufacturer salesperson power', *Journal of Business & Industrial Marketing,* 11.2. p20 – 36.

Zheng J., Roehrich J.K., and Lewis M.A., (2008), 'The Dynamics of Contractual and Relational Governance: Evidence from Long-Term Public-Private Procurement Arrangements', *Journal of Purchasing and Supply Management,* 14.1. p43-54.

Zucker, L. G., (1986), 'Production of Trust: Institutional Sources of Economic Structure, 1840-1920', *Research in Organizational Behaviour,* 8. p53-111.

Appendices

Appendix 1 – Information Sheet

Appendix 2 – Consent Form

Appendix 3 - List of Interviewees

Appendix 4 – Buyer Project Questionnaire

Appendix 5 – Supplier Project Questionnaire

Appendix 6 – Buyer Strategic Group Questionnaire

Appendix 7 – Supplier Strategic Group Questionnaire

Appendix 1



UNIVERSITY OF BIRMINGHAM

Information Sheet

Research Topic. The proposed research topic is on whether collaborative working in the construction industry has delivered the benefits that were expected for the clients. The research is based on a case study of the Birmingham Construction Partnership from which three individual projects have been selected for detailed analysis

What will the research involve? The research will involve a series of interviews and questionnaires together with analysis of data from project records.

Why have you been asked to take part? You have been asked because you played a part and will have knowledge in one or all of the projects identified and will be in a position to participate in the interviews

Do you have to take part? Participation is voluntary. If you agree to participate you'll sign a consent form, and you'll get to keep a copy of this information sheet and the consent form. You can withdraw at any time even if you have agreed at first to participate. You can withdraw your permission to use your interview within two weeks of the interview; if you withdraw permission, then the interview will be permanently deleted.

Will your participation in the study be kept confidential? Yes. I will ensure that no clues to your identity appear in the thesis. Any extracts from what you say that are quoted in the thesis will be entirely anonymous.

Because participation is completely voluntary, you may stop the interview at any time or skip any question you do not feel comfortable answering.

What will happen to the information which you give? The data will be kept confidential for the duration of the research. On completion of the thesis, the data will be retained for a further six months and then destroyed.

What will happen to the results? The results will be presented in my thesis. They will be seen by my supervisor, a second marker and the external examiner. The thesis may be read by future students on the course. The study may be published in an academic journal. I

Who has reviewed this study? Approval must be given by the University of Birmingham's Humanities and Social Sciences Ethical Review Committee before studies like this can take place, and this approval has been granted to this study.

Any further queries? If you need any further information, you can contact me: Adrian Rowlands on [redacted] or speak to my Supervisor Dr Joe Sanderson on [redacted]

If you agree to take part in the study, please sign the consent form

Appendix 2



UNIVERSITY OF BIRMINGHAM

Birmingham Business School

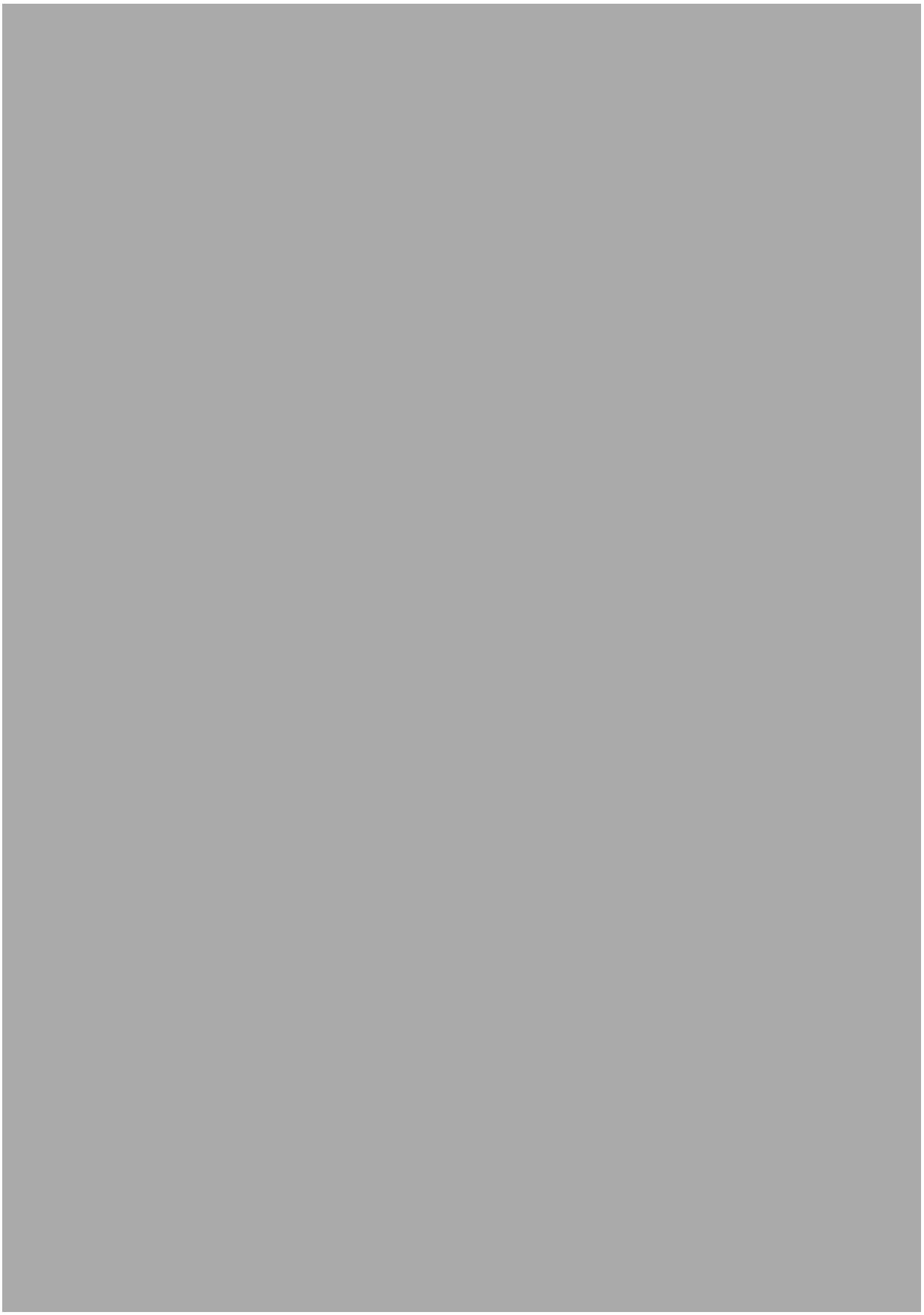
CONSENT FORM

Project **How Effective is Collaboration in Construction**
Course **Doctorate in Business Administration**
Researcher **Adrian Rowlands**

		Please Initial Box
1)	I confirm I have read and understood the information sheet on the study and have had the opportunity to ask questions	
2)	I understand that my participation is voluntary and that I a m free to withdraw at any time without reason	
3)	I agree to take part in the above study	
4)	I agree to the interview/ consultation being recorded	
5)	I agree to the use of anonymised quotes from my interview being used in reports and final thesis on this study	

Name of Participant
Signature
Date

Appendix 3 - List of Interviewees





Appendix 4



UNIVERSITY OF BIRMINGHAM

A S Rowlands
Student No [redacted]

Buyer Question sheet

Project :	
No	
Interviewee Name :	
Interview No	
Date :	
Role on Project:	
Information sheet explained	
Consent form Signed	

Notes:-

1 - Independent Variable

Question Sheet for Buyer Utility

Background Notes

The importance of utility relates to the degree to which a particular resource is indispensable to the firm. In other words is this resource very important to the buyer both at a strategic level and also at an operational level

What this means is that strategically this project is very important to the overall clients ability to carry out its business. Operational importance means that the project is important to deliver that particular service/ function but is not critical to clients overall business.

Question Sheet for Buyer Utility – Q Ub			
Question 1			
How important was this project to the client at an operational level?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			The project was vital to the clients operation and it was critical that it was completed on time
2			The project was very important but temporary alternatives could be found
3			The project was not critical but alternative solutions could not be easily found
4			The project was not critical to the operation and alternative solutions could be easily found
Notes:- ‘			
Question 2			
How critical was the project to the Councils ability to deliver its service to the public?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			The project was critical to the Councils ability to deliver its service to the public

2			The project was critical but temporary alternatives could be found
3			The project was not critical but alternative solutions could not be easily found
4			The project was not critical to the Council and alternative solutions could be easily found
Notes:- ‘			
Question 3			
How vulnerable was the client if this project failed? i.e. what would happen if this project was not built?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			Very vulnerable both at an operational level and a reputational level
2			Very vulnerable from an operational level but this would be largely an internal issue (i.e. not a reputation issue)
3			Not very vulnerable as alternative solutions could be found but at a significant cost
4			Not vulnerable either reputation or operationally with easy alternatives available at low cost
Notes:- ‘			
Question 4			
How important was this project in terms of the overall framework			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			It was an important project that made up a substantial part of the workload for the framework
2			It was an important project in the framework with a high profile although its value was relatively low
3			It was a low profile/ low value project but was the first of a programme of potential further work
4			It was a very small project which had no importance
Notes:- ‘’			
Question 5			

How would the reputation of the Council be affected if this project was not built or delayed?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			Very damaging to the reputation of the Council both locally and nationally
2			Damaging to the reputation but generally only at a local/ regional level
3			Some reputation damage but short term
4			No impact on the Council – either locally or nationally
Notes:- ‘			

Total score for Buyer Utility – Q Ub		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Total Score = **Sum of the scores/ No of questions**	**/5=**	**/5 =**

2 - Independent Variable

Question Sheet for Buyer Scarcity

Background Notes

Scarcity will be determined by the imitability or substitutability In other words the resources the buyer wishes to acquire is relatively easy and cheap to imitate or substitute and is readily available from a large number of firms then this resource is said to have a low scarcity value
If resources are difficult or expensive to imitate or substitute then the number of firms able to offer the resource is likely to be restricted. This will mean the resource will have a high scarcity value
The key point is how many credible alternatives are there for the buyer either from within the existing framework or bringing someone else in or by doing it a different way?

Question Sheet for Buyer Scarcity -Q Sb			
Question 1			
Was there genuine competition from within the existing supply base i.e. either within the BCP framework (3 contractors) or within the supply chain?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			There was no genuine competition
2			The only real competition was in the sub packages of the supply chain
3			There was some degree of competition but it was limited
4			Yes there was lots of options/ competition both within the BCP and the supply chain
Notes:- ‘’			
Question 2			
Could new contractors be easily brought in to the framework or supply chain to add/ replace existing contractors?			

Score	Beginning of the Project	At the end of the Project	Criteria
1			Very difficult and expensive to bring in new framework or supply chain contractors
2			Very difficult to bring in new framework contractors but relatively easy to bring in new supply chain contractors
3			New framework contractors can be brought in but at some cost – supply chain substitutes can be brought in easily
4			New suppliers both on the framework and in the supply chain can easily be brought in
Notes:- ‘’			
Question 3			
Could the work be easily procured or organised in a completely different way (i.e. via a PFI etc.)?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			It would very difficult and expensive with few available resources to achieve alternative delivery models
2			Can be done but is complicated and takes a long time
3			Can be done easily but would take a lot of resources
4			The work be easily procured or organised in a completely different way
Notes:- ‘’			
Question 4			
Did the client feel they had any credible alternatives or choices in terms of alternative suppliers?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
1			No credible alternatives or choices were available
2			There were some alternatives but the choice was very limited
3			There were a number of alternatives and choices but not very credible

4			There were many credible choices and alternatives available
Notes:- ‘			

Total score for Buyer Scarcity -Q Sb		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Total Score = **Sum of the scores/ No of questions**	**/4=**	**/4=**

3 - Independent Variable

Question Sheet for Buyer Information

Background Notes

Information is important to the balance of power, if one party has it and the other doesn't then this can be exploited. Often information is split into public information and private information. Public information is generally available and can be obtained at little cost. Private information is usually hidden and is only available to one of the contracting parties. Part of the consideration of information is how easy it is to obtain the information both from a resource point of view but also from an ease of access perspective

Question Sheet for Buyer Information – Q Ib			
Question 1			
How much did the client know about the true construction costs i.e. the suppliers costs?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very knowledgeable with a good understanding of construction costs and able to interrogate and question contracts
3			Some knowledge of overall value but not sufficient detail to interrogate costs
2			Good understanding of construction but no knowledge of cost
1			No understanding of construction or of costs
Notes:- ''			
Question 2			
How much did the client know of the value of the project and the framework to the supplier? i.e. did the buyer know whether this was an important project for the supplier?			

Score	Beginning of the Project	At the end of the Project	Criteria
4			The client had a very good understanding of the importance of the is project to the contractor and the value of that knowledge
3			The client had a good understanding of the importance but didn't really know what this meant in terms if its usefulness
2			The client only had a limited knowledge of the contractor's position with little understanding of the value of that knowledge
1			The client had no understanding of the importance of the project to the contractor
Notes:- ''			
Question 3			
How easy was it to find information about other suppliers?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very easy with a good mature market place with lots of available accessible information on other potential suppliers
3			Good mature market place with plenty of information but not readily available
2			Limited information on potential alternative suppliers and difficult to obtain
1			Very difficult to obtain any information
Notes:- ''			
Question 4			
How much information on the projects budgets, resources, importance etc. was public as opposed to been private?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**

4			All the key information was kept private with cabinet reports containing this information taken under the private agenda
3			Some information was available in the public domain / some was kept private
2			Limited headline information is in the public domain but no detail
1			All the information was available and in the public domain
Notes:- ‘’			
Question 5			
How much resources were available to the client to research information?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Significant financial and people resources we available to research information
3			Limited resources were available to spend as necessary
2			Limited resources were available but required approval and also not sufficient time to research
1			No resources were available
Notes:- ‘’			
Question 6			
How easy was it to research information on the supplier / project i.e. was it available or difficult to obtain?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was lots of information available and it was very easy to obtain
3			There was lots of information available but was only available after considerable research
2			There was limited info available which was difficult to research and obtain
1			There was limited available info which was difficult to research and obtain

Notes:- ‘’			
Question 7			
Was there sufficient time even with adequate resources to carry out research within the project timescales?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was plenty of time to carry out considered and in depth research
3			There was enough time to carry some research but only in selected areas
2			Time was limited and only a very high level of information gathering could be carried out
1			There was insufficient time to carry out any research
Notes:- ‘’			
Question 8			
How much information did the client know about the industry, market conditions and reputations of the firms involved?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The client was fully informed about the current market conditions and the reputations of the company’s involved.
3			The client had a very good understanding of the market in general but not of the contractor’s reputation
2			The client has some understanding of the market and the current conditions but nothing of the reputation of the company involved
1			The client knows nothing about the industry or the current market conditions or of the reputation of the company involved
Notes:- ‘’			
Other Questions			

Total score for Buyer Information – Q Ib		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Question 8		
Total Score = Sum of the scores/ No of questions		

4 - Intervening Variable

Question Sheet for Buyer - Extent of Collaboration

Background Notes

This was about the readiness of the buyer/ supplier to work together to resolve problems. In other words the ability to comprise and reach solutions without reverting back to a contractual /adversarial relationship which in turn draws down a significant amount of the clients and contractors time. This invariably means less efficient products/ service since teams are not prepared to work together. It also meant more energy and time are spent fighting each other with less potential for the buyer and less profit for the supplier.

Question Sheet for Buyer Collaboration Q Coll b			
Question 1			
How much collaboration has taken place on this project?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the project
3			There was evidence of collaboration taking place but it was not in all aspects of the project
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘’			
Question 2			
How much collaboration has taken place on the framework overall?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the framework

3			There was evidence of collaboration taking place but it was not across all areas of the framework
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘ ’			
Question 3			
Did the buyer consider there was evidence of collaboration taking place? I.e. better team working, greater transparency of costs, info etc., sharing of best practice etc.?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the project
3			There was evidence of collaboration taking place but it was not across all areas of the project
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘ ’			
Question 4			
How much has collaborative working contributed to improving performance on the project – i.e. improvement in cost programme quality etc.? Is there much evidence to support this?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There has been significant improvements in performance as a result of better working with a lot of evidence to back this up
3			There has been some improvements in performance with some examples that collaboration has brought about improvements
2			There has only been limited evidence
1			There has been no evidence of improvements in performance

Notes:- ‘’			
Question 5			
Was it perceived by either the buyer or supplier that a position of power affected how much collaboration took place?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No impact at all on the level of collaboration taking place with both parties been willing players with power having no effect
3			Good collaboration with power only having a marginal affect
2			Collaboration was taking place but was influenced by the impact of power
1			The extent of collaboration was closely linked to the level of power by either party
Notes:- ‘’			
Question 6			
Were there many examples of where the contractor chose not to collaborate and there was little that could be done about it?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There were no examples
3			There a few limited examples
2			There were examples but not across all areas
1			There was a many examples of where the contractor choose not to collaborate
Notes:- ‘’			
Question 7			
Overall was there much evidence of the supplier collaborating with the other suppliers both in the supply chain and in the framework to improve performance?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**

4			There was significant evidence of close and extensive collaboration taking place across all aspects of the project between other contractors and in the supply chain
3			There was evidence of collaboration taking place but it was not between all contractors and in all areas
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘’			

Question Sheet for Buyer Collaboration Q Coll b		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Total Score = **Sum of the scores/ No of questions**		

5 - Dependent Variable
Question Sheet for Buyer - Cost Benefits

Background Notes

This was high on the list of expected benefits as it was anticipated that by working together in a non-adversarial manner much greater efficiencies could be generated which would produce cost benefits – Therefore a high score would mean that the collaboration is working well producing financial benefits and that the buyer is gaining the majority of these financial benefits. A low score would mean that that the collaboration is producing benefits but that the supplier is taking them all or that benefits are not being generated. One key question is whether there is visibility on the actual benefits generated i.e. are benefits been hidden or transferred to other parts of the business?

Question Sheet for Buyer Cost benefits - Q CBb			
Question 1			
Was the cost of the project at market rate for that type of construction (price per square metre?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Costs were highly competitive and at market rate
3			Costs were broadly in line with market conditions
2			Costs were slightly above market rates
1			Costs were very uncompetitive and bore no resemblance to market conditions
Notes:- ‘’			
Question 2			
Was the cost value for money?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Costs were very good value for money and performed highly

			when benchmarked against national standards
3			Costs were good value for money although were slightly below national benchmarks
2			Costs were not particularly god value for money and were slightly below national benchmarks
1			Costs were very uncompetitive against national benchmarks and were poor value for money
Notes:- ‘’			
Question 3			
Was the project delivered to the original budget?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was delivered below budget
3			The project was delivered to budget
2			Project was delivered slightly above budget
1			Project was considerably over budget
Notes:- ‘’			
Question 4			
Was there a pain gain outcome? If so how much?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was considerable significant variation from the original budget with the contractor taking a large pain
3			The project was close to budget with the contractor taking a small pain
2			The project was close to budget with the contractor taking a small gain
1			There was considerable significant variation from the original budget with the contractor taking a large gain
Notes:- ‘’			
Question 5			

Was it possible to maximise overheads, prelims etc. on BCP jobs so has to make minimal profit on BCP work but by spreading the overheads from other jobs onto BCP work make those other non BCP schemes more profitable? If so was the client aware of this?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No the costs were clearly monitored and financial checks were in place to prevent this from happening
3			There was no evidence this was happening although the financial checks were fairly minimal
2			There a large amount of circumstantial evidence to suggest this practice may have been taking place.
1			There a large amount of circumstantial evidence to suggest this practice was taking place and there were insufficient checks and monitoring to know whether this was happening
Notes:- ‘’			
Question 6			
Were compensation events given and if so did this generally put up the value of the project or down?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Compensation events were issued that reduced the project cost
3			Only a few compensation events were issued which reduced the cost marginally
2			Only a few compensation events were issued which increased the cost marginally
1			Compensation events were issued that increased the project cost
Notes:- ‘’			
Question 7			

Did the pain gain arrangement incentivise performance?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant increase in performance which was linked to the amount of pain gain achieved
3			There was some increase in performance and some minor pain gain adjustments
2			There was some increase in performance although this was not linked to pain gain
1			There was no evidence of improvement in performance despite any pain gain
Notes:- ‘’			
Question 8			
Did you feel there was potential for the target cost approach to be open to manipulation? (i.e. construct comfortable easy to achieve target costs)			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was little opportunity or potential to manipulate the target cost
3			There was some potential although it would have been difficult to hide the fact
2			There was little opportunity but if this was happening it could have been easily hidden
1			Yes there was significant opportunity to manipulate the target cost and also hide the fact that this was been done
Notes:- ‘’			
Question 9			
Did working at cost on open book basis work against incentivising the contractors?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**

4			No as it meant more time energy and resources could be directed into improving services rather than worrying about recovering costs
3			At cost open book arrangements did remove some of the incentives but these were out-weighed by the advantages gained by working collaboratively
2			At cost open book arrangements removed most of the incentives but there were some benefits gained by working collaboratively
1			Yes by removing competition and working at cost contractors got paid at whatever their costs were so there was no incentive to improve
Notes:- ‘’			
Question 10			
Was reduced competition a problem in terms of driving innovation and efficiencies?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No it had no impact on the drive for innovation with plenty of evidence of efficiencies been sought
3			The reduced competition did produce a reduced drive although there was still evidence of some innovation and efficiencies
2			There was still innovation although this was minor and only in certain areas
1			Yes the removal of competition lead to a complete lack of innovation
Notes:- ‘’			
Question 11			
In the absence of competition, was value for money demonstrated?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Value for money was very good

3			Value for money was good although slightly below market
2			Value for money was not particularly good and was significantly below market
1			Value for money was poor
Notes:- ‘ ’			
Question 12			
Were there significant financial penalties for non-performance or exploitation?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant financial penalties in place for non-performance which were easy to implement and robust processes for monitoring exploitation
3			There financial penalties in place but were difficult to impose
2			There were limited penalties which were difficult to impose and limited monitoring
1			There were very minor penalties in place which were difficult to impose with limited ability to monitor exploitation
Notes:- ‘’			
Question 13			
How well did this project performed against the measured KPI’?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			It exceeded on all project KPI’s
3			It achieved on project KPI’s
2			It achieved some KPI’s and failed on others
1			It performed poorly against the majority of the KPI’s
Notes:- ‘’			

Question Sheet for Buyer **Cost benefits - Q CB b**		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Question 8		
Question 9		
Question 10		
Question 11		
Question 12		
Question 13		
Total Score = **Sum of the scores/ No of questions**		

6 - Dependent Variable

Question Sheet for Buyer - Time Benefits

Background Notes

The consideration of time is a very important factor in construction. There is the obvious relationship to cost in terms of construction programme but also in terms of the ability to deliver quickly and to agree programmes can have a significant benefit to the client and as such this was seen as a very important benefit. I.e. the ability to mobilise and commence quickly and also deliver to programme as well as working together to reduce construction time.

Question Sheet for Buyer - Time Benefits - Q TB b			
Question 1			
Was the project delivered to programme?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was delivered ahead of programme
3			The project was delivered to programme
2			The project was slightly behind programme
1			The project was significantly behind programme
Notes:- ‘’			
Question 2			
Who determined or had the biggest influence on the programme at the beginning .i.e. was it the contractor or the buyer?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The buyer had complete say over the programme
3			The buyer had the biggest influence with some input from the contractor
2			The contractor had the biggest influence with some input from the buyer

1			The contractor determined the programme
Notes:- ‘’			
Question 3			
How accurate was the contractors programme i.e. did it have lots of slack built in?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The programme was an accurate representation of the timescale involved
3			The programme was broadly in line with expectations although some sections seemed inaccurate
2			The programme was only partially accurate
1			The programme bore no resemblance to the amount of work involved
Notes:- ‘’			
Question 4			
Was the programme visible and constantly updated?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			A clear programme was produced which was regularly updated
3			The programme was generally visible and was updated on a few occasions
2			The programme was difficult to understand but had a few updates
1			The programme was difficult to understand and was not updated
Notes:- ‘’			
Question 5			
How quickly was the contractor able to mobilise for the project?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very quickly with easy access to large available resources
3			Reasonable quickly with access to some resources

2			Limited ability to mobilise quickly with poor access to a small amount of resources
1			Very slowly with little or no access to resources
Notes:- ‘’			
Question 6			
How quick was the project built i.e. was it quicker or slower than expected for a project of this nature, site conditions etc.?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was constructed very quickly and exceeded expectations
3			Construction time was broadly what would be expected of a project of this type and nature
2			Construction time was slightly slower than would be expected
1			The project was constructed much slower than expected
Notes:- ‘’			
Question 7			
Was there evidence that working collaboratively reduced the construction time?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence that construction time had been reduced due to collaborative working
3			There was evidence that construction time had reduced but not necessarily due to working collaboratively
2			There was some evidence that construction time had reduced slightly
1			There was no evidence that construction time had reduced at all
Notes:- ‘			

Question Sheet for Buyer -Time Benefits - Q TB b		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Total Score = Sum of the scores/ No of questions		

7 - Dependent Variable

Question Sheet for Buyer - Quality of Product

Background Notes

A benefit expected for the client was better designed and constructed buildings with fewer defects and better build quality. This should lead to much greater client satisfaction rates both with the service and the end product

Question Sheet for Buyer Quality of Product Q-QPb			
Question 1			
How well was the building constructed? I.e. how good was the build quality?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Exceptionally good quality build using the best materials
3			Reasonable build with average quality products
2			Average build quality with poor quality of products and a number of minor defects
1			Poor quality construction and products with significant defects
Notes:- ‘’			
Question 2			
How many defects were evident at handover?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was no defects (zero defects)
3			There was a small number of minor defects
2			There was a small but significant number of defects
1			There were a high number of significant defects evident
Notes:- ‘’			
Question 3			

How good was the quality of the products used?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very high standard
3			Average products used
2			A mixture of both poor and average quality products used
1			Poor quality of average and poor quality products
Notes:- ‘’			
Question 4			
How good was the quality of the installation of the specialist equipment?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			A high standard of installation
3			Average level of installation
2			An average installation with some poor parts
1			Poor quality of installation
Notes:- ‘’			
Question 5			
How much supervision did the project require – less or more COW time on monitoring build quality?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very little supervision was required
3			Supervision was required at key stages in the project
2			Constant supervision was required throughout the project
1			A very high level of supervision was required costing considerable COW resources
Notes:- ‘’			
Question 6			

How good was design and subsequent end product in terms of build ability, functionality, aesthetically etc.?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The design and subsequent end product in terms of build ability, functionality, aesthetically etc were good
3			Average design but functional building
2			Below average design
1			Poorly designed building with poor functionality
Notes:- ‘’			
Question 7			
Were client satisfaction rates up for both service (the construction) and the end product (the building)?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Satisfaction rates were significantly above average for both the service and the end product
3			Satisfaction rates were average for both the service and the end product
2			Satisfaction rates were average for one of either the service or the end product and below average for the other
1			Satisfaction rates were significantly below average for both the service and the end product
Notes:- ‘’			

Question Sheet for Buyer Quality of Product Q-QPb		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Total Score = Sum of the scores/ No of questions		

Appendix 5



UNIVERSITY OF BIRMINGHAM

A S Rowlands
Student No [redacted]

Supplier Question sheet

Project :	
No	
Interviewee Name :	
Interview No	
Date :	
Role on Project:	
Information sheet explained	
Consent form Signed	

Notes:-

1 - Independent Variable

Question Sheet for Supplier Utility and Scarcity

Background Notes

The utility and the scarcity were combined for the supplier as the two are closely aligned. The key resource the supplier is interested in is the buyers expenditure – how much and the regularity and predictability of that expenditure. Combined with that is how important the business is in relation to the rest of the supplier's business and also how easy it would be to replace. In other words its importance and how easy it would be to replace with other similar work.

Question Sheet for Supplier Utility & Scarcity – Q U & S			
Question 1			
How important was BCC as a client?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			BCC was not very important client in terms of the overall business
3			BCC was not that an important client although the value of the work was quite significant in terms of the overall business
2			BCC was a an important client but didn't represent a significant part of the business
1			BCC was a very important client that represented a major part of the business
Notes:- ''			
Question 2			
How important was the predictability and regularity of the work?			

Score	Beginning of the Project	At the end of the Project	Criteria
4			This was not important as there was lots of other work around
3			A regular flow of work was important to the business but not vital
2			Regularity of work was important more so than the volume it allowed planning of resources
1			It was vital to the business that there was a regular and predictable supply of work
Notes:- ‘			
Question 3			
How much of the company’s total turnover was determined by the framework?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The value of framework contracts was small compared to the company’s overall turnover
3			The value was significant but would only have a minor impact on the business
2			The value of the framework made up a major part of the company’s turnover and would have impact on the business
1			The framework made up significant part of the company’s business which would have serious impact if it was lost
Notes:- ‘			
Question 4			
How much of the framework turnover was this project?			

Score	Beginning of the Project	At the end of the Project	Criteria
4			Project was a very small part of the overall framework turnover
3			Project was a significant project but only represented a small part of the overall amount of work in the framework
2			Project was large compared to the overall value of the work allocated through the framework
1			Project was a significant part of the work allocated through the framework
Notes:- ‘’			
Question 5			
How profitable was the BCP work?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Little or no profit
3			Made no profit but was useful for spreading corporate overheads
2			Small profit margins made but on a regular basis
1			very profitable work which would have a big impact on the business if lost
Notes:- ‘’			
Question 6			
How easy was it to replace this business from other work on the framework Or with business externally?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The work is easily replaceable with other work from both within the framework and externally
3			The work is replaceable with

			other work from both the framework and externally but not easily
2			The work is only replaceable with external work and not easily
1			It is very difficult to replace the work with either external work or from within the framework
Notes:- ‘			
Question 7			
What is the lost opportunity cost if this business was lost?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No real impact as there would be lots of other opportunities
3			No real impact but there is unlikely to be similar opportunities to generate additional business
2			Opportunity missed but not significant
1			Big opportunity lost which could have generated a significant amount of business
Notes:- ‘			
Question 8			
How important was the repeat business from BCC in terms of being able to plan long term and develop the business?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Not important and did not figure in long term business plan
3			Useful to have repeat work but was not critical part of long term planning
2			Repeat work from BCC formed part of the of the companies business plan but only a minor part

1			Vital part of the company's business plan that repeat business was coming from BCC
Notes:-			

Total score for Supplier Utility and Scarcity – Q U & S		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Question 8		
Total Score = Sum of the scores/ No of questions		

2 - Independent Variable

Question Sheet for Supplier Information

Background Notes

Information is important to the balance of power has if one party has it and the other doesn't then this can be exploited. Often information is split into public information and private information. Public information is generally available and can be obtained at little cost. Private information is usually hidden and is only available to one of the contracting parties. Part of the consideration of information is how easy it is to obtain the information both from a resource point of view but also from an ease of access perspective.
The key pieces of information for the supplier are: - i) what is the buyers budget ii) what is the client prepared (and wants) to pay and iii) how much does the buyer know about the true construction costs and other information about the project? I.e. how well informed is the client?

Question Sheet for Supplier Information – Q I s			
Question 1			
How much information was known about the client's budget?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Full details were know about the value of the budget
3			A good indication of the clients budget was known without knowing the full details
2			Limited information was available
1			No information was known
Notes:- '			
Question 2			
How much was known about what the client was prepared			

to pay?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Full details were know about what the client was prepared to pay
3			A good indication of the what the client was prepared to pay was known without knowing the full details
2			Limited information was available
1			No information was known
Notes:- ‘			
Question 3			
How reliable was this information and easy was it to obtain?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very reliable information that was easy to obtain
3			Reliable information but difficult to obtain
2			Not very reliable information but easy to obtain
1			Not very reliable and difficult to obtain
Notes:- ‘			
Question 4			
How much information on the projects budgets resources importance etc was public as opposed to private?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			All the project information was in the public domain
3			Most of the headline information was in the public domain

2			Only some of the information was made public the rest been private
1			All the project information private and not available
Notes:- ‘’			
Question 5			
How much project information did the supplier know that the client did not? i.e. construction costs, construction programmes etc.			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Contractor had very detailed information and the client had little or no knowledge
3			The client had a small amount of high level knowledge but no detail
2			The client had key knowledge on some of the areas
1			The client fully understood all of the key project information
Notes:- ‘’			
Question 6			
How much information did the client know about the construction industry market conditions and the various firms’ reputation?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The client knows nothing about the industry or the current market conditions or of the reputation of the company involved
3			The client has some understanding of the market and the current conditions but nothing of the reputation of the company involved
2			The client has a very good understanding of the market in general but not of the

			contractor's reputation
1			The client was fully informed about the current market conditions and the reputations of the company's involved.
Notes:- '			

Question Sheet for Supplier Information – Q I s		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Total Score = **Sum of the scores/ No of questions**		

3 – Intervening Variable

Question Sheet for Supplier – Extent of Collaboration

Background Notes

This was about the readiness of the buyer/ supplier to work together to resolve problems. In other words the ability to comprise and reach solutions without reverting back to a contractual /adversarial relationship which in turn draws down a significant amount of the clients and contractors time. This invariably means less efficient products/ service since teams are not prepared to work together. It also meant more energy and time are spent fighting each other with less potential for the buyer and less profit for the supplier.

Question Sheet for Supplier Collaboration Q Coll S			
Question 1			
How much collaboration has taken place on this project?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the project
3			There was evidence of collaboration taking place but it was not in aspects of the project
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘’			
Question 2			
How much collaboration has taken place on the framework overall?			
Score	**Beginning of the Project**	**At the end of the**	**Criteria**

		Project	
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the framework
3			There was evidence of collaboration taking place but it was across all areas of the framework
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘’			
Question 3			
Did the Supplier consider there was as evidence of collaboration taking place? I.e. better team working, greater transparency of costs, info etc, sharing of best practice etc?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the project
3			There was evidence of collaboration taking place but it was across all areas of the project
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:- ‘			
Question 4			
How much has collaborative working contributed to improving performance on the project – i.e. improvement in cost programme quality etc? Is there much evidence to support			

this?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There has been significant improvements in performance as a result of better working with a lot of evidence to back this up
3			There has been some improvements in performance with some examples that collaboration has brought about these improvements
2			There has only been limited evidence
1			There has been no evidence of improvements in performance
Notes:- ‘			
Question 5			
Was it perceived by either the buyer or supplier that a position of power affected how much collaboration took place?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No impact at all on the level of collaboration taking place with both parties been willing players with power having no effect
3			Good collaboration with power only having a marginal affect
2			Collaboration was taking place but was very more influenced by the impact of power
1			The extent of collaboration was closely linked to the level of power by either party

Notes:- ‘’			
Question 6			
Were there many examples of where the contractor chose not to collaborate and there was little that could be done about it?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There were no examples
3			There a few limited examples
2			There were examples but not across all areas
1			There was a many examples of where the contractor choose not to collaborate
Notes:- ‘			
Question 7			
Overall was there much evidence of the supplier collaborating with the other suppliers both in the supply chain and in the framework to improve performance?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was significant evidence of close and extensive collaboration taking place across all aspects of the project between other contractors and in the supply chain
3			There was evidence of collaboration taking place but it was not between all contractors and in all areas
2			There was very limited evidence of collaboration taking place
1			There was no evidence of any collaboration taking place
Notes:-			

‘’			

Question Sheet for Supplier Collaboration Q Coll S		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Total Score = Sum of the scores/ No of questions		

4 -Dependent Variable

Question Sheet for Supplier - Financial benefits

Background Notes

Ultimately companies only exist in order to make money. Therefore in terms of prospective benefit this had to be a very important aim in terms of what the supplier would to get out of the relationship. I.e. maximise profit and also increase its financial turnover thereby allowing tangential benefits to be made elsewhere (i.e. spreading overheads increasing volume discounts etc)

Question Sheet for Supplier Cost benefits - Q CB s			
Question 1			
Was the cost of the project at market rate for that type of construction (price per square metre?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Costs were very uncompetitive and bore no resemblance to market conditions
3			Costs were slightly above market rates
2			Costs were broadly in line with market conditions
1			Costs were highly competitive and at market rate
Notes:- ‘’			
Question 2			
Was the cost value for money? (benchmarked against national standards)			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**

4			Costs were very uncompetitive against national benchmarks and were poor value for money
3			Costs were not particularly good value for money and were slightly below national benchmarks
2			Costs were good value for money although were slightly below national benchmarks
1			Costs were very good value for money and performed highly when benchmarked against national standards
Notes:- ‘’			
Question 3			
Was the project delivered to the original budget?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was delivered to below budget
3			The project was delivered to budget
2			Project was delivered to slightly above budget
1			Project was considerably over budget
Notes:- ‘’			
Question 4			
Was there a pain gain outcome? If so how much?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was considerable significant variation from the original budget with the contractor taking a large gain
3			The project was close to budget with the contractor taking a small gain

2			The project was close to budget with the contractor taking a small pain
1			There was considerable significant variation from the original budget with the contractor taking a large pain
Notes:- ‘’			
Question 5			
Was it possible to maximise overheads, prelims etc. on BCP jobs so has to make minimal profit on BCP work but by spreading the overheads from other jobs onto BCP work make those other non BCP schemes more profitable? If so was the client aware of this?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There a large amount of circumstantial evidence to suggest this practices practice was and there were insufficient checks and monitors to know whether this was happening
3			There a large amount of circumstantial evidence to suggest this practice may have been taking place.
2			There was no evidence this was happening although the financial checks were fairly minimal
1			No the costs were clearly monitored and financial checks were in place to prevent this from happening
Notes:- ‘			
Question 6			
Were compensation events given and if so did this put up the value of the project up or down?			

Score	Beginning of the Project	At the end of the Project	Criteria
4			Compensation events were issued that increased the project cost
3			Only a few compensation events were issued which increased the cost marginally
2			Only a few compensation events were issued which reduced the cost marginally
1			Compensation events were issued that reduced the project cost
Notes:- ‘			
Question 7			
Did the pain gain arrangement incentivise performance?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was considerable significant increase in performance which was linked to the amount of pain gain achieved
3			There was some increase in performance and some minor pain gain adjustments
2			There was some increase in performance although this was not linked to pain gain
1			There was no evidence of improvement in performance despite any pain gain
Notes:- ‘			
Question 8			
Did you feel there was potential for the target cost approach to be open to manipulation? (i.e. construct comfortable easy to achieve target costs)			

Score	Beginning of the Project	At the end of the Project	Criteria
4			Yes there was significant opportunity to manipulate the target cost ands also hide the fact that this was been done
3			There was little opportunity but if this was happening it could have been easily hidden
2			There was some potential although it would have been difficult to hide the fact
1			There was little opportunity or potential to manipulate the target cost
Notes:- ‘’			
Question 9			
Did working at cost on open book basis work against incentivising the contractors?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No as it meant ore time energy and resources could be directed into improving services rather than worrying about recovering costs
3			At cost open book arrangements did remove some of the incentives but these were out weighed by the advantages gained by working collaboratively
2			At cost open book arrangements removed most of the incentives but there were some benefits gained by working collaboratively
1			Yes by removing competition and working at cost contractors got paid at what ever there costs were so there was no incentive to

			improve
Notes:- ‘			
Question 10			
Was reduced competition a problem in terms of driving innovation and efficiencies?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			No it had no impact on the drive for innovation with plenty of evidence of efficiencies been sought
3			The reduced competition did produce a reduced drive although there was still evidence of innovation and efficacies been sought
2			There was still innovation although this was minor and only in certain areas
1			Yes the removal of competition lead to a complete lack of innovation
Notes:- ‘’			
Question 11			
In the absence of competition, was value for money demonstrated?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Value for money was very good
3			Value for money was good although were slightly below market
2			Value for money was not particularly good and was slightly below market
1			Value for money was poor
Notes:- ‘			
Question 12			

Were there significant financial penalties for non-performance or exploitation?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There were very minor penalties in place which were difficult to impose with limited ability to monitor exploitation
3			There were limited penalties which were difficult to impose and limited monitoring
2			There financial penalties in place which but were difficult to impose
1			There was significant financial penalties in place for non performance which were easy to implement and robust processes for monitoring exploitation
Notes:- ‘’			
Question 13			
How well did this projects performed against the measured KPI’?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			It exceeding on all project KPIs
3			It achieved on project KPIs
2			It achieved some KPI’s and failed on others
1			It performed poorly against the majority of the KPI’s
Notes:- ‘’			

Question Sheet for Supplier Cost benefits - Q CB s		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Question 8		
Question 9		
Question 10		
Question 11		
Question 12		
Question 13		
Total Score = Sum of the scores/ No of questions		

5 - Dependent Variable

Question Sheet for Supplier - Time Benefits

Background Notes

Consideration of time is a very important factor in construction. There is the obvious relationship to cost in terms of construction programme but in terms of the ability to deliver quickly and to agree programmes can have a significant benefit to the client and as such this was seen as a very important benefit. I.e. the ability to mobilise and commence quickly and also deliver on time, to programme as well working together to reduce construction time.

Question Sheet for Supplier - Time Benefits - Q TB s			
Question 1			
Was the project delivered to programme?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was delivered ahead of programme
3			The project was delivered to the programme
2			The project was slightly behind programme
1			The project was significantly behind programme
Notes:- ‘’			
Question 2			
Who determined or had the biggest influence on the programme at the beginning .i.e. was it the contractor or the buyer?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The contractor determined the programme
3			The contractor had the biggest influence with some input from the buyer

2			The buyer had the biggest influence with some input from the contractor
1			The buyer had complete say over the programme
Notes:- ‘			
Question 3			
How accurate was the contractors programme i.e. did it have lots of slack built in?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The programme was an accurate representation of the timescale involved
3			The programme was broadly in line with expectations although sections seemed inaccurate
2			The programme was only partially accurate
1			The programme bore no resemblance to the amount of work involved
Notes:- ‘’			
Question 4			
Was the programme visible and constantly updated?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			A clear programme was produced which was regularly updated
3			The programme was generally visible and was updated on a few occasions
2			The programme was difficult to understand but had a few updates
1			The programme was difficult to understand and was not updated
Notes:- ‘			
Question 5			

How quickly was the contractor able to mobilise for the project?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very quickly with easy access to large available resources
3			Reasonable quickly with access to some resources
2			Limited ability to mobilise quickly with poor access to a small amount of resources
1			Very slowly with little or no access to resources
Notes:- ‘’			
Question 6			
How quick was the project built i.e. was it quicker or slower than expected for a project of this nature, site conditions etc?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			The project was constructed very quickly and exceeded expectations
3			Construction time was broadly what would be expected of a project of this type and nature
2			Construction time was slightly slower than would be expected
1			The project was constructed much slower than expected
Notes:- ‘			
Question 7			
Was there evidence that working collaboratively has reduced the construction time?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**

4			There was significant evidence that construction time had been reduced due to collaboratively working
3			There was evidence that construction time had reduced but not necessarily due to working collaboratively
2			There was some evidence that construction time had reduced slightly
1			There was no evidence that construction time had reduced at all
Notes:-			

Question Sheet for Supplier -Time Benefits - Q TB s		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Total Score = Sum of the scores/ No of questions		

6 - Dependent Variable

Question Sheet for Supplier - Quality of Product

Background Notes

A benefit expected for the client was better designed and constructed buildings with fewer defects and better build quality. This should lead to much greater client satisfaction rates both with the service and the end product

Question Sheet for Supplier Quality of Product Q-QPs			
Question 1			
How well was the building constructed? I.e. how good was the build quality?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Exceptionally good quality build using the best materials
3			Reasonable build with average quality products
2			Average build quality with poor quality of products and a number of minor defects
1			Poor quality construction and products with significant defects
Notes:- ‘’			
Question 2			
How many defects were evident at handover?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			There was no defects (zero defects)
3			There was a small number of minor defects
2			There was a small but significant number of defects
1			There were a high number of

			significant defects evident
Notes:- ‘’			
Question 3			
How good was the quality of the products used?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very high standard
3			Average products used
2			A mixture of both poor and average quality products used
1			Poor quality of average and poor quality products
Notes:- ‘’			
Question 4			
How good was the quality of the installation of the specialist equipment?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			A Very high standard of installation
3			Average level of installation
2			An Average installation with some poor parts
1			Poor quality of installation
Notes:- ‘’			
Question 5			
How much supervision did the project require – less or more COW time on monitoring build quality?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Very little supervision was required
3			Supervision was required at key stages in the project

2			Constant supervision was required throughout the project
1			A very high level of supervision was required costing considerable COW resources
Notes:- ‘			
Question 6			
How good was design and subsequent end product in terms of build ability, functionality, aesthetically etc.?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			How good was the design and subsequent end product in terms of build ability, functionality, aesthetically etc?
3			Average design but functional building
2			Below average design
1			Poorly designed building with poor functionality
Notes:- ‘’			
Question 7			
Were client satisfaction rates up for both service (the construction) and the end product (the building)?			
Score	**Beginning of the Project**	**At the end of the Project**	**Criteria**
4			Satisfaction rates were significantly above average for both the service and the end product
3			Satisfaction rates were average for both the service and the end product
2			Satisfaction rates were average for one of either the service or the end product and below average for the other

1			Satisfaction rates were significantly below average for both the service and the end product
Notes:- ‘			

Question Sheet for Supplier Quality of Product Q-QPs		
	Beginning of the Project	**At the end of the Project**
Question 1		
Question 2		
Question 3		
Question 4		
Question 5		
Question 6		
Question 7		
Total Score = Sum of the scores/ No of questions		

Appendix 6



UNIVERSITY OF BIRMINGHAM

A S Rowlands
Student No [redacted]

Buyer Question sheet for Strategic Group

Interviewee Name :	
Interviewee No	
Date :	
Role in Organisation:	
Information sheet explained	
Consent form Signed	

Notes:-

1 - Independent Variable

Question Sheet for Buyer Utility

Background Notes

The importance of utility relates to the degree to which a particular resource is indispensable to the firm. In other words is this resource very important to the buyer both at a strategic level and also at an operational level
What this means is that strategically this project is very important to the overall clients ability to carry out its business. Operational importance means that the project is important to deliver that particular service/ function but is not critical to clients overall business.

Question 1	**Score**	
How important was the BCP framework to Birmingham City Council		
1		Very important for the Council and critical to the business
2		Important part of the councils delivery which would have a significant impact if lost
3		Good delivery mechanism but not critical
4		Not very important – Council has lots of other options
Notes ‘’		

Question 2	**Score**	
How critical was it to the Councils ability to deliver its service to the public? (strategic)		
Score		**Criteria**
1		The partnership was Critical to the Councils ability to deliver its service to the public?
2		The partnership was critical to the Councils ability but temporary alternatives could be found
3		The partnership was not critical but alternative solutions could not be easily found
4		The partnership was not critical to the Council and alternative solutions could be easily found
Notes:- ''		
Question 3		
How vulnerable was the client if the partnership failed and did not deliver		
Score		**Criteria**
1		Very vulnerable both at an operational level and a reputation level
2		Very vulnerable from an operational level but this would be largely an internal issue (i.e. not a reputation issue)

3		Not very vulnerable as alternative solutions could be found but at a significant cost
4		Not vulnerable either reputation or operationally with easy alternatives available at low cost
Notes:-		
Question 4		
How would the reputation of the council be affected if the partnership failed		
Score		**Criteria**
1		Very damaging to the reputation of the Council both locally and nationally
2		Damaging to the reputation but generally only at a local/ regional level
3		Some reputation damage but short term
4		No impact on the Council – either locally or nationally
Notes:- ‘		

Total score for Buyer Utility	
Question 1	
Question 2	
Question 3	
Question 4	
Total Score = Sum of the scores/ No of questions	

2 - Independent Variable

Question Sheet for Buyer Scarcity

Background Notes

Scarcity will be determined by the imitability or substitutability In other words the resources the buyer wishes to acquire is relatively easy and cheap to imitate or substitute and is readily available from a large number of firms then this resource is said to have a ***low scarcity value*** *If resources are difficult or expensive to imitate or substitute then the number of firms able to offer the resource is likely to be restricted. This will mean the resource will have a* ***high scarcity value***

The key point is how many credible alternatives are there for the buyer either from within the existing framework or bringing someone else in or by doing it a different way?

Question 1	**Score**	**Criteria**
Did the client feel they had any credible alternatives or choices in terms of alternative suppliers other than the BCP did they feel they were forced to use it?		
1		No credible alternatives or choices were available
2		There were some alternatives but the choice was very limited
3		There were a number of alternatives and choices but not very credible
4		There were many credible choices and alternatives available
Notes ‘’		

Question 2	Score	Criteria
Was there genuine competition from within the existing supply base i.e. either within the BCP framework (3 contractors) or within the supply chain		
1		There was no genuine competition
2		The only real competition was in the sub packages of the supply chain
3		There was some degree of competition but it was limited
4		Yes there was lots of options/ competition both within the BCP and the supply chain
Notes ‘’		

Question 3	Score	
Could new contractors be easily brought in to the framework or supply chain to add/ replace existing contractors?		
Score		**Criteria**
1		Very difficult and expensive to bring in principle or supply chain contractors
2		Very difficult to bring in new framework contractors but relatively easy to bring in new supply chain contractors

3		New framework contractors can be brought in but with some cost – supply chain substitutes can be brought in easily
4		New suppliers both on the framework and in the supply chain can easily be brought in
Notes:- ‘’		
Question 4		
Could the work be easily procured or organised in a completely different way (i.e. via a development organised or PFI etc.)?		
Score		**Criteria**
1		It would very difficult and expensive with few available resources to achieve alternative delivery models
2		Can be done but is complicated and takes a long time
3		Can be done easily but would take a lot of resources
4		The work can be easily procured or organised in a completely different way
Notes:- ‘’		

Total score for Buyer Scarcity	
Question 1	
Question 2	
Question 3	
Question 4	
Total Score = **Sum of the scores/ No of questions**	

3 - Independent Variable

Question Sheet for Buyer Information

Background Notes

Information is important to the balance of power, for s if one party has it and the other doesn't then this can be exploited. Often information is split into public information and private information. Public information is generally available and can be obtained at little cost. Private information is usually hidden and is only available to one of the contracting parties. Part of the consideration of information is how easy it is to obtain the information both from a resource point of view but also from an ease of access perspective

Question 1	**Score**	**Criteria**
How well informed were the contractor about BCC about budgets workload and perhaps most of all the skills levels?		
4		The contractor was largely ignorant of the budgets and skills levels
3		Information was generally known about budgets spending but not in any detail
2		A lot of information was known about BCC budgets but only a limited amount about the skills base
1		The contractor was very well

		informed about budgets and skills levels of BCC
Notes ‘’		

Question 2	**Score**	**Criteria**
Did they use levels of information to maximise their advantage?		
4		No They were open and never took advantage
3		Only occasionally on isolated events
2		Where the opportunity arose something would generally be in their favour!!
1		Yes on every occasion
Notes ‘’		

Total score for Buyer Information	
Question 1	
Question 2	
Total Score = **Sum of the scores/ No of questions**	

4 - Intervening Variable

Question Sheet for Buyer - Extent of Collaboration

Background Notes

This was about the readiness of the buyer/ supplier to work together to resolve problems. In other words the ability to comprise and reach solutions without reverting back to a contractual /adversarial relationship which in turn draws down a significant amount of the clients and contractors time. This invariably means less efficient products/ service since teams are not prepared to work together. It also meant more energy and time are spent fighting each other with less potential for the buyer and less profit for the supplier.

Question 1	**Score**	**Criteria**
How good was the level of collaboration?		
4		Excellent – at all levels and through out the supply chain
3		Good but not always consistent and not across all parts of the framework
2		Happened in places but with limited effect – more show that effect
1		Poor with very little evidence
Notes ‘’		

Question 2	**Score**	**Criteria**
Was there sharing of best practice? Joint working? Openness and transparency? Shared risk taking? Keeping teams together? Continuous improvement?		
4		Yes it was Excellent and at all levels and through out the supply chain
3		Good but not always consistent and not across all parts of the framework
2		It happened in places but not all i.e. something but not others– more show that effect
1		Poor with very little evidence
Notes ‘’		

Question 3	**Score**	**Criteria**
Was there much difference in the level of collaboration between the contractors?		
4		Yes it was extensive and highly productive
3		Good but not consistent and not across all areas of the framework
2		Worked together only when it suited rather than as a routine practice
1		No it was very secretive with no information shared

		etc
Notes ‘’		

Question 4	**Score**	**Criteria**
How much did the individuals effect the level of collaboration taking place i.e. was down to the willingness?		
4		The most important element of all in making collaboration work
3		It was important but not critical
2		The individual impact was limited
1		It had no effect in the big picture of things
Notes ‘’		

Question 5	**Score**	**Criteria**
Was there much difference between pre contract and post contract?		
4		No difference
3		Big difference post contract
2		Big difference pre-contract
1		Yes big difference
Notes ‘’		

Question 6	**Score**	**Criteria**
Was there a correlation between level of collaboration and level of benefit?		
4		Yes a very

		significant relationship with increased benefits with increased collaboration
3		There was a definite impact but it varied
2		There was some but not significant
1		There was no correlation between collaboration and level of benefit
Notes ‘’		

Question 7	**Score**	**Criteria**
Overall was there much evidence of the supplier collaborating with the other suppliers both in the supply chain and in the framework to improve performance?		
4		There was significant evidence of close and extensive collaboration taking place across all aspects of the project between other contractors and in the supply chain
3		There was evidence of collaboration taking place but it was not between all contractors and in all areas
2		There was very limited evidence of collaboration taking place
1		There was no evidence of any collaboration

		taking place
Notes ‘’		

Question 8	**Score**	**Criteria**
Did collaboration produce a better quality building?		
4		Yes there were significant improvements in build quality and design
3		Yes there were minor improvements
2		No difference
1		The build quality were worse than under traditional operational methods
Notes ‘’		

Total score for Buyer Intervening variable	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Question 6	
Question 7	
Question 8	
Total Score = **Sum of the scores/ No of questions**	

5 - Dependent Variable

Question Sheet for Buyer -Cost Benefits

Background Notes

This was high on the list of expected benefits as it was anticipated that by working together in a non adversarial manner much greater efficiencies could be generated which would produce cost benefits – Therefore a high score would mean that the collaboration is working well producing financial benefits and that the buyer is gaining the majority of these financial benefits. A low score would mean that that the collaboration is producing benefits but that the supplier is taking them all or that benefits are being generated. One key question is whether there is visibility on the actual benefits generated i.e. are benefits been hidden or transferred to other parts of the business?

Question 1	**Score**	**Criteria**
Who got the most out of the relationship in terms of benefit		
4		The buyer got the majority of the benefits out of the relationship
3		It was slightly in favour of the buyer
2		It was slightly in favour of the supplier
1		The supplier got most of the benefits out of the relationship
Notes ‘’		

Question 2	**Score**	**Criteria**
Were the benefits Financial or where there other types of benefits?		
4		High financial benefits for the buyer
3		High benefits for the buyer but not financial
2		High benefits for the supplier but not financial
1		High financial benefits for the supplier
Notes ‘’		

Question 3	**Score**	**Criteria**
Was the contractor sufficiently interrogated / challenged over its costs was the knowledge information available to allow this to happen?		
4		Yes a robust interrogation took place to ensure BCC were getting maximum value for money and there was a lot of knowledge and skill in house to allow this to happen
3		This didn’t happen all the time but when it did there was the knowledge to robustly challenge costs
2		It happened a fair bit but there was a gap in the skills base to make this very effective

1		No there was little interrogation that took place to ensure BCC were getting maximum value for money and there was a very little knowledge and skill in house to allow this to happen
Notes ‘’		

Question 4	**Score**	**Criteria**
Was it possible to maximise overheads, prelims etc on BCP jobs so has to make minimal profit on BCP work but by spreading the overheads from other jobs onto BCP work make those other non BCP schemes more profitable? If so was the client aware of this?		
4		No the costs were clearly monitored and financial checks were in place to prevent this from happening
3		There was no evidence this was happening although the financial checks were fairly minimal
2		There a large amount of circumstantial evidence to suggest this practice may have been taking place.

1		There a large amount of circumstantial evidence to suggest this practices practice was and there were insufficient checks and monitors to know whether this was happening
Notes ‘’		

Question 5	**Score**	**Criteria**
Did the pain /gain arrangement incentives performance?		
4		There was considerable significant increase in performance which was linked to the amount of pain gain achieved
3		There was some increase in performance and some minor pain gain adjustments
2		There was some increase in performance although this was not linked to pain gain
1		There was no evidence of improvement in performance despite any pain gain
Notes ‘’		

Total score for Buyer Cost Benefits	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Total Score = **Sum of the scores/ No of questions**	

6 - Dependent Variable

Question Sheet for Buyer - Time Benefits

Background Notes

Consideration of time is a very important factor in construction. There is the obvious relationship to cost in terms of construction programme but in terms of the ability to deliver quickly and to agree programmes can have a significant benefit to the client and as such this was seen as a very important benefit. I.e. the ability to mobilise and commence quickly and also deliver on time, to programme as well working together to reduce construction time.

Question 1	**Score**	**Criteria**
Who determined or had the biggest influence on the programme at the beginning .i.e. was it the contractor or the buyer?		
4		The buyer had complete say over the programme
3		The buyer had the biggest influence with some input from the contractor
2		The contractor had the biggest influence with some input from the buyer
1		The contractor determined the programme
Notes ‘’		

Question 2	**Score**	**Criteria**
Was this a weakness kin the buyer – the fact that the contractor generally did the programmes and did give the Contractor additional power?		
4		No it had nor effect on the position of power over the buyer
3		Yes it was a weakness but it didn't have a significant impact
2		Yes it was a weakness but it the position of power for the contractor was not exploited very much
1		Yes it put the contractor in a strong position of power as it determined and controlled the programme
Notes ‘’		

Question 3	**Score**	**Criteria**
Were programmes generally improved by working collaboratively		
4		Yes there was clear evidence that by working collaboratively meant there was significant improvements in programmes
3		There was improvements but it was across the board
2		There was impact but it was only marginal
1		There was no

		impact on the programme
Notes ‘’		

Total score for Buyer Time Benefits	
Question 1	
Question 2	
Question 3	
Total Score = **Sum of the scores/ No of questions**	

7 - Dependent Variable

Question Sheet for Buyer - Quality of Product

Background Notes

A benefit expected for the client was better designed and constructed buildings with fewer defects and better build quality. This should lead to much greater client satisfaction rates both with the service and the end product

Question 1	**Score**	**Criteria**
How good was the overall quality of the construction works delivered?		
4		Extremely good
3		Better than average
2		Average
1		Poor
Notes ‘’		

Question 2	**Score**	**Criteria**
Was it better than work delivered by non /pre BCP Contractors		
4		Significantly better
3		Slightly better
2		About the same
1		Worse than traditional contracts
Notes ‘’		

Question 3	**Score**	**Criteria**
Were there fewer defects?		
4		There was no defects (zero defects)
3		There was a small number of minor defects
2		There was a small but significant number of defects
1		There were a high number of significant defects evident
Notes ‘’		

Question 4	**Score**	**Criteria**
Was there a need to have less supervision (COW) on time?		
4		Very little supervision was required
3		Supervision was required at key stages in the project
2		Constant supervision was required throughout the project
1		A very high level of supervision was required costing considerable COW resources
Notes ‘’		

Total score for Buyer Quality of product	
Question 1	
Question 2	
Question 3	
Question 4	
Total Score = **Sum of the scores/ No of questions**	

8) General Questions

Background Notes

These are general questions which are designed to give some context as to their overall view of the BCP partnership

Question	Response
Overall How successful was the framework?	
Overall do you think there was a high level of collaboration?	
Overall how would you rank the three contractors in terms of commitment to collaboration?	
Do you think it achieved what it set out to achieve? i.e. did better collaboration achieve projects delivered at lower cost, on time, fewer defects and better quality?	
Do you think that there was a position of power in the relationship between BCC and the Contractor? If so - who had the power? Why? How was it exercised? How did it manifest itself?	
How did the way the work was allocated effect perceived power?	
Overall how would you rank the contractors in terms of who had the most power?	
What were the incentives for the contactors staff? i.e. were they on a bonus?	
Was the BCP a success for the contactors financially? Was it More successful than other non BCP works?	
Overall how would you rank the contractors in terms of who achieved the most benefit for BCC	

9) Comments on initial High Level Findings of first set of Interviews

Background Notes

These are some very high level findings from the first round of interviews and the objective of this exercise is to seek a view on whether the interview agrees or disagrees with the findings and if so why?

Question	Response
Overall the results show that for the two contractors interviewed BCC generally got more benefit from projects delivered by Wates than they did from Vales Do you agree with this If not why?	
Overall the results show that for the two contractors interviewed BCC generally got greater collaboration on projects delivered by Wates than they did from Vales Do you agree with this If not why?	
Overall the results show that for the two contractors interviewed Wates tendered to be in a stronger power position than Vales Do you agree with this If not why?	
General perception from the interviews that the contractors were getting a good deal and were maximising there income/ profit from the BCP Do you agree? If so why? If not Why Not?	
General view that the use of Compensation events meant that the contractor nearly always achieved its KPI's on cost and programme and also rarely took a pain and more often a gain Do you agree? If so why If not Why Not?	
Generally - The client (The buyer) BCC should have been in a stronger position than the contractor because of the implied impact on future work allocation i.e. Buyer dominance Do you agree	

If so why If not Why Not?	
If there was a position of buyer dominance – there should have been a high to high/ medium level of collaboration (i.e. correlation between buyer power and level of collaboration by the contractor) Do you agree If so why If not Why Not?	
At an individual project level at post contract stage (ie in contract and on site) this was not so evident with Contractor having moved to a stronger position Do you agree If so why If not Why Not?	
With this shift to a stronger contractor position There appeared to be less collaboration (i.e. correlation between buyer power dropping and the level of collaboration by the contractor) Do you agree If so why If not Why Not?	

Appendix 7



UNIVERSITY OF BIRMINGHAM

A S Rowlands
Student No [redacted]

Supplier Question Sheet for Strategic Group

Interviewee Name :	
Date :	
Role in Organisation:	
Information sheet explained	
Consent form Signed	

Notes:-

1 - Independent Variable

Question Sheet for Supplier Utility and Scarcity

Background Notes

The utility and the scarcity were combined for the supplier as the two are closely aligned. The key resource the supplier is interested in is the buyers expenditure – how much and the regularity and predictability of that expenditure. Combined with that is how important the business is in relation to the rest of the supplier's business and also how easy it would be to replace. In other words its importance and how easy it would be to replace with other similar work.

Question 1	**Score**	**Criteria**
How important was Birmingham City Council to the Framework contractors?		
4		Not very important – company has lots of other important clients
3		Good business but not critical
2		Important part of the business which would have a significant impact if lost
1		very important to the contractors critical to the business
Notes ‘		

Question 2		
How important was the BCP framework to Birmingham City Council (i.e. how important was		

the contractor to BCC)		
4		Very important for the council and critical to the business
3		Important part of the councils delivery which would have a significant impact if lost
2		Good delivery mechanism but not critical
1		Not very important – council has lots of other options
Notes		

Question 3	**Score**	**Criteria**
Did you think lack of competition was a problem		
4		Yes the removal of competition lead to a complete lack commitment and innovation
3		There was still innovation despite the lack of competition although this was minor and only in certain areas
2		The reduced competition did produce a reduced commitment and drive although there was still evidence of innovation and efficacies been sought
1		No it had no impact on the commitment or drive for innovation with plenty of evidence

		of efficiencies been sought
Notes ‘		

Question 4	**Score**	**Criteria**
Did the client feel they had any credible alternatives or choices in terms of alternative suppliers other than the BCP did they feel they were forced to use it? How did this make them feel/		
4		No credible alternatives or choices were available
3		There were some alternatives but the choice was very limited
2		There were a number of alternatives and choices but not very credible
1		There were many credible choices and alternatives available
Notes ‘		

Question 5	**Score**	**Criteria**
Was there genuine competition from within the existing supply base i.e. either within the BCP framework (3 contractors) or within the supply chain		
4		There was no genuine competition
3		The only real competition was in the sub packages of the supply chain
2		There was some degree of competition but it was limited
1		Yes there was lots of options/ competition both within the BCP and the supply chain
Notes ‘		

Total score for Supplier Utility and Scarcity	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Total Score = **Sum of the scores/ No of questions**	

2 - Independent Variable

Question Sheet for Supplier Information

Background Notes

Information is important to the balance of power has if one party has it and the other doesn't then this can be exploited. Often information is split into public information and private information. Public information is generally available and can be obtained at little cost. Private information is usually hidden and is only available to one of the contracting parties. Part of the consideration of information is how easy it is to obtain the information both from a resource point of view but also from an ease of access perspective.
The key pieces of information for the supplier are : - i)what is the buyers budget ii) what is the client prepared (and wants) to pay and iii) how much does the buyer know about the true construction costs and other information about the project? i.e. how well informed is the client?

Question 1	**Score**	**Criteria**
How well informed were the contractor about BCC about budgets workload and perhaps most of all the skills levels?		
4		The contractor was very well informed about budgets and skills levels of BCC
3		A lot of information was known about BCC budgets but only a limited amount about the skills base
2		Information was generally known about budgets spending 1but not in any detail
1		The contractor was

		largely ignorant of the budgets and skills levels
Notes		

Question 2	**Score**	**Criteria**
Did they use levels of information to maximise their advantage?		
4		Yes on every occasion
3		Where the opportunity arose something would generally be in their favour!!
2		Only occasionally on isolated events
1		No They were open and never took advantage
Notes		

Total score for Buyer Information	
Question 1	
Question 2	
Total Score = **Sum of the scores/ No of questions**	

3 – Intervening Variable

Question Sheet for Supplier - Extent of Collaboration

Background Notes

This was about the readiness of the buyer/ supplier to work together to resolve problems. In other words the ability to comprise and reach solutions without reverting back to a contractual /adversarial relationship which in turn draws down a significant amount of the clients and contractors time. This invariably means less efficient products/ service since teams are not prepared to work together. It also meant more energy and time are spent fighting each other with less potential for the buyer and less profit for the supplier.

Question 1	**Score**	**Criteria**
How good was the level of collaboration?		
4		Excellent – at all levels and through-out the supply chain
3		Good but not always consistent and not across all parts of the framework
2		Happened in places but with limited effect – more show that effect
1		Poor with very little evidence
Notes		

Question 2	**Score**	**Criteria**
Was there sharing of best practice? Joint working? Openness and transparency? Shared risk taking? Keeping teams together? Continuous		

improvement?		
4		Yes it was Excellent and at all levels and through-out the supply chain
3		Good but not always consistent and not across all parts of the framework
2		It happened in places but not all i.e. something but not others– more show that effect
1		Poor with very little evidence
Notes		

Question 3	**Score**	**Criteria**
Was there much difference in the level of collaboration between the contractors?		
4		Yes it was extensive and highly productive
3		Good but not consistent and not across all areas of the framework
2		Worked together only when it suited rather than as a routine practice
1		No it was very secretive with no information shared etc
Notes		

Question 4	**Score**	**Criteria**
How much did the individuals effect the level of collaboration taking place i.e. was down to the willingness?		
4		The most important element of all in making collaboration work
3		It was important but not critical
2		The individual impact was limited
1		It had no effect in the big picture of things
Notes		

Question 5	**Score**	**Criteria**
Was there much difference between pre contract and post contract?		
4		No difference
3		Big difference post contract
2		Big difference pre-contract
1		Yes big difference
Notes		

Question 6	**Score**	**Criteria**
Was there a correlation between level of collaboration and level of benefit?		
4		Yes a very significant relationship with increased benefits

		with increased collaboration
3		There was a definite impact but it varied
2		There was some but not significant
1		There was no correlation between collaboration and level of benefit
Notes		

Question 7	**Score**	**Criteria**
Overall was there much evidence of the supplier collaborating with the other suppliers both in the supply chain and in the framework to improve performance?		
4		There was significant evidence of close and extensive collaboration taking place across all aspects of the project between other contractors and in the supply chain
3		There was evidence of collaboration taking place but it was not between all contractors and in all areas
2		There was very limited evidence of collaboration taking place
1		There was no evidence of any collaboration taking place
Notes		

Question 8	**Score**	**Criteria**
Did collaboration produce a better quality building?		
4		Yes there were significant improvements in build quality and design
3		Yes there were minor improvements
2		No difference
1		The build quality were worse than under traditional operational methods
Notes ‘		

Total score for Supplier Intervening variable	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Question 6	
Question 7	
Question 8	
Total Score = **Sum of the scores/ No of questions**	

4 -Dependent Variable

Question Sheet for Supplier - Financial benefits

Background Notes

Ultimately companies only exist in order to make money. Therefore in terms of prospective benefit this had to be a very important aim in terms of what the supplier would to get out of the relationship. I.e. maximise profit and also increase its financial turnover thereby allowing tangential benefits to be made elsewhere (i.e. spreading overheads increasing volume discounts etc.)

Question 1	**Score**	**Criteria**
Who got the most out of the relationship in terms of benefit		
4		The supplier got most of the benefits out of the relationship
3		It was slightly in favour of the supplier
2		It was slightly in favour of the buyer
1		The buyer got the majority of the benefits out of the relationship
Notes		

Question 2	**Score**	**Criteria**
Were the benefits Financial or where there other types of benefits?		
4		High financial benefits for the supplier

3		High benefits for the supplier but not financial
2		High benefits for the buyer but not financial
1		High financial benefits for the buyer
Notes		

Question 3	**Score**	**Criteria**
Was the contractor sufficiently interrogated / challenged over its costs was the knowledge information available to allow this to happen?		
4		No there was little interrogation that took place to ensure BCC were getting maximum value for money and there was a very little knowledge and skill in house to allow this to happen
3		It happened a fair bit but there was a gap in the skills base to make this very effective
2		This didn't happen all the time but when it did there was the knowledge to robustly challenge costs
1		Yes a robust interrogation took place to ensure BCC were getting maximum value for money and there

		was a lot of knowledge and skill in house to allow this to happen
Notes		

Question 4	**Score**	**Criteria**
Was it possible to maximise overheads, prelims etc. on BCP jobs so has to make minimal profit on BCP work but by spreading the overheads from other jobs onto BCP work make those other non BCP schemes more profitable? If so was the client aware of this?		
4		There a large amount of circumstantial evidence to suggest this practices practice was and there were insufficient checks and monitors to know whether this was happening
3		There a large amount of circumstantial evidence to suggest this practice may have been taking place.
2		There was no evidence this was happening although the financial checks were fairly minimal
1		1 - No the costs were clearly

		monitored and financial checks were in place to prevent this from happening
Notes		

Question 5	**Score**	**Criteria**
Did the pain /gain arrangement incentives performance? If so why? If not why?		
4		There was considerable significant increase in performance which was linked to the amount of pain gain achieved
3		There was some increase in performance and some minor pain gain adjustments
2		There was some increase in performance although this was not linked to pain gain
1		There was no evidence of improvement in performance despite any pain gain
Notes		

Total score for Supplier Financial Benefits	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Total Score = **Sum of the scores/ No of questions**	

5 - Dependent Variable

Question Sheet for Supplier - Time Benefits

Background Notes

Consideration of time is a very important factor in construction. There is the obvious relationship to cost in terms of construction programme but in terms of the ability to deliver quickly and to agree programmes can have a significant benefit to the client and as such this was seen as a very important benefit. I.e. the ability to mobilise and commence quickly and also deliver on time, to programme as well working together to reduce construction time.

Question 1	**Score**	**Criteria**
Who determined or had the biggest influence on the programme at the beginning .i.e. was it the contractor or the buyer?		
4		The contractor determined the programme
3		The contractor had the biggest influence with some input from the buyer
2		The buyer had the biggest influence with some input from the contractor
1		The buyer had complete say over the programme
Notes		

Question 2	**Score**	**Criteria**
Was this a weakness kin the buyer – the fact that the contractor generally did the programmes and did give the Contractor		

additional power?		
4		Yes it put the contractor in a strong position of power as it determined and controlled the programme
3		Yes it was a weakness but it the position of power for the contractor was not exploited very much
2		Yes it was a weakness but it didn't have a significant impact
1		No it had no effect on the position of power over the buyer
Notes		

Question 3	**Score**	**Criteria**
Were programmes generally improved by working collaboratively		
4		Yes there was clear evidence that by working collaboratively meant there was significant improvements in programmes
3		There was improvements but it was across the board
2		There was impact but it was only

		marginal
1		There was no impact on the programme
Notes		

Total score for Supplier Time Benefits	
Question 1	
Question 2	
Question 3	
Total Score = **Sum of the scores/ No of questions**	

6 - Dependent Variable

Question Sheet for Supplier - Quality of Product

Background Notes

A benefit expected for the client was better designed and constructed buildings with fewer defects and better build quality. This should lead to much greater client satisfaction rates both with the service and the end produce

Question 1	**Score**	**Criteria**
How good was the overall quality of the construction works delivered?		
4		Extremely good
3		Better than average
2		Average
1		Poor
Notes		

Question 2	**Score**	**Criteria**
Was it better than work delivered by non /pre BCP Contractors		
4		Significantly better
3		Slightly better
2		About the same
1		Worse than traditional contracts
Notes		

Question 3	**Score**	**Criteria**
Were there fewer defects?		
4		There was no defects (zero defects)

3		There was a small number of minor defects
2		There was a small but significant number of defects
1		There were a high number of significant defects evident
Notes		

Question 4	**Score**	**Criteria**
Was there a need to have less supervision (COW) on time?		
4		Very little supervision was required
3		Supervision was required at key stages in the project
2		Constant supervision was required throughout the project
1		A very high level of supervision was required costing considerable COW resources
Notes		

Total score for Supplier Quality of product	
Question 1	
Question 2	
Question 3	
Question 4	
Total Score = Sum of the scores/ No of questions	

8) General Questions

Background Notes

These are general questions which are designed to give some context as to their overall view of the BCP partnership

Question	Response
Overall How successful was the framework?	
Overall do you think there was a high level of collaboration?	
Overall how would you rank the three contractors in terms of commitment to collaboration?	
Do you think it achieved what it set out to achieve? i.e.did better collaboration achieve projects delivered at lower cost, on time, fewer defects and better quality?	
Do you think that there was a position of power in the relationship between BCC and the Contractor? If so - who had the power? Why? How was it exercised? How did it manifest itself?	
How did the way the work was allocated affect perceived power?	
Overall how would you rank the contractors in terms of who had the most power?	
What were the incentives for the contactors staff? i.e. were they on a bonus?	
Was the BCP a success for the contactors financially? Was it More successful than other non BCP works?	
Overall how would you rank the contractors in terms of who achieved the most benefit for BCC	
Notes	

9) Comments on initial High Level Findings of first set of Interviews

Background Notes

These are some very high level findings from the first round of interviews and the objective of this exercise is to seek a view on whether the interview agrees or disagrees with the findings and if so why?

Question	Response
Overall the results show that for the two contractors interviewed BCC generally got more benefit from projects delivered by Wates than they did from Vales Do you agree with this If not why?	
Overall the results show that for the two contractors interviewed BCC generally got greater collaboration on projects delivered by Wates than they did from Vales Do you agree with this If not why?	
Overall the results show that for the two contractors interviewed Wates tendered to be in a stronger power position than Vales Do you agree with this If not why?	
General perception from the interviews that the contractors were getting a good deal and were maximising their income/ profit from the BCP Do you agree? If so why? If not Why Not?	
General view that the use of Compensation events meant that the contractor nearly always achieved its KPI's on cost and programme and also rarely took a pain and more often a gain Do you agree? If so why If not Why Not?	
Generally - The client (The buyer) BCC should have been in a stronger position than the contractor because of the implied impact on future work allocation i.e. Buyer dominance Do you agree If so why If not	

Why Not?	
If there was a position of buyer dominance – there should have been a high to high/ medium level of collaboration (i.e. correlation between buyer power and level of collaboration by the contractor) Do you agree If so why If not Why Not?	
At an individual project level at post contract stage (ie in contract and on site) this was not so evident with Contractor having moved to a stronger position Do you agree If so why If not Why Not?	
With this shift to a stronger contractor position There appeared to be less collaboration (i.e. correlation between buyer power dropping and the level of collaboration by the contractor) Do you agree If so why If not Why Not?	
Notes	