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**A PROJECT PARTNERING APPROACH TO
THE
MAIN CONTRACTOR - SUB CONTRACTOR
RELATIONSHIP.**

by

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A Doctoral Thesis submitted in partial fulfillment of
the requirements for the award of Doctor of Philosophy
of Loughborough University.

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ABSTRACT

1
alt c This research describes an investigation into developing closer working relationships through project partnering in order to reduce the occurrence of adversarial practices commonly found between main contractors and subcontractors.

LP A literature review was undertaken that identified two main types of partnering: project partnering; and strategic partnering. One of the main differences between the two types of partnering were identified as being their durations: short term (project partnering); and long term (strategic partnering).

It was concluded that the published literature had the following limitations: primarily applicable to the Australian and US construction industries; models and processes identified did not have an adequate practical content; and limited application to the main contractor - SC relationship.

R ✓ After completion of the literature review a research methodology was developed, allowing an alternative approach to project partnering to be developed. The research methodology enabled information to be obtained from both the collaborating contractors personnel and SC personnel.

The approach to project partnering was named 'semi project partnering' as it contained an element of SC competition. The approach was implemented on a live commercial project during the preconstruction tendering and estimating stages.

The semi project partnering approach utilised both the knowledge gained from the literature review and the conclusions from the empirical research. The approach was validated by the collaborating company's personnel.

Further validation of the achievements of the approach took place by interviewing personnel from both the collaborating company and subcontractors.

The main outcomes from the research are:

- identification of what a main contractor's employees want from their dealings with subcontractors;
- recognition of what subcontractors want from their dealings with main contractors;
- a comparison of the collaborating companies performance compared to that of its competitors; and
- a semi project partnering approach that provides:
 - a reduction in the occurrence of adversarial practices used between main contractors and subcontractors; and
 - earlier involvement of subcontractors within the building process promoting mutual understanding.

CERTIFICATE OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this thesis, that the original work is my own except as specified in the acknowledgments and that neither the thesis nor the original work contained therein has been submitted to this or any other institution for a higher degree.

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I have been assisted by many people during this research. Space does not permit me to mention them all, so for all those who I do not mention, *I am sorry.*'

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ABBREVIATIONS

ADR	Alternative Dispute Resolution.
AGCA	Associated General Contractors of America.
AMBA	Association of Master Builders of Australia.
BSM	Building Services Manager.
CIBSE	Chartered Institute of Building Services Engineers.
CII	Construction Industry Institute.
CIOB	Chartered Institute of Building.
ECI	European Construction Institute.
ICT	Information and Communication Technologies.
IRP	Issue Resolution Policy.
IT	Information Technology.
JCT	Joint Contracts Tribunal.
KSDS	Kyle Stewart Design Services.
MBD	Main Board Directors.
LBP	Large Business Partnering.
LUT	Loughborough University of Technology.
NEDO	National Economic Development Office.
PDM	Project Design Manager.
PM	Project Manager.
PP	Project Partnering.
PQS	Project Quantity Surveyor.
PSP	Project Specific Partnering.
QA	Quality Assurance.
R&D	Research and Development.
RICS	Royal Institution of Chartered Surveyors.
ROI	Return on Investment.
RCF	Reading Construction Forum.
SBP	Small Business Partnering.
SC	Subcontractors.
SP	Strategic Partnering.
TP	Term Partnering.

CHAPTER ONE

1. INTRODUCTION.

1.1 OVERVIEW OF CURRENT CONSTRUCTION INDUSTRY.

The United Kingdom (UK) construction industry has, since the end of the 1980's and early 1990's, been in a recession. Lynn (1996) put the recession in perspective by presenting a series of alarming statistics:

"The output of the construction industry has fallen from its peak in 1990 of £15.5bn to a low of £12bn in 1994/95;"

"1996 order books are down 40% on 1989 levels;"

"Since 1990 it is estimated that 500,000 jobs have been lost to the industry. This would account for one quarter of the current unemployment problems;"

and

"The RICS predicts a further 100,000 jobs to be lost over the next 2 to 3 years."

Lynn (1996) further commented that these statistics have dealt the construction industry a 'crippling blow.' He continued that where once the construction boom covered all manner of disasters and inefficiencies, the recession has laid bare the fact that British construction is, in his terms, ramshackle and un-competitive. This point was further developed by Gardiner and Theobald (1995). They wrote that during the property boom of the 1980's projects generated sufficient profits to satisfy all those with an interest in them. However, since the early 1990's the property market in the UK has slumped into its most severe recession since the great depression of the 1930's. Gardiner and Theobald continue that it is not surprising that competition for the few contracts which become available was fierce, and as a result tender prices were either pitched too low or had been heavily discounted so that main contractors and SC's were undertaking work at nil or even negative margins.

This scenario has put the construction industry under great pressure and caused much conflict between all parties involved in the construction process. The UK construction industry has moved to a position where the lack of mutual respect and honesty between professional, main

contractor and SC's negatively effects the procurement of buildings (Matthews et al, 1996). Parties have commonly exploited weaknesses in building contracts, use commercial leverage to manipulate the flow of money down the 'payment chain', and generally adopt adversarial approaches to business operations.

In order to address these problems Sir Michael Latham in his review 'Constructing the team' (1994) put forward 30 proposals with the aim of:

"Making recommendations to Government, the construction industry and its clients regarding the reform to reduce conflict and litigation and encourage the industry's productivity and competitiveness."

The overall effect of these recommendations is that the construction industry looked to improve their business operations in line with Latham's proposals.

1.2 SUBCONTRACTING.

The contribution of specialist and trade SC's to the total construction process can account for as much as 90% of the total value of the project (Gray and Flanagan, 1989) (Nobbs, 1993) (Ndekurigi, 1988). Jamieson et al (1996) pronounce that despite a drop in construction related work available in the marketplace, there has been great change overall in the number of UK construction related workers. Statistics on the construction industry indicate that there are approximately 200,000 contracting organisations with 95,000 being private individuals, or one person firms (Jamieson et al, 1996).

Nobbs (1993) attributed the increased involvement of SC's to the shift away from the traditional craft-base, to a greater reliance on increasingly sophisticated technology based products. Matthews et al (1996) believed that the increase in sophisticated technology based products has required a high degree of design, manufacture, installation and commissioning skills which have not been readily available to the industry's clients, as the skill base has moved away from the main contractors organisation. The result of this has been that main contractors are concentrating their efforts on managing site operations rather than employing direct labour to undertake construction work. By contrast, Jamieson et al (1996) also attributed the increased use of SC's to the increased complexity of both the construction of buildings and the organisational relationships.

However, this increase in complexity, the over supply of specialist firms, and the declining construction output has cultivated an adversarial atmosphere which has had a negative effect on the main contractor - SC relationships. As main contractors have realised that the greatest potential for cost savings lies with SC's, the prevalence of unfair contract conditions, Dutch auctioning and other onerous practices has increased (Matthews et al, 1996) (Jamieson et al, 1996) (CCS, 1993).

SC's have also caused problems. With easy entry into the construction market place, SC organisations have been established with very little capital investment. Many of these companies do not have the necessary expertise to undertake work satisfactorily and, as a consequence, are unable to give their clients the service they require. Moreover, many of the bad traits common to main contractor - SC relationship are also common to the subcontractor - sub subcontractor relationship.

An example of studies that have concentrated on the main contractor - SC relationship are Fisk (1977), Hinze and Tracey (1994), Brochner (1989), Al - Hamed (1993) and to a lesser extent Furaska (1990) and Birrel (1985). Although these studies have concentrated on the main contractor - SC relationship each is applicable to construction industries throughout the world. Furusaka's paper concentrated on those problems in Japan whilst Al - Hamed paper pertains to those problems in Saudi Arabia (Matthews et al, 1995).

The most notable of these studies is Hinze and Tracey's (1994) paper entitled, "*The contractor - subcontractor relationships: The SC View.*" This study described the findings of exploratory research undertaken in the U.S. in order to identify how SC's were initiated, placed and how subcontracts were made. Hinze and Tracey put forward a series of recommendations to improve the SC - main contractor relationship. They wrote:

"The relationship of subcontractors and general contractors is one that merits further study. Many aspects of this relationship should be examined. In depth research studies should address the various issues identified by this study."
(Hinze and Tracey, 1994)

An anonymous study undertaken in the UK to address the main contractor - SC relationships was presented by Latham (1994). The undisclosed company commissioned a survey in August

1993. The survey questioned a sample of SC's throughout the UK. The report endeavored to benchmark the performance of the undisclosed main contractor against its competitors. One of the recommendations developed from the research proposed that better relations could be developed with SC's through partnering or partnership arrangements.

The Latham Report (1994) provided a focus and motivation to explore improvements in main contractor - SC relationships for the benefit of the industry as a whole. Partnering is seen as one way to achieve these improvements (Matthews, 1996).

Latham gave mindful endorsement to partnering by stating:

“Specific advice should be given to public authorities so they can experiment with partnering arrangements where appropriate long-term relationships can be built up. But the partnering must initially be sought through a competitive tendering process, and for a specific period of time. Any partnering arrangements should include mutually agreed and measurable targets for productivity improvements” (Latham, 1994).

Latham also recommended that partnering should be considered in the context of main contractor - SC relationships commenting:

“Partnering arrangements are also beneficial between firms. Some main contractors have developed long term relationships with SC's. That it welcome. Such arrangements should be the principle objective of improving performance and reducing costs for clients. They should not be ‘cosy.’ The construction process exists to satisfy clients. Good relationships based on mutual trust benefits clients” (Latham, 1994).

1.3 PARTNERING.

Partnering is not a new concept and much of the current literature has originated from other countries. Literature relating to the construction industry primarily originates from the U.S., for example the Construction Industry Institute (1991), The Associated General Contractors of America (1991), Weston & Gibson (1993), Harbuck et al (1994), Crowley and Karim (1995) and Larson (1995). More recently, information on partnering applied to the UK construction

industry has become available, for example Loraine (1994), Chartered Institute of Building Services Engineers (1995), and the Reading Construction Forum (1995).

Partnering was described by the Reading Construction Forum (RCF) (1995) as a management approach used by two or more organisations to achieve specific business objectives by maximising the effectiveness of each participants resources. The approach is based on mutual objectives, an agreed method of problem resolution and an active search for continuous measurable improvements.

The increased importance given to partnering over the past year is clearly shown in the following extracts from trade journals:

“Argent to award partnership deals. Working like this is just good business. We (Argent) believe we are getting value for money.” Building Magazine 23 February 1996.

“Australian test team. Partnering is touted as a way to avoid contractual conflict.” Building Magazine 11 August 1995.

“Partnering sounds too good to be true. If you only believe half of what is said, then partnering solves all the old adversarial problems.” Building Magazine 11 August 1995.

“Partnering and negotiation put Birse back into black. Birse is pinning its hopes on a strategy of partnering and lower-risk negotiated work, which has helped push the company back into the black.” Building Magazine 23 February 1996

“Together we can crack it. The proof of partnering’s merits is that the best clients, such as airport owner BAA are doing it.” Building Magazine 4 August 1996.

“Partnering is also about allowing people to make a profit, you will have enough enthusiasm and goodwill to make you get up in the morning and build a fine building.” Building Magazine 24 November 1995

“Profit from togetherness. Partnering is an adventure. But I venture to suggest it is an idea to trump Latham ... precisely because it is so simple.” Building Magazine 1 December 1995.

The performance of the UK construction industry can be improved. This potential is at present inhibited by adversarial attitudes. The UK construction industry needs partnering in order to achieve the recommendations put forward by the Latham Report (RCF, 1995).

1.4 THE COLLABORATING CONTRACTOR.

In order to obtain a practical base to this research a suitable company had to be identified to collaborate with.

The Civil and Building Engineering Department of Loughborough University had links with a main contractor based in North London. For the purpose of this research the collaborating contractor will be referred to as ‘CC.’

CC were founded in 1953 as a private building contractor. In September 1989, CC became part of a Dutch operating company, the eighth largest building contractor in Europe. CC became the first building contractor in the U.K. to be certified to BS 5750 Part 1 (ISO 9001) in 1989.

CC employ very little direct labour. The majority of work is subcontracted. The value of subcontracted work makes up approximately 75% of net costs, the management of a subcontract work package is one of the company’s fundamental core processes.

CC were contacted and agreed to collaborate in the research by employing new methods of working developed from the research.

The research study started during September 1993 with the commencement of a state of the art literature review of partnering.

1.5 THE HYPOTHESIS.

1.5.1 Reasons for hypothesis.

By quickly perusing current trade literature a need for a project partnering approach to reduce the occurrence of adversarial practices between main contractors and SC's can be identified.

The introduction thus far as indicated that although adversarial practices are common to the main contractor - subcontractor relationships, an approach to partnering developed in the UK may be able to reduce the occurrence of these practices. This new approach should make the fullest possible use the partnering literature.

This background led to the formulation of the following hypothesis that:

“By developing closer working relationships through project partnering, there will be a reduction in the occurrence of adversarial practices commonly found between main contractors and subcontractors.”

1.5.2 Aim and objectives.

The aim of this research is to develop an approach to partnering. In achieving this aim the objectives of the research are:

- i) to undertake a 'state of the art' literature review on the subject area of partnering;
- ii) to assess the requirements of subcontractors: the CC view;
- iii) to assess the requirements of main contractors: the SC view;
- iv) to compare the collaborating contractors performance to that of its competitors; and
- v) to develop an alternative project partnering approach taking into consideration the findings from the previous areas of research and to assess the impact this approach has on adversarial practices found between a main contractor and its SC's.

The overall rationale of the research objectives is to:

identify how relationships, practices and processes could be improved and subsequently adopted into an alternative project partnering approach;

assess if the CC's and SC's personnel believe there is a need, through a partnering approach, to improve and promote better relationships; and

develop an alternative partnering approach, based on the research findings, which will test the research hypothesis.

1.5.3 Methodology and Work Undertaken.

The work undertaken to meet the requirements of the objectives outlined in the previous section is described below:

(i) A main contractor was contacted by the researcher who agreed to collaborate with the research.

(ii) A literature review of previous partnering publications was undertaken. This revealed that there were two basic types of partnering: project partnering; and strategic partnering. An 'identification test' was undertaken to identify the most critical / important elements of partnering. Twenty key authors were identified which produced 117 phrases / key words of which 18 were different. Also, a further test was undertaken to identify the potential risks / problems of partnering. Thirteen authors were identified who discussed these issues which produced 34 different statements.

(iii) Interviews and a questionnaire survey were undertaken to assess, from CC's perspective the requirements of SC's. Data was obtained from 11 interviews as well as a questionnaire survey that produced 141 responses, with the overall return rate being 72%.

(iv) Interviews and a questionnaire survey were undertaken to assess, from a SC's perspective, the requirements of main contractors. Thirty one interviews were undertaken employing a structured questionnaire with SC's throughout the UK. Also, a questionnaire survey was undertaken that produced 38 responses, with a return rate of 50%.

(v) Interviews were undertaken to compare the main contractors performance to that of its competitors. In total 17 interviews were undertaken. Interview duration's ranged from 1.5 to 3 hours.

(vi) An approach was developed of a novel method to project partnering. This approach was known as 'semi-project partnering' as it was concluded that a true partnering approach would be based on negotiation rather than competition. The approach took into consideration the conclusions from previous research areas.

(vii) The approach was implemented on a £14.5 million project and involved the development of issue resolution policies, partnering workshops and partnering evaluation procedures.

(viii) The implemented approach was monitored and changes to the original approach were identified. This was achieved by assessing the approach over a 10 month period.

(ix) The new approach to partnering was tested through a questionnaire survey in order to test the hypothesis. The hypothesis was tested by interviewing 30 project personnel.

1.6 SUMMARY OF RESEARCH ACHIEVEMENTS.

1.6.1 To undertake a 'state of the art' literature review on the subject area of partnering.

The literature review was undertaken in order to review the literature pertaining to partnering and to ascertain current perceptions. The review enabled an understanding to be developed on the partnering theory which assisted in the formulation of ideas on how it may be applied to the collaborating contractors operations.

The literature review revealed that project partnering was initiated in the U.S. in the mid to late 1980's. Australia followed by adopting the partnering philosophy during the early 1990's. Due to this the majority of the partnering literature was identified as being published within the U.S. and Australia. Significant partnering publications were identified as: AGC (1991); CII (1991); Cook (1990); Moore et al (1992); and Sanders and Moore (1992). Although NEDO (1991) was identified as the first published report of substance pertaining to partnering (strategic) in the UK, RCF (1995) also published a noteworthy report.

The general context of the UK papers and reports was clearly seen to be weaker than those from the U.S. and Australia. This factor was attributed to the successful implementation of partnering in those countries which had produced non-theoretical publications.

The literature review also verified that two types of partnering existed. Essentially project partnering was seen to be short term and strategic partnering long term but other differences between the two partnering types were identified.

It was concluded that defining partnering was typically undertaken by referring to either CII's (1991) or NEDO's (1991) definitions. Other definitions put forward within the partnering literature were seen to be defined by using either partnering's 'attributes' or by the 'process' where partnering is seen as a verb.

Research within the literature review clearly established the benefits that can be accrued by implementing partnering. These benefits were classified under the following categories: improved contractual situation; improved communication; increased understanding; improved efficiency of resources; improved financial position; and improved quality. The major risks of partnering were identified as: commitment; using partnering as a marketing tool; cultural issues of changing from a traditional mind set to a partnering mind set.

By examining 20 partnering publications the key elements of partnering were established as: goal and objective setting; trust; problem resolution; commitment; continuous evaluation; group working; equity; shared risk; win-win philosophy; and collaboration / co-operation.

The literature review identified confusion within the partnering literature between the differences between partnering, partnerships, alliances and joint ventures. Also there was general disagreement within the partnering literature whether partnering required additional contractual enforcement.

1.6.2 Selection of partnering approach and development of research strategy.

Based on the findings and the conclusions of the literature review the following were identified as key characteristics to be considered when selecting an appropriate approach for the collaborating main contractor:

the major partnering publications were published within the U.S. and Australia. It was concluded that any partnering process presented was applicable to primarily those construction industries and not necessarily the UK;

due to the lack of practical partnering publications, approaches and processes proposed in the partnering literature did not adequately deal with the practicalities of UK tendering and estimating procedures;

partnering processes proposed were more applicable to the public sector than they were to the private sector of construction;

partnering processes had limited application to the main contractor - SC relationship; and

any partnering process developed and adopted would have to include: Issue Resolution Policies; team building / partnering workshops; partnering evaluation procedures; and charter formulation procedures.

1.6.3 Assessing the requirements of subcontractors: the CC view.

The objective of the first level of research was to assess, from a CC view, the requirements of subcontractors. Conclusions that were derived from this research and directly satisfy this objective were identified as:

partnering arrangements;

improved communication and team working;

positive attitudes;

to respond quickly and correctly to the collaborating main contractors needs; and

SC's to perform to agreed standards and commitments.

Other conclusions established from this research were:

CC employees stated that the CC should encourage partnering arrangements with SC's. Only 17% (2/12) of the project managers and 27% (3/11) of the site managers stated that partnering arrangements should not be encouraged.

Tick the box questions within the 'supervision and management' scored higher than those questions in other sections. It was concluded that supervision and management was the most important feature of a SC.

Little consensus was identified on how the contractors employees believed relationships with SC's could be improved. However, two common themes were evident. These were: improving communication; and more team working. Improving communication was stipulated by four of the contractors disciplines whilst team working through earlier involvement was mentioned by five disciplines out of a total of 12.

The aspect of the service provided by SC's that was stated to have the most positive impact on the relationship between the main contractor and SC's was that of positive attitude. Forty four per cent (8/18) of the total disciplines identified this as a critical feature.

It was concluded that the collaborating main contractor subcontracting process could be improved by more feedback and review of SC's primarily at the pre and post contract stages. Eight of CC's disciplines clearly stated that this feature, whilst the buyers, civil engineers, estimators, planners, site managers and surveyors all believed that feedback on SC performance should be improved throughout all stages of the project.

Other notable improvements that were evident include: better selection and appointment of SC bids; better evaluation of bids; and allow the collaborating contractors site team more say in the selection of SC's.

The tick the box questions identified the differences in the needs in the construction, procurement and design based disciplines. Buyers and estimators stressed the importance on issues relating to selection criteria of SC's bids, evaluation of SC bids and the compliance of bids. However, it was concluded that construction staff are more concerned with those issues relating to the management and the quality of work. By contrast architects and engineers were concerned with quality and timeliness of design information.

A mission statement combining the main conclusions from the research was developed by the researcher. This mission statement is currently being employed by the CC's procurement departments.

1.6.4 Assessing the requirements of main contractors: the SC's view.

The objective of the second level of research was to assess from a SC's perspective the requirements of main contractors. Conclusions that directly satisfied this objective were identified as:

not to employ adversarial practices such as pay when paid clauses and unfair contracts;

good site management;

main contractors becoming more trustworthy, especially when paying SC's;

to be involved earlier within the building process;

to undertake partnering arrangements with main contractors; and

for main contractors not to place too much importance on price to the detriment of quality.

Other conclusions established from this research were:

Slow payment, unfair subcontracts, pay when paid procedures and main contractors retendering once the main contract has been won were all established as detrimentally affecting the main contractor - SC relationship. These features were also verified as adversarial practices adopted by main contractors when dealing with SC's.

Good site management by main contractors was identified as having a positive impact on the SC's ability to carry out his work. Bad site management was seen as a characteristic that detrimentally affects the main contractor - SC relationship. Moreover, it was proven that main contractors were good at managing their own direct labour, but not so adept at managing SC labour.

The main contractor becoming more trustworthy, especially in the context of payment were clearly seen as ways in which SC's believed that relationships could be improved. It was also proven that if SC's were involved earlier within the building process mutual understanding and SC's expert knowledge would be more fully utilised.

As with CC's employees, SC's clearly stated that they would be willing to undertake partnering arrangements in the future.

It was established that two-thirds of all SC's questioned stated that they gave preferential treatment to certain main contractors. However, this preferential treatment was dependent on the previous performance of the main contractor and the fairness of payment.

It was concluded that 84% of the interviewees and 90% of the questionnaire respondents considered that main contractors place too much importance on price to the detriment of quality. However, this occurrence was attributed to the current construction industry recession and main contractors wanting a full service but not wanting to pay for it.

Overall issues that were demonstrated as being important to the SC's when trying to improve the main contractor - SC relationships were classified by: payment; communication; feedback; selection; tendering; contracts management; and contract administration.

1.6.5 Compare the Collaborating Contractors performance to that of its competitors

The objective of the third level of research was to 'compare the collaborating contractors performance to that of its competitors.' Conclusions that directly satisfied this objective and are direct comparisons were identified as:

pay when paid procedures were more prevalent in other main contractors than they were in the collaborating contractors;

the majority of SC's (53%) concluded that they were involved earlier on other building projects than they were within the collaborating contractor;

the collaborating contractors tender and performance feedback was rated higher than that of other main contractor's;

other main contractors invite SC's to tender more frequently than the collaborating contractor;

the collaborating main contractor seek further tenders / bids from SC's once they have won a main contract. The collaborating main contractor use of this was seen to be greater than other main contractors; and

the level of performance of the collaborating contractors site based disciplines was seen as superior to that of other main contractors.

The collaborating contractor was perceived as being timely payers with only 2 SC's stating that they experienced regular difficulties. Bad payment was attributed to personality conflicts between the SC's and the main contractors QS's.

All SC's confirmed that they should be involved earlier within the building process. This earlier involvement should take place at the precontract estimating stage. Benefits in involving SC's earlier were seen as increasing their and others knowledge and understanding of the project.

SC's stated that more feedback from the collaborating contractor was required at both the tendering and post contract stage. The advantages of the collaborating contractor giving more feedback at precontract stage were seen to be prices quoted which would be more comprehensive and accurate.

It was concluded that SC's were not invited to tender for the collaborating contractors work. It was identified that tenders simply arrive unannounced. The advantage in consulting SC's before enquiries are dispatched is that both the main contractor and the SC can discuss technical details and designs and identify if the SC has the resources to undertake the project.

Seventy per cent of the SC's interviewed believed that they tendered on the collaborating contractors projects against non-comparable companies.

It was established that no real benefits would be accrued in CC using 4 SC's when tendering. Moreover, it was concluded that if only 1 SC was used the competitiveness of SC bids would be greater.

1.6.6 Develop an alternative project partnering approach.

An alternative approach to project partnering was developed by the researcher utilising the research findings of chapters 2, 3, 4, 5 and 6. This approach was implemented on to a live construction project during the tendering / estimating stages. Several points were highlighted using this approach that were important.

Pricing information and project briefing were given at the same interview. This was carried out by the project team in order to save time that had been lost elsewhere in the procurement of the project.

The original approach contained a tender clarification meeting. Although this meeting was undertaken for the steel frame subcontract the project team saw no benefit in undertaking the interview again. The decision was made on the basis that it did not assist the project team in selecting a SC. Also, time had to be saved due to time overruns in other parts of the project. It was noted during the debriefs of un-successful SC's that they would have welcomed the opportunity to present their bids to the project team. This presentation would enable the SC to stress the difference in their product over others.

An alternative method of partnering workshop (project day) was developed by the researcher. This method also contained a different approach to developing a partnering charter also developed by the researcher. Although the charter was not totally developed during the workshop, as suggested it is in the partnering literature, all partnering project objectives given by the partnering parties were taken into consideration.

An Issue Resolution Policy (IRP) was formulated by the researcher and a committee after the project day. This IRP was validated against criteria identified by the researcher as being important within the partnering literature. Partnering evaluation procedures were also developed by the researcher taking into consideration the suggestions given within the partnering literature.

Debriefs of un-successful SC's established the following points:

feedback given to the SC's during the debriefs would make future partnering bids more competitive;

SC employees who attended the first interview where pricing information and project briefing took place were seen to be not those who compiled the bid. This was seen to have the impact of diluting the partnering philosophy;

SC's stated that their bids were quoting approximately 10% cheaper than they would be on other prospective projects; and

SC's wished to have the opportunity to present their bids to the project team.

A questionnaire developed by the researcher was employed to assess the impact this approach to partnering had on adversarial practices found between a main contractor and its SC's. It was concluded that all adversarial practices that were identified and can be adopted by CC and SC's, were less prevalent on the project that used the project partnering approach than that of a contract that had not employed the project partnering approach.

The author concludes on the basis of the research findings and the testing of the hypothesis that the hypothesis was accepted.

1.7 LIMITATIONS OF THE RESEARCH.

Three primary limitations of this research exist. These are:

the alternative project partnering approach was only implemented during the pre-construction stage of a 'live' project. This was due to the reasons put forward in section (7.1);

the approach was only developed and validated in collaboration with a single main contractor; and

possible bias in answers given during by both CC and S/C personnel during interviews. This limitation is discussed in section (4.3.3).

1.8 GUIDE TO THE DISSERTATION.

The thesis is structured as follows:

Chapter 2 contains a review of previous literature pertaining to the partnering concept.

Chapter 3 describes the details of the selection criteria employed for an appropriate partnering approach to be developed.

Chapter 4 presents the first stage of the company data with the aim being to assess the requirements of CC when dealing with SC's.

Chapter 5 details the second stage of the company data with the aim being to assess the requirements of SC's when dealing with main contractors.

Chapter 6 presents the final stage of the company data and has the aim of comparing the collaborating companies performance to that of its competitors.

Chapter 7 describes the semi project partnering approach developed, its implementation and changes made to it.

Chapter 8 summarises the conclusions of the research and suggests areas of further work.

A diagrammatic representation of the thesis is contained in figure 1.

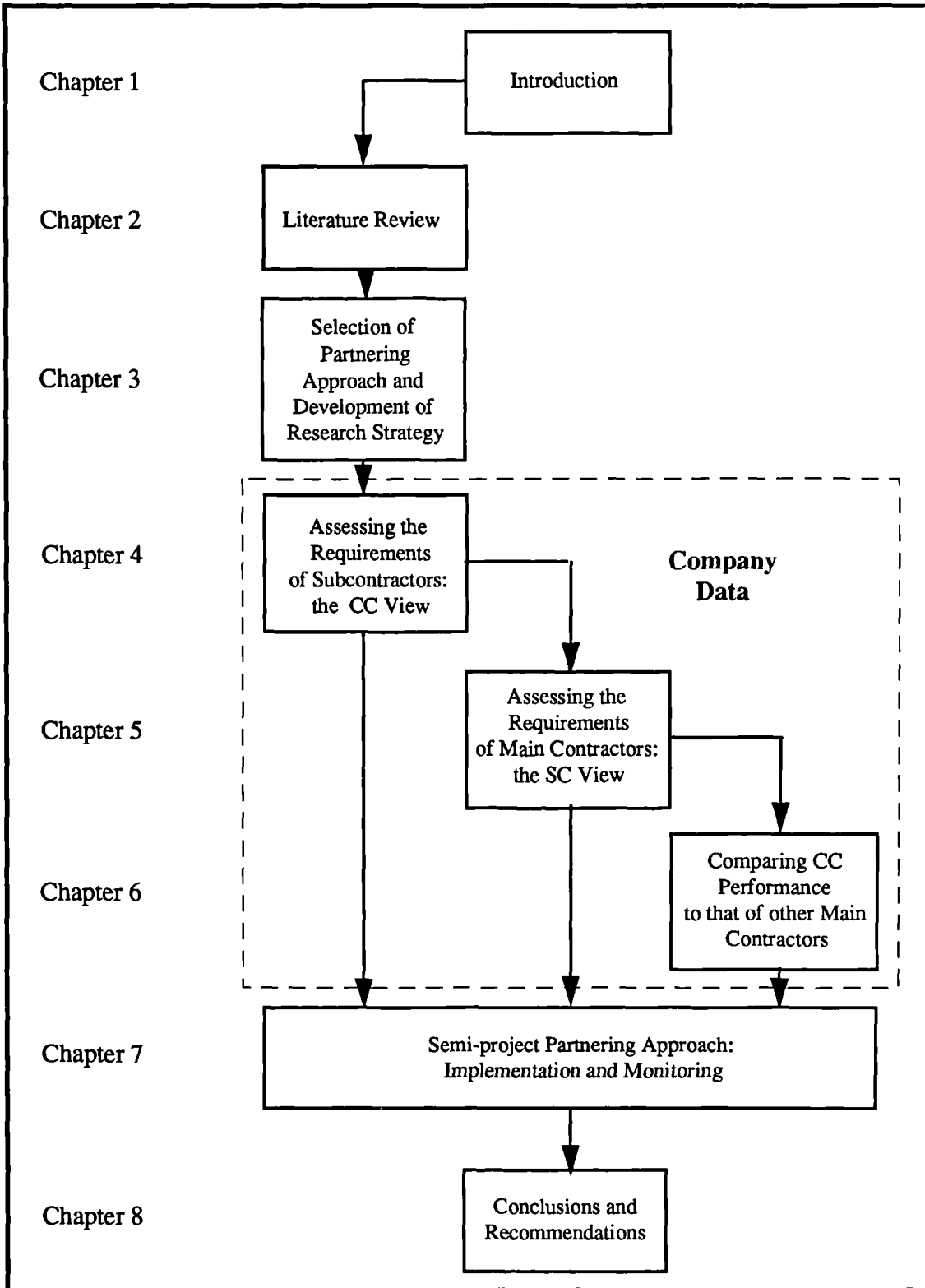


FIGURE 1 : THESIS LAYOUT

CHAPTER TWO

2. REVIEW OF PREVIOUS WORK.

2.1 INTRODUCTION.

This chapter summarises previous published work on the concept of partnering applied primarily to the construction industry and provides the framework in which the work was undertaken and developed. The literature review is concerned with the following areas of partnering:

- history of partnering;
- defining partnering;
- categorising partnering;
- project partnering - strategic partnering;
- benefits of partnering;
- identification of potential risks and problems of partnering;
- key elements to partnering; and
- contractual nature of partnering.

The literature review commenced during October 1993 with key word searches made initially at Loughborough University of Technology (LUT) and The Chartered Institute of Building (CIOB). Other organisations contacted for reference material include: Construction Industry Institute (CII); The European Construction Institute (ECI); The Associated General Contractors of America (AGCA); The Australian Institute of Building; Master Builders of Australia (AMBA); The Chartered Institute of Building Services Engineers (CIBSE); Confederation of Construction Specialists; and The Business Round Table (UK).

University libraries were used at: Loughborough; Reading; Nottingham; Glamorgan and Hong Kong (Hong Kong Polytechnic University and Hong Kong University). In those searches at Loughborough and Hong Kong Polytechnic University all facilities were accessed which included external material through publications databases in Civil Engineering, Management, Applied Sciences and Technology.

The author also utilised the Internet to contact other researchers within the partnering field and to identify / obtain suitable material for this literature review.

2.2 HISTORY OF PARTNERING.

The concept of partnering as currently practised is not a recent phenomena. It has existed in various guises for many years, although not referred to by that specific name (Loraine, 1994).

Loraine (1994) contends that the modern thrust of partnering relationships had its origins in the relationships forged between manufacturers and suppliers in the Japanese car industry of the 1960's and 1970's. Cook & Hancher (1990) and Loraine (1994) stated that partnering has been employed by the US manufacturing and distribution industries since the early 1980's.

Cook & Hancher (1990) and Goldaum (1988) recount that the manufacturing and distribution industries use the term 'partnering' to describe the whole movement of strategic alliances. These were seen to be long term highly structured agreements between companies to co-operate to an unusually high degree to achieve their separate but complementary objectives. The scope of the working relationships in these industries ranges from informal working relationships to contractual pacts that are legally binding and enforceable.

Contrary to Loraine (1994), the National Economic Development Office (NEDO) (1991) suggested that partnering appeared to have evolved rather than having begun life as the realisation of a specific idea. NEDO believed that its precursors are probably much looser arrangements, such as strategic alliances or preferred supplier arrangements, in industries other than construction.

In the USA most partnering in construction appeared to evolve from long informal associations between client and contractor where trust and confidence in each other has built up over the years. True partnerships only became established in the mid 1980's, the first being between Shell / Parsons / SIP in 1984 (Loraine, 1994).

Project specific partnering (PSP) is a relatively recent innovation but is now widely used throughout the USA. The United States Army Corps of Engineers has carried out several thousand partnering projects (Loraine, 1995). The extensive use of PSP in the USA was

attributed by Reading Construction Forum (1995) to the competition laws in the USA making it difficult for organisations to enter into longer term relationships (strategic partnering).

Companies who have entered into partnering relationships in the USA include; Proctor & Gamble / Flour - Daniel; Dupont / Flour - Daniel; Union Carbide / Bechtel; Shell / SIP Engineering (Baker, 1990) (NEDO, 1991). See table 2.1.

In the United Kingdom the relationship between Marks & Spencer and Bovis which commenced in the 1920's, justifies the term partnering (Loraine,1994) (NEDO, 1991).

Partnering: USA	Partnering: Australia
<p>1987 - Public Sector - Mobile District of Army Corps of Engineers - Commencement of Project Partnering) (Sanders et al, 1992) (Loraine ,1994)</p> <p>1989 / 90 - First Project Partnered. (Hellard, 1995)</p> <p>08/90 - Partnering Mission Statement - Portland District US Army Corps of Engineers. (Hellard, 1995)</p> <p>1991 - Arizona Department of Transportation introduce partnering. (CIDA, 1993)</p> <p>12/93 - 8 Projects Awards made by AGCA. (Hellard, 1995)</p> <p>12/94 - 8 Project Awards made. (Hellard, 1995)</p> <p>1995 - 51 entries (completed in 1994) Value US\$ 1 billion. (Hellard, 1995)</p>	<p>1992 - Col. Cowan invited to Australia.(by Master Builders Association. (Hellard, 1995)</p> <p>1993 - Master Builders 1st award from 12 nominations. (North Dandalup Dam - A\$ 66m). (Hellard, 1995)</p> <p>10/1994 - Master Builders 2nd award from 18 nominations (Nepean Hospital - A\$ 24m). (Hellard, 1995).</p> <p>12/1994 - 300 Projects - A\$ 6 billion. (Hellard, 1995)</p> <p>1995 - 30% of all non-residential projects. (Hellard, 1995).</p> <p>1995 - 20% of all New South Wales Public Works Major Projects. - testing US model (Hellard, 1995) (Macneil, 1995)</p>

TABLE 2.1 : HISTORY / DEVELOPMENT OF PARTNERING - 1987 TO 1995

Adapted from Hellard (1995): Letter sent by Ron Baden Hellard (TQM / Polycon) to the author pertaining to a questionnaire survey the author completed.

AGCA: The Associated General Contractors of America.

2.3 DEFINING PARTNERING.

There are no fixed definitions for partnering. Partnering is a relationship which occurs at a particular time to meet the needs of all parties concerned. Nevertheless, formal definitions of partnering assist in understanding the concept (Infante, 1995).

Matthews et al (1996) and Crowley and Karim (1995) state that partnering is typically defined in one of two ways; firstly by its 'attributes' such as trust, shared vision, and long term commitments; or secondly by the 'process' where partnering is seen as a verb, and as such includes developing a mission statement, agreeing goals, and organising / conducting partnering workshops. Defining partnering in these ways illustrates the intended results of partnering. Also, it describes the process that was employed to achieve these results. However, this definitional bias leaves the entity of partnering, the partnering organisation undefined (Crowley and Karim, 1995).

Crowley and Karim (1995) argued that partnering was a decentralised pseudo-organisational structure designed to allow better flexibility in meeting specific projects needs. This organisation provides the scope to solve day-to-day problems, resolve conflicts, expedite decision making, and increase organisational competence in achieving project goals. Crowley and Karim developed a model to depict their ideas (See figure 2).

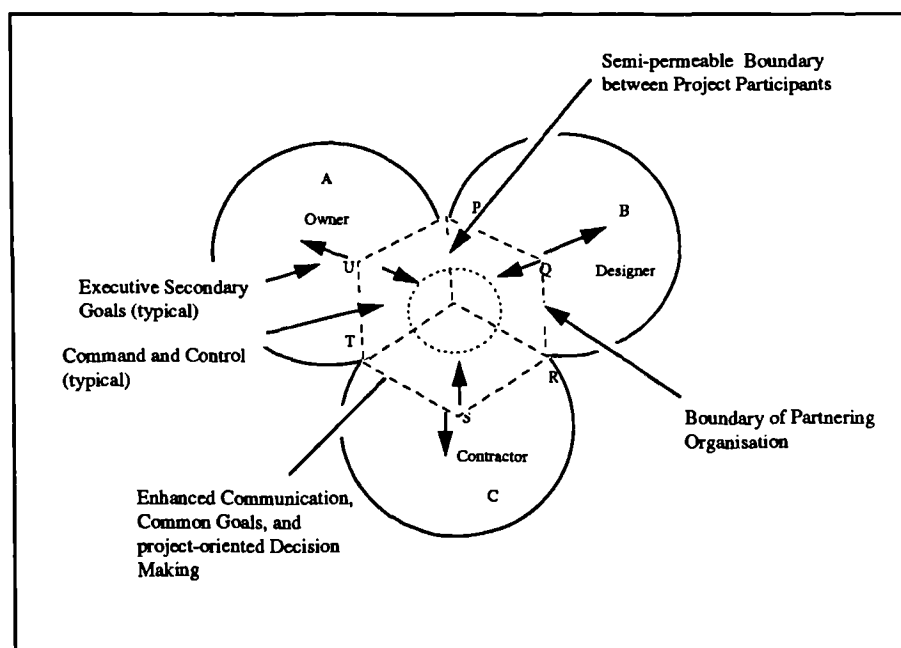


FIGURE 2 : CONCEPTUAL MODEL OF PARTNERING SOURCE: CROWLEY AND KARIM (1995)

Crowley and Karim's model highlights another way of defining partnering. Although their work discusses theoretical issues, and is largely theoretically based, there is significant benefit to be gained by industry in improving their understanding of how partnering effects organisations interfaces. However, the main weakness of the paper is that it is too theoretical and because of this will be largely ignored by industry. In order to maximise the potential of this paper it is suggested that a more practical bias is given to the work, diluting the current theoretical framework.

Stevenson (1996) also developed a model that can be seen to agree with Crowley and Karim's (1995). However, Stevenson called his model 'organisational partnering' where the spirit of partnering is incorporated into the total operating mode of the organisation (Stevenson, 1996).

The most commonly cited definition for partnering are those proposed by the Construction Industry Institute (CII, 1991) in their report '*In Search of Partnering Excellence*,' that put forward by the National Economic Development Office (NEDO, 1991) and the definition put forward by the Associated General Contractors of America (1991). The CII report is based on 27 partnering case studies in the USA and presents a comprehensive review of the partnering subject (Jones, 1994).

Authors who have cited the CII definition include; Baker (1994); Fleet (1996); Moore et al (1992); Crowley and Karim (1995); Wilson et al (1995); Loraine (1994); Master Builders (1992); Cook and Hancher (1990); Jones (1994); and Matthews et al (1996).

The NEDO report consists of two in-depth case studies of established partnerships, plus a number of less formal enquiries with others involved in partnering. These examinations were undertaken by a Working Party of UK construction industry representatives who were experts in the areas upon which the study focused (NEDO, 1991).

Authors who have cited the NEDO definition of partnering include: Fleet (1996); Loraine (1994); and Matthews et al (1996).

CII define partnering as:

“a long-term commitment between two or more organisations for the purpose of achieving specific business objectives by maximising the effectiveness of each participant’s resources. This requires changing traditional relationships to a shared culture without regard to organisational boundaries. The relationship is based on trust, dedication to common goals, and an understanding of each other’s individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services.”

NEDO define partnering as:

“..a contractual arrangement between a client and his chosen contractor which is either open ended or has a term of a given number of years rather than the duration of a specific project. During the life of the arrangement, the contractor may be responsible for a number of projects, large or small and continuing maintenance work and shut downs. The arrangements has either formal or informal mechanisms to promote co-operation between the parties.

The Associated General Contractors define partnering as:

“Partnering is a way of achieving an optimum relationship between a customer and a supplier. It is a method of doing business in which a person’s word is his or her bond and where people accept responsibility for their actions. Partnering is not a business contract but a recognition that every business contract includes an implied covenant of good faith.”

CII’s and NEDO’s definitions of partnering cover both the ‘attribute’ and ‘process’ definition’ as suggested by Crowley and Karim (1995) and Matthews et al (1996) whilst AGC’s has a strong attribute bias.

An interesting feature of partnering is the difference in the NEDO, AGC and CII definitions. The CII and NEDO definitions describe what is called ‘strategic partnering,’ whilst the AGC describe ‘project partnering.’ Moreover, a difference can be identified in the use of contracts

with the different types of partnering. AGC when defining project partnering state that partnering does not require a business contract whilst NEDO when defining strategic partnering state that partnering is a contractual relationship. Clearly, there is a difference between the two approaches. This will be discussed in detail in section (2.9).

CII's and NEDO's definitions tend to concentrate on long term partnering arrangements that existed between process industry clients such as Dupont and Shell Oil and their contractors Flour and Ralph M Parsons. These arrangements had grown out of the long term arrangements and were not subjected to any price competition. In fact it was considered by the participants that price competition in any form inevitably leads to confrontation (Loraine, 1995).

However, Loraine (1995) defined partnering as a relationship that, whatever its extent and duration, actively reduces confrontation and promotes co-operation because of the opportunity for mutual benefit.

Moore et al (1992) define partnering in the context of cultural change and issue resolution arguing that partnering is an alternative management process that seeks to develop organisational change in order to resolve problems. Moore et al continue that the objective of the partnering process is to design an effective problem finding / problem solving management team for each project which would in turn create a culture with one set of goals and objectives for the project. Moore et al clearly employed a 'process' definition. No mention is given to partnerings' attributes.

By contrast to Moore et al (1992) and Loraine (1994), Kubal (1994) defined partnering in the context of its effect on communication flow. Kubal wrote that partnering was actually a quality improvement process that improved communication flow on a project. Kubal proposed that by opening communications among the project management personnel of all the organisations involved, the team completes the project in a team spirit, with all members working together to reach mutual project goals. Kubal concluded that in essence partnering, what ever its form, was a return to the 'old fashioned' ways of doing business. Kubal's philosophy is shared with AGC (1991), Stephenson (1996), Harbuck et al (1994). Like CII's and NEDO's definitions, Kubal also covered the attribute and process definition as proposed by Crowley and Karim (1995) and Matthews et al (1996).

Baker (1990) includes in his definition team working, total quality management, trust and culture. Baker (1990) defined partnering as an approach to contracting based on team work. He continued that partnering embodies the principles of total quality management and seeks to change culture from a traditional project relationship to one based on a win-win scenario. Baker elaborated on the softer issues (attributes) pertaining to partnering by stating that the relationship is based on trust, dedication to common goals and an understanding of each party's expectations and values. This definition has a 'process' bias with great interest shown to the softer elements of partnering. These softer elements can also be identified in CII's (1991) definition.

Bingham (1995) defined partnering more simply. He wrote:

"Partnering is entering into an ordinary everyday building contract and ordinary everyday subcontracts and ordinary everyday professional services contracts and ordinary, everyday supply of widget contracts."

Bingham (1995) continued that partnering was about people working efficiently together to carry out their individual contracts for the good of the actual building project. This definition, although very simplistic, does not have a bias towards either project or strategic partnering like NEDO's (1991) and CII's definition. Bingham has tried to show the philosophy of generic partnering without confusing the reader with a 'procedural' or 'attribute' definition. However, this definition does not attempt to differentiate partnering from traditional contracts.

The RCF (1995) report *"The best practice Guide to Partnering in Construction"* defined partnering using a similar definition to that of the CII's (1991) definition. The RCF report was based on over 40 construction partnering relationships in the UK and USA. RCF definitions were specific to either a one off scenario (project partnering) or partnering based on a long term commitment (strategic partnering).

Also, partnering can be defined within different contexts, for example: Moore et al (1992) defined partnering in the context of cultural change and issue resolution; Kubal (1994) in the context of information flow; Baker (1990) in the context of trust and culture; whilst Crowley and Karim (1995) defined it in the context of organisations. It can be concluded that any definition given by a particular author has a bias towards whatever element of the partnering concept that author believes is most important.

However, confusion with definitions arises when the reader is not clearly made aware of the context, or category of partnering the author is discussing. The next section of the literature will seek to identify the most common categories of partnering.

2.4 CATEGORISING PARTNERING.

Different authors categorise partnering arrangements under different headings. RCF (1995) and Gaede (1995) used the project partnering - strategic partnering definitions. Simply, project partnering is partnering undertaken on a single project. At the end of the project the partnering relationship is terminated and another relationship is commenced on the next project. Strategic partnering takes place when two or more firms use partnering on a long term basis to undertake more than one construction project, or some continuing construction activity RCF (1995).

Loraine (1995) and Infante (1995) use similar categories as those used by RCF (1995), i.e. term partnering and project specific partnering. Infante proposed that partnering is a relationship that occurs at a particular time to meet the needs of all parties concerned. Partnering is a relationship that exists when the client and contractor organisations work in 'concert' to the client's best interest and to enable the contractor to receive suitable rewards according to risk and performance.

Infante (1995) defined term partnering as the life of such a relationship in terms of time or value whilst project specific partnering was the life as contained within a single project whatever the duration or value.

Clearly, term (strategic) partnering can be seen to be concerned with a series of contracts up to a certain value or over a given time period.

Stephenson (1996) proposed that unlike project partnering strategic partnering, because of its long term nature, covers an enormous range of planning, organisational, staffing, directing, controlling, management, marketing and sales functions.

Kubal (1994) stated that there are two levels of partnering practised in the manufacturing and construction industries, first and second level partnering. The higher or second level of

partnering begins only after one or more first level partnering programmes have been completed.

Kubal (1994) defines first level partnering as organisations coming together for one individual project. Kubal noted that this form of partnering will nurture quality and remove the adversarial relationships that exist on most construction projects. Kubal continued that second level partnering only occurred after members of a project team had worked together on one or more previous projects. This level of partnering is for long term working commitments.

It can be identified from Kubal's definitions of first and second level partnering that first level partnering is 'project partnering,' whilst second level partnering is 'strategic partnering' as previously defined by RCF (1995) and Loraine (1995).

NEDO (1991) stated that partnering was not a single unified concept. NEDO further commented on partnering arrangements in the USA by saying that partnering was not a precise concept due to the considerable variation and the degree to which arrangements were formalised.

NEDO developed a classification system for the various types of partnering arrangements that it found in the USA ranging from relatively loose arrangements to those which NEDO regarded as full partnering.

NEDO's categories are:

Category 1 - Preselection agreement: here a client / owner agrees with one contractor to enter into a standard contracts some time in the future. Meanwhile the client provides the contractor with advanced information to facilitate advanced planning.

Category 2 - Co-ordination agreement: this relationship is based on an agreement to co-operate in avoiding problems. This relationship is voluntary and is overlaid on a standard contract for project implementation.

Category 3 - Full partnering agreement: this agreement provides for unsupervised provision of services. Normally the service is supplied by a joint organisation set up for the association.

NEDO's categories do not address the time element of the partnering relationships. NEDO categorises the relationships by their individual 'mechanics.' This approach can be seen as different to the primarily 'time' categorised approach put forward by Kubal (1994), Loraine (1995), Infante (1995) and RCF (1995).

CII (1991) state that there is a difference in the application of strategic partnering into small and large business. CII note that the difference between the two applications is the service provided. Small business partnering (SBP) is used to provide a skill or service available from many competitive sources whilst large business partnering (LBP) is where a client requires a unique customised service that few, if any, contractors can provide without significant internal modifications.

It can be seen from the previous discussion that in essence there exists two generic types of partnering. These can be identified as (a) project partnering: a partnering relationship that exists for the duration of a single project or (b) strategic partnering: a partnering relationship that is developed either for a period of time, a number of contracts or a value (in monetary terms). Due to the nature of these two types of relationships project partnering can be generally categorised as short term whilst strategic partnering is long term. However the question arises, which partnering relationship, strategic or partnering, offers the most benefit?

2.5 PROJECT PARTNERING - STRATEGIC PARTNERING.

As stated in section (2.3) the difference between project partnering and strategic partnering is that project partnering is based on a single project whilst strategic partnering is based on a long term commitment. RCF (1995) and Chartered Institute of Building Services Engineers (CIBSE) (1995) both argue that the greatest benefits are available employing strategic partnering. RCF state that:

“When strategic partnering is used the benefits arise on individual projects; but the scale gradually increases as each new project benefits from the lessons learnt on earlier ones. Strategic partnering provides the full benefits of partnering because it allows time for continuous improvement.”

Infante (1995) argues that continual improvement leads to the situation whereby 'the tail (continuous improvement) is wagging the dog (project).’ Infante states that continuous

improvement in construction is hard to rationalise on the project by project nature of the industry thus it is better to monitor performance against agreed objectives.

Improvements in performance from the use of partnering can be either 'tangible' or 'intangible.' The following section outlines the relative performance of project partnering, strategic partnering and non partnering projects.

2.5.1 Tangible Comparisons.

RCF (1995) quote that strategic partnering can achieve savings of 30% over time whilst project partnering can achieve savings of between 2 - 10 %. However, no clear empirical evidence has been put forward by the RCF to support this categorically apart from EPSRC research undertaken into improving productivity. However, empirical data pertaining to the performance of partnering projects can be identified including Larson (1995), CIDA (1993), and Weston & Gibson (1993).

Larson (1995) carried out research into 280 construction projects in order to identify the success of alternative approaches, including project partnering, to managing the owner-contractor relationships. Larson's results indicate that partnered projects do achieve superior results in controlling costs, technical performance and satisfying customers compared to those projects managed in an adversarial, guided adversarial, and even informal partnering manner.

CIDA (1993) reported that the Arizona Department of Transportation (ADOT) had achieved the following savings on 120 project partnered projects with a total bid amount of US\$300m:

Average time saved:	12.33%
Cost savings (% of bid amount):	18.49%
Value Engineering savings: (% of bid amount):	2.80%
Total Cost Savings (% of bid amount):	19.50%

Other improvements reported by CIDA (1993) that can be identified as intangible include: improved communication, team work, co-operation and an improvement in overall job performance.

Weston & Gibson (1993) undertook research into the performance of US Army Corps of Engineers project partnering compared to those non partnered projects. In total 16 projects were analysed from 19 different districts of the Corps. Weston & Gibson concluded that the mean cost change on a partnering project was +2.72%. This was 6.03% lower than that of a non partnered project +8.75%. Also, it was identified that schedules changed on partnering projects by +9.07% whilst on non partnered projects it increased by +15.53%, a difference of +6.46%. Change orders increased (variations) on partnering projects by +3.89% whilst non partnering projects increased by +7.74% and claims cost on partnering projects were reported at +0.67% and on non partnered +5.01%. The mean value engineering saving on partnered projects was recorded at +0.73%, whilst on non partnered projects it was +0.05 %.

It can be seen from the research of Larson (1995), CIDA (1993), Weston & Gibson (1993) that partnering projects in the USA do continually out perform non-partnered projects. However, no research was identified that compared in a tangible form the performance of project partnering compared with strategic partnering relationships.

It can also be concluded from Weston & Gibson's (1993) research that although partnering does out perform non-partnering projects it does not prevent all errors and changes occurring. What partnering does seem to do is restrict / minimise the effect errors and changes have on a project.

2.5.2 Intangible Comparisons.

Infante (1995) and Loraine (1994) are the prime commentators who have compared the relative merits of project and strategic partnering.

Loraine (1994) stated that until recently most practitioners considered long term (strategic) partnering was the only effective method of partnering. The principle reason for this was that relationships had to be long term to secure benefit; any form of price competition introduced defeated the purpose of the relationship and any culture change required could not be effected on a single project.

Loraine (1994) believed that project partnering has greater long term significance than strategic partnering for several reasons:

- it does not restrict market entry;
- because price features somewhere in the relationship it allows success;
- improvements are more easily monitored; and
- there is still a stimulation of competition.

The challenge of project partnering is to allow these factors to operate without adversarial relationships developing (Loraine, 1994).

Infante (1995) discusses a number of distinguishing characteristics between the two forms of partnering.

“PSP is more effective than term partnering (TP) at retaining a competitive element, even if the contract is negotiated. PSP provides the opportunity to up date and fine tune the selection process regularly. Any counter productive adversarial tendencies introduced by this process are out weighted by the competitive edge it brings. With (TP) the partners are tied to one another, sometimes for many years. This means that the client ignores market developments by other suppliers” (Infante, 1995).

Infante also considers the characteristic of complacency noting that project partnering avoids this. Because completed projects' are evaluated, performance of all parties is sharpened. This evaluation stops a cosy relationship forming, common place in strategic partnering. A negative characteristic of PSP is that it provides less opportunity to correct poor performance as the

relationship can be terminated at the end of the contract. Therefore, success on PSP is essential.

“Compensation methods for PSP are usually tied to the quantifiable elements of cost, time and quality at the end of the project. These are generally simpler than those for strategic partnering which tend to be complex. This is primarily because the project detail and basis for reward is uncertain at the beginning of the strategic partnering agreement” (Infante, 1995).

The benefits of sharing were also highlighted, noting that strategic partnering offers a greater opportunity to have earlier involvement producing more innovation. Infante reported that there is a better chance of developing a sharing approach to culture, resources, expectations and values. Project partnering was seen as not being able to achieve the same level of integration as strategic partnering, since arrangement were not long term.

Regarding the effects of strategic partnering Infante reported that there was a sense of semi - permanence within many strategic partnering arrangements, which possibly leads to more interference, duplication and higher costs than project partnering. Also, strategic partnering may de-motivate other suppliers to compete on future contracts, particularly if other suppliers are seen to be in favour.

“Strategic partnering generally requires an open book approach to costs. This makes suppliers’ costs more transparent and engenders trust. Project specific partnering is based on target costs. This may not require transparency of the contractor’s costs and can contain elements of traditional adversarialism but also be a motivator” (Infante,1995).

Infante believed that the full benefits of term partnering can only be achieved if the arrangement is extended down the supply chain requiring a more complex set of interfaces. The benefits of this are: reliability of supply; cost reduction; effective use of resources; time reduction; right first time; more opportunity for innovation; ability to plan long term; free flow of information and increased safety. The disadvantages are: the client’s dependency is increased on one set of suppliers; costly to set up; clients lose some of their technical expertise; and scope for cost reduction diminishes after initial ‘easy’ cost savings.

Infante’s remaining discussion on the relative merits of strategic partnering over project partnering are incorporated in Table 2.2 which compares the essential characteristics.

Type Of Partnering:	Construction Market Place:	Contracts:	Performance:
Strategic	(1) Less competitive and shuts out alternatives. (2) Loses on market developments.	(1) Needs more complex compensation methods. (2) Is more commercially transparent.	(1) Allow earlier involvement of contractors, subcontractors therefore enhancing the potential for value engineering and opportunities for innovation. (2) Lead to an increase in clients interference and costs after 'easy' early savings
Project	(1) More market driven. (2) Competitive without losing collaborative qualities. (3) Better at motivating suppliers.	(1) Can target project objectives better. (2) Has simpler interfaces requiring less co-ordination and no need for supply chain management. (3) Can introduce adversarial elements through competitive features. (4) Lacks cost transparency.	(1) Best of class for each project. (2) Fresh and fit for purpose approach for each project

TABLE 2.2 : RELEVANT MERITS OF STRATEGIC & PROJECT PARTNERING.

Adapted from Loraine (1995).

RCF (1995) state that the full benefits of partnering, both strategic and project, will take time to develop in an industry that is dominated by short term attitudes and individual one-off projects. The opportunities to implement strategic partnering in the short term are likely to be limited.

Project partnering is therefore likely to take the lead role in developing closer relationships within the construction industry. Many organisations will experiment with project partnering, and wait for provable, positive results, before initiating any strategic partnering relationships. Matthews et al (1996) believed that both project and strategic partnering can play significant roles in moving the UK construction industry away from the traditionally adversarial based approach. By changing from an adversarial to a project partnering approach companies can learn for themselves about the practicalities of partnering. If required this learning can then be used to move from a project to a strategic partnering approach as shown in Figure 3. However,

Matthews et al (1996) warn that if unsatisfactory performance is recorded, organisations can resort to the traditional, largely adversarial approach to business.

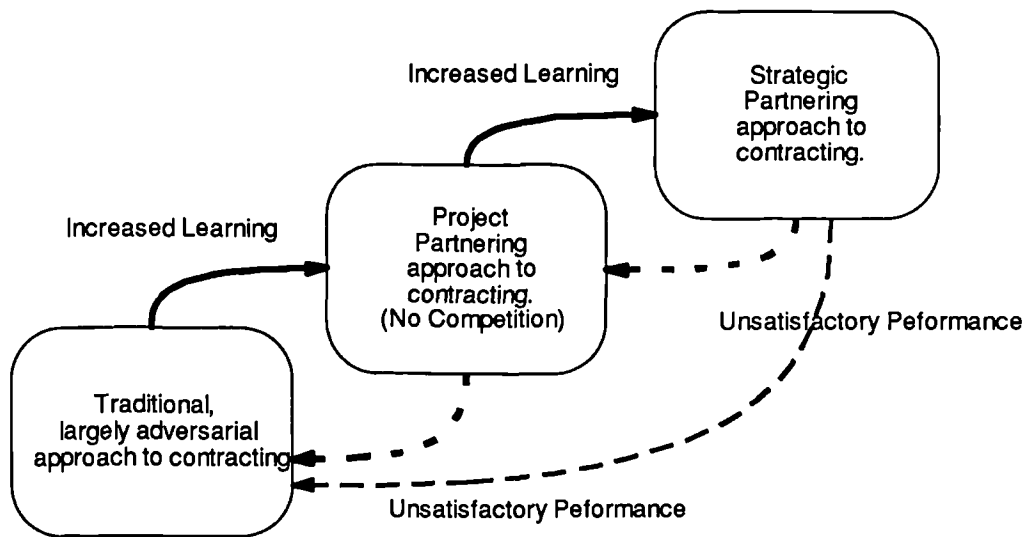


FIGURE 3 : PROGRESS THROUGH INCREASED LEARNING. SOURCE: MATTHEWS ET AL (1996).

CIBSE (1995) state that project partnering will work best on relatively simple buildings constructed under design and build form of procurement. However, like RCF (1995) no empirical data has been put forward to confirm this statement.

In order for strategic partnering to be employed there needs to be continuity of workload from clients (CIBSE, 1995) (RCF, 1995). However, in the current construction market place there are very few clients who can offer main contractors a continuous workload. Therefore, it may be concluded that the most immediate use of strategic partnering is between main contractors and subcontractors where the main contractor can offer subcontractors repeat work over a series of projects, within a particular trade.

2.6 BENEFITS AND POTENTIAL PROBLEMS OF PARTNERING.

2.6.1 Stakeholders.

Before discussing the relative benefits and potential problems of partnering it is important firstly to identify the main stakeholders who can be involved in the partnering process. This will then enable certain benefits to be attributed to certain stakeholders.

Stakeholders of any partnering process are those parties, individuals or organisations who have assigned their commitment to the partnering process by signing a charter. However, Uher (1994) believed that stakeholders are those individuals who impact on quality, schedule or cost of a project. Hellard (1994) identified the following stakeholders:

- building owner,
- design team,
- main contractor,
- specialist contractors,
- sub (sub) - contractors, and
- major suppliers.

To this list Uher (1994) added: relevant authorities; relevant public interest groups and the partnering facilitator. However, when identifying the benefits that can be achieved by partnering most authors who actually discuss 'partnering benefits' usually concentrate on some, if not all, of the following: Project Owner; Project Contractor; Project Architect; Engineer and Consultants; Project Subcontractors; and Suppliers (Uher, 1994) (AGC, 1991) (CII, 1991) (Hellard, 1995) (RCF, 1995) (Stevenson, 1996) (Schultzel & Unruh, 1996) (Kubal, 1994). For the purposes of this thesis those stakeholders put forward by the previously cited authors will be used.

2.6.2 Identification of Benefits.

In order to identify the benefits of partnering, under the previously stated stakeholders, an examination of the current partnering literature was undertaken to identify those theorists and practitioners who had discussed the benefits in-depth. Eleven sources of information were found. These can be seen within the 'reference legend' on Table 2.3. Each benefit was identified and situated under its relative stakeholder. In total 94 benefits were identified. The following were found to be the most prevalent for each stakeholder:

2.6.3 Most Prevalent Benefits for Project Owner (Client).

- reduced exposure to litigation through open communication and issue resolution strategies (8 citations);

- lower risk of cost overruns and delays because of better time and cost control over projects (8 citations);

better quality product because energies are focused on the ultimate goal and not misdirected to adversarial concerns (6 citings); and

open communication and unaltered information allow more efficient resolution of problems (7 citings).

2.6.4 Most Prevalent Benefits for Contractor.

reduced exposure to litigation through communication and issue resolution strategies (8 citings);

better time and cost control over project (8 citings);

lower risk of cost overruns and delays because of better time and cost control over project (6 citings);

increased opportunity for financially successful project because of non adversarial win -win attitude (6 citings); and

enhanced repeat business opportunity (6 citings).

2.6.5 Most Prevalent Benefits for Architect, Engineer and Consultants.

reduced exposure to litigation through communication and issue resolution strategies (7 citings);

enhanced role in decision making process, as an active team member in providing interpretation of design intent and solutions to problems (6 citings); and

increased opportunity for a financially successful project because of non-adversarial win - win attitude (5 citings).

2.6.6 Most Prevalent Benefits for Subcontractors and Suppliers.

improved decision making avoids costly claims and saves time and money (6 citations);

reduced exposure to litigation through communication and issue resolution strategies (5 citations); and

increased opportunity for a financially successful project because of non - adversarial win - win attitude (5 citations).

Along with the above stated benefits of partnering, by-products of partnering were also identified. The most prevalent by products were seen to be: address human elements to build a team environment; stakeholders find themselves in a new mood of thinking; morale is enhanced and an esprit de corps is developed; and new opportunities and career paths for employees.

(A) Benefits to Project Owner (Client):	(B) Benefits to Contractor:	References Legend:
<p>(1) Reduced exposure to litigation through open communication and issue resolution strategies. 1, 3, 4, 6, 8, 9, 10, 11</p> <p>(2) Lower risk of cost overruns and delays because of better time and cost control over projects. 1, 2, 3, 4, 5, 6, 8, 11</p> <p>(3) Better quality product because energies are focused on the ultimate goal and not misdirected to adversarial concerns. 1, 2, 3, 5, 8, 9</p> <p>(4) Potential to expedite project through efficient implementation of the contract. 1, 2, 8</p> <p>(5) Open communication and unaltered information allow more efficient resolution of problems. 1, 2, 3, 4, 8, 10, 11</p> <p>(6) Lower administrative costs because of elimination of defensive case building. 1, 2, 3, 8, 11</p> <p>(7) Increased opportunity for innovation through open communication and element of trust, especially in the development of value engineering changes and constructability improvements. 1, 2, 3, 8, 11</p> <p>(8) Increased opportunity for a financially successful project because of non-adversarial win - win attitude. 1, 2, 3</p> <p>(9) Reduced risk of pressure groups disputing the project through the involvement of end users and other stakeholders. 1</p> <p>(10) Increased opportunity helps customers get project teams to focus their needs. 4</p> <p>(11) Better quality product through reduction of defects and rework. 4, 5, 6</p> <p>(12) Established team find time to develop techniques that provide better and more relevant information. 4, 5</p>	<p>(1) Reduced exposure to litigation through communication and issue resolution strategies. 1, 2, 3, 4, 6, 8, 9, 11</p> <p>(2) Increased productivity because of elimination of defensive case building. 1, 2, 3, 8, 11</p> <p>(3) Expedited decision making with issue resolution strategies. 1, 2, 3, 6, 7, 8, 9</p> <p>(4) Better time and cost control over project. 1, 2, 3, 4, 6, 7, 8, 11</p> <p>(5) Lower risk of cost overruns and delays because of better time and cost control over project. 1, 2, 3, 4, 8, 11</p> <p>(6) Increased opportunity for financially successful project because of non adversarial win - win attitude. 1, 2, 3, 6, 8, 11</p> <p>(7) Better quality management through a culture and organisational structure conducive to TQM implementation. 2, 7, 9</p> <p>(8) Better integration and materials management through improved communication and team approach. 2, 11</p> <p>(9) Quicker response time to questions and answers processing of variations. 2</p> <p>(10) Opportunity to increase margin through cost sharing of post tender value management savings splitting. 2</p> <p>(11) Improved industrial and safety through team approach and subcontractor involvement in planning and monitoring. 2, 9</p> <p>(12) Opportunity to develop an ethical and mutually rewarding relationship with subcontractors. 2</p> <p>(13) Lower over head costs. 3</p>	<p>1: AGC (1991) <i>Partnering: A Concept for Success</i></p> <p>2: Uher (1994) <i>Partnering in Construction</i>.</p> <p>3: Hellard (1995) <i>Project Partnering</i>.</p> <p>4: RCF (1995) <i>Trusting the Team</i>.</p> <p>5: Schultzel & Unruh (1996) <i>Successful Partnering</i></p> <p>6: Kubal (1994) <i>Engineering Quality in Construction : Partnering and TQM</i>.</p> <p>7: Sanders & Moore (1992) <i>Perceptions of Partnering in the Public Sector</i>.</p> <p>8: CIDA (1993) <i>Partnering : A strategy for Excellence</i>.</p> <p>9: Cook & Hancher (1994)</p>

(A) Benefits to Project Owner (Client):	(B) Benefits to Contractor:	References Legend:
<p>(13) Partnering helps reduce clients staff time by avoiding going through the same learning curve. ^{4, 5, 9, 11}</p> <p>(14) Partnering reduces costly and time consuming selection processes leading to shorter design times, quick start on site and shorter construction times. ^{4, 5, 9}</p> <p>(15) Partnering firms are more responsible to customer short term emergencies and to changing project or business needs. ^{4, 9}</p> <p>(16) Improved understanding promotes improved safety. ⁴</p> <p>(17) Increased market share and profitability. ⁵</p> <p>(18) Improved ability to respond to changing market conditions. ⁵</p> <p>(19) Affiliation with strong and respected national firms. ⁵</p> <p>(20) Better schedule control. ⁶</p> <p>(21) Development of team for future projects. ⁶</p> <p>(22) Reduced dependence on legal counsel. ⁶</p> <p>(23) Eliminates need to allocate highly skilled resources to the bid adjudication process. ¹¹</p>	<p>(14) Enhanced repeat business opportunity. ^{3, 4, 5, 6, 9, 11}</p> <p>(15) Increased productivity reduces direct costs. ^{4, 5}</p> <p>(16) Fewer man hours because of increased productivity. ^{4, 5, 11}</p> <p>(17) Less paper. ⁴</p> <p>(18) Lower marketing costs. ⁴</p> <p>(19) Lower fees. ⁴</p> <p>(20) Allows for continuity of personnel from project to project. ⁴</p> <p>(21) Cost associated with bidding on a project basis are eliminated and in many cases replaced by a simple, essentially administrative calculation of project sum. ^{4, 5, 11}</p> <p>(22) Partnering reduces costly and time consuming selection processes leading to shorter design times, quick start on site and shorter construction times. ⁴</p> <p>(23) Contractors increased understanding improves commissioning and hand over of building smoother. ⁴</p> <p>(24) Understanding customer plan allows contractor to plan the development of their own staff more confidently in changing market conditions. ⁴</p> <p>(25) Earlier involvement of contractor, plus value engineering (conceptual phase) improves constructability. ^{4, 6}</p> <p>(26) Improved understanding promotes improved safety. ⁴</p> <p>(27) Strategic relationship building (long term). ⁵</p> <p>(28) Affiliation with string and respected national firms known in the business world. ^{5, 11}</p> <p>(29) Compensation based on value added contributions. ⁵</p>	<p><i>Partnering: Contracting for the Future</i></p> <p>¹⁰: Abudayyeh (1994)</p> <p>Partnering: A Team</p> <p>Building Approach to Quality Construction</p> <p>Management</p> <p>¹¹: NEDO (1991)</p> <p>Partnering: Contracting without Conflict.</p>

(A) Benefits to Project Owner (Client):	(B) Benefits to Contractor:	References Legend:
	<p>(30) Concentration on the continuous improvement of work systems to provide greater efficiency and enhancement of technical matters. ⁵</p> <p>(31) Better allocation of resources because of ability to plan long range basis. ^{5,11}</p> <p>(32) Faster payments. ⁵</p> <p>(33) Formation of teams for future projects. ⁶</p> <p>(34) Improvements in operation systems which spill over into all activities. ¹¹</p> <p>(35) There should be some sharing of cost of problem solving. ¹¹</p> <p>(36) Opportunity to refine and develop new skills. ⁹</p>	

(C) Benefits to Architect, Engineer and Consultants:	(D) Benefits to Subcontractors & Suppliers:	(E) By Products of Partnering:
<p>(1) Reduced exposure to litigation through communication and issue resolution strategies. ^{1, 2, 3, 4, 6, 8, 1}</p> <p>(2) Minimised exposure to liability for document deficiencies through early identification of problems, continuous evaluation, and co-operative, prompt resolution which can minimise cost impact. ^{1, 2, 3, 8}</p> <p>(3) Enhanced role in decision making process, as an active team member in providing interpretation of design intent and solutions to problems. ^{1, 2, 3, 4, 6, 8}</p> <p>(4) Reduced administration costs because of elimination of defensive case buildings and avoidance of claim administration and defence costs. ^{1, 2, 3, 8}</p> <p>(5) Increased opportunity for a financially successful project because of non-adversarial win - win attitude. ^{1, 2, 3, 6, 8}</p> <p>(6) Less paper. ⁴</p> <p>(7) Lower marketing costs. ⁴</p> <p>(8) Lower fees. ⁴</p> <p>(9) Enhanced opportunity for repeat business. ^{4, 6, 9}</p> <p>(10) Designers develop an understanding of each others approach and so propose and develop designs in ways that are in tune with each others thinking. ⁴</p> <p>(11) Partnering reduces costly and time consuming selection processes leading to shorter design times. ⁴</p> <p>(12) Improved understanding promotes safety. ⁴</p> <p>(13) Optimum use of designers time. ⁶</p>	<p>(1) Reduced exposure to litigation through communication and issue resolution strategies. ^{1, 2, 3, 4, 8}</p> <p>(2) Equity involvement in project increases opportunity for innovation and implementation of value engineering work. ^{1, 2, 3, 8}</p> <p>(3) Potential to improve cash flow due to fewer disputes and withheld payments. ^{1, 2, 3, 8}</p> <p>(4) Improved decision making avoids costly claims and saves time and money. ^{1, 2, 3, 4, 6, 8}</p> <p>(5) Enhanced role in decision making process as an active team member. ^{1, 8, 8}</p> <p>(6) Increased opportunity for a financially successful project because of non-adversarial win - win attitude. ^{1, 2, 3, 6, 8}</p> <p>(7) Reduced delays through project team involvement in industrial and safety issues. ²</p> <p>(8) Reduced exposure to bid shopping and onerous subcontract conditions. ^{2, 6}</p> <p>(9) Reduced over head costs. ³</p> <p>(10) Better or more reliable programming. ³</p> <p>(11) Enhanced opportunity for repeat business. ^{3, 4, 8}</p> <p>(12) Less paper. ⁴</p> <p>(13) Increased productivity reduce direct costs. ⁴</p> <p>(14) Fewer man hours because of increased productivity. ⁴</p> <p>(15) Lower marketing costs. ⁴</p> <p>(16) Cost associated with bidding on a project basis are eliminated and in many</p>	<p>(1) Address human elements to build team environment, stakeholders find themselves in a new mood of thinking. ^{1, 3, 4, 8}</p> <p>(2) Working can become fun. ^{1, 8}</p> <p>(3) Morale is enhanced and an esprit de corps developed. ^{1, 4, 5, 8}</p> <p>(4) Heightened awareness of the value of fair dealing can be used internally, externally and in all aspects of business life. ^{1, 8}</p> <p>(5) Demonstrating integrity and fair dealing produces respect for others. This respect produces a reputation of true value in the industry. ¹</p> <p>(6) Partnering process empowers personnel of all stakeholders with the freedom and authority to accept responsibility. ³</p> <p>(7) Partnering arrangements provide access to specialist bodies of knowledge owned</p>

<p>(14) Development of team for future projects.⁶</p> <p>(15) Opportunity to develop and refine new skills.⁹</p>	<p>cases replaced by a simple, essentially administrative calculation of project sum.⁴</p> <p>(17) Partnering reduces costly and timely consuming selection processes leading to shorter design times, quick start on site and shorter construction times.⁴</p> <p>(18) Improved understanding promotes improved safety.⁴</p> <p>(19) Faster payment.⁶</p> <p>(20) Reduced dependence on legal counsel.⁶</p>	<p>by a partner that might otherwise not be known about or which it would be difficult to gain access.⁴</p> <p>(8) Partnering helps firms to become leaders in their business by innovating and exploring many attractive options.⁴</p> <p>(9) New opportunities and career paths for employees.^{5, 8, 11}</p> <p>(10) Work with some sense of job security.^{5, 11}</p> <p>(11) A stated and strong commitment to training and learning, both internally and externally.⁵</p>
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(C) Benefits to Architect, Engineer and Consultants:	(D) Benefits to Subcontractors & Suppliers:	(E) By Products of Partnering:
		(12) Opportunity to make strong personal relationships. 5 (13) An opportunity for immediate recognition and feedback, and in some cases incentive monetary rewards. 5

TABLE 2.3 : BENEFITS TO STAKEHOLDERS.

By analysing Table 2.3 it can be concluded that the report published by AGC (1991) has acted as a forerunner in the identification of partnering benefits. Only 1 of the 'most prevalent' benefits cannot be seen within the AGC report (Enhanced repeat business opportunity for contractor). Uher (1994), Kubal (1994), Abudayyeh (1994), Hellard (1995), RCF (1995) can all be seen to largely agree with AGC (1991) statements.

Also, by studying all of the benefits within table 2.3 it is concluded that benefits of partnering are accrued by all stakeholders under the following 6 categories:

- (1) Improved contractual situation.
- (2) Improved communication and information flow.
- (3) Increased understanding.
- (4) Improved efficiency of resources.
- (5) Improved financial position.
- (6) Improved quality.

Both CII's (1991) and Sanders & Moore (1992) research findings largely support the above categorisation. CII (1991) undertook research into identifying benefits of employing partnering by Contractors and Owners. A sample size of 13 (7 contractors and 6 owners) was utilised and the following results were calculated:

“Improved ability to respond to changing business conditions: 85% of respondents stated that their project was less adversarial. Eighty-two percent stated that they experienced improved resource planning, increased openness, and 78% had experienced increased trust.

Improved quality and safety: 90% stated that safety improved whilst 82% experienced fewer errors. Improved quality was experienced by 96% of the respondents.

Reduced cost and schedule and improved profit (value): 8% of respondents experienced a reduction in project cost, whilst contractors reported higher profitability by 10% and improved scheduling by 7%.

Effective utilisation of resources; 10% of respondents experienced engineering cost reduction, whilst 6% experienced administrative cost reduction, and 82% saw an improvement in communication and teamwork” CII (1991).

Sanders & Moore (1992) also support the authors categories. Sanders & Moore conducted a questionnaire survey in order to identify how field personnel (site operatives), both government (US) and contractor, felt that the partnering concept was working on current US construction projects. In total, 19 questionnaires were sent out, and 12 (63%) were returned. Sanders and Moore concluded from their research that the benefits of implementing partnering were; improved job co-ordination; improved dispute resolution (decrease in time spent arguing); improved quality assurance and control. Communication was seen to assist in the achievement of these benefits (Sanders & Moore, 1992).

2.7 IDENTIFICATION OF POTENTIAL RISKS AND PROBLEMS OF PARTNERING.

Despite the potential advantages / benefits derived from partnering arrangements, partnering entails risks / problems that companies must evaluate (Cook, 1990). In order to identify these risks / problems an analysis of current literature was undertaken. In total 13 authors were identified who discussed the risks / problems of partnering. Those statements put forward by the authors are included in table 2.4.

NEDO (1991) categorised their problems not only under client and main contractor, but also under full partnering and semi partnering whilst Schultzel & Unruh (1996) classified their problems under the owner and design contractor. However, CII (1991) include suppliers in their classification.

Apart from these three authors little attention has been given by other authors to distinguish which problems are specific to which stakeholder

Potential Problem.

- (1) Too many people jumping on the bandwagon.¹
- (2) Loss of control or even dishonesty arising from relaxing the congenital contract.
1, 10
- (3) Adopting partnering to correct weakness in an organisation.¹
- (4) It takes time to achieve properly, up front investment / commitment needed.²
- (5) Adversarial ways run deep, hard to change. Start with partnering philosophy but revert back to traditional.^{2, 3, 7, 4, 8, 10}
- (6) Uneven levels of commitment.^{3, 12}
- (7) Failure to share information.³
- (8) Continual commitment to partnering needed.^{3, 4}
- (9) Lack of commitment.^{4, 5}
- (10) Diluting the impact of partnering (Conservatism).⁵
- (11) Too optimistic when benefits will be achieved.⁵
- (12) Arrangement going soft and the benefits being dissipated.⁵
- (13) Selecting wrong partner.⁵
- (14) Not treating it as an equal partnership.⁵
- (15) Creating master - servant relationship.⁵
- (16) Not providing a continuity of workload.⁵
- (17) Closer relations promotes un-ethical collusion.^{12, 13}
- (18) Increasing time spent in meetings.⁶
- (19) Unfulfilled expectations.⁷
- (20) One size (process) fits all solutions.⁷
- (21) Giving lip service to partnering.⁸
- (22) Loss of opportunities for contractors.⁹
- (23) Lower margins for contractor.⁹
- (24) Variable work load will make commitment more onerous.⁹
- (25) Absence of competitive bidding may reduce benefit gained by market down turns.^{9, 10}
- (26) Committed to find work for core team.⁹
- (27) Difficult to keep contractors 'on their toes'.⁹
- (28) Adverse effect on staff.⁹
- (29) Reduction in opportunity to benefit from client mistakes.⁹
- (30) Charter and contract not compatible.⁴
- (31) Evaluation and assurance of value achieved.¹⁰
- (32) Creation of dependencies.¹⁰
- (33) Internal concerns about job security.¹⁰
- (34) Increased stress resulting from higher client expectations.¹⁰

TABLE 2.4 : IDENTIFIED POTENTIAL RISKS / PROBLEMS OF PARTNERING

¹: CIBSE (1995), ²: Pakora & Hastings (1995), ³: Moore et al (1992), ⁴: Uher (1994), ⁵: Porter (1996), ⁶: Sanders & Moore (1992), ⁷: Harbuck et al (1994), ⁸: AGC (1991), ⁹: NEDO (1991), ¹⁰: Schultzel & Unruh (1996), ¹¹: CII (1991), ¹²: Cook (1990), ¹³:Plavsic (1994)

By analysing Table 2.4 the following observations can be made:

Commitment can be seen as a very prevalent problem in partnering. Commitment can be identified as taking various forms. These include; commitment in finding work (24); uneven levels of commitment (6); continuity of commitment (8); lack of commitment (9), (12); and up front commitment.

Cultural issues of changing the way a company works can also be seen as important. *“Adversarial ways run deep, hard to change. Start with partnering philosophy and change back to traditional”* was a problem identified and supported by 6 authors. Moreover, this problem also had connecting implications for other risks identified. Statements 2, 7, 14, 15, 23, 25, 27 and 29 can all be seen as by products of this change back to traditional habits.

Using partnering as a marketing / promotional ploy or not using it properly can also be identified as a problem / risk. Statements 1, 3, 10, 11, 12, 13, 19, 20 and 21 all support this comment.

Other notable correlations include: legal implications of comments 2 and 30; careful and realistic evaluation of the benefits of partnering (31 and 11); and unethical practices as identified in comments 2 and 17.

By comparing these observations to those made by other authors similarities can be identified. CII (1991) identified 13 factors that affect the continuation of partnering relationships. Of these, long term work load commitment was found to have the greatest impact, whilst changing culture / attitude was also seen as very important. Other research carried out by CII (1991) showed that changing attitudes was also a great concern, for both contractors and owners, before entering into a partnering relationship.

The most significant research identified by the author pertaining to problems / risks of project partnering is the work carried out by Stephenson (1996). Stephenson analysed the problem statements of 23 partnering sessions. In total 2855 problems were identified which fell broadly

into 45 major classes. The top ten of these classes were identified as: job management; communicating with others; staff morale and attitudes; personnel quality and problems; being a good on site neighbour; timely action; planning and scheduling; organisation, authority and responsibility; work site conditions; and revision processing.

Little correlation can be found between the review of the partnering literature and Stephenson's (1996) research. This can be attributed to two factors. Firstly, the general context of the partnering literature and secondly the practical working context of Stephenson's problems. This is due to the fact that the problems were extracted directly from active partnering charters.

2.8 KEY ELEMENTS OF PARTNERING.

When discussing the key elements of partnering within a general form different commentators state different elements as key to partnering, either project specific or strategic. In order to ascertain the most critical / important elements as discussed within the published literature a basic 'identification test' was undertaken.

This test was carried out by firstly identifying literature that either implicitly or explicitly discussed the key elements of partnering. By incorporating these elements into a table (See tables 2.6 and 2.7) the most prevalent elements of partnering across the partnering literature could be identified.

Twenty authors were identified who discussed the key elements of partnering. In order to identify the most prevalent elements of partnering a table was developed that showed key words or phrases proposed by each author. In total 117 phrases / key words were identified of which 18 were different. The 10 most prevalent phrases / key words identified were: goals and objectives; trust; problem resolution; commitment; continuous evaluation; group working and teams; equity; shared risk; win - win philosophy; and collaboration and co-operation. (Refer to Table 2.5).

Some of the key words / phrases identified by different authors seemed in the first instance to be different. However, on closer inspection they were interpreted to be the same. For example, Wilson et al (1995) quoted 'conflict management' as being important whilst Mosley et al (1991) quoted 'problem resolution' as important. In total 20 papers were selected based on the following criteria:

(1) Year of Publication: 1990, 4 papers; 1991, 2 papers; 1993, 4 papers; 1994, 2 papers; 1995, 3 papers and 1996, 1 paper.

(2) Location source of author(s): United States of America, Australia and the United Kingdom.

(3) Primary content of papers: Project Partnering (Moore et al, 1992); Contractual Issues (Fleet, 1995); Conceptual Model of Partnering (Crowley & Karim, 1995); Result of 280 Partnering Projects (Larson, 1995).

This selection process was undertaken in order to obtain an holistic representation of the overall philosophy of the partnering publications.

	<i>Most Prevalent Elements to Partnering</i>	<i>No. of authors</i>
1	Goals and Objectives	14
2	Trust	14
3	Problem Resolution	13
4	Commitment	12
5	Continuous Evaluation	7
6	Group Working / Teams	7
7	Equity	6
8	Shared Risk	3
9	Win-Win Philosophy	3
10	Collaboration / Co-operation	2

TABLE 2.5 : KEY ELEMENTS OF PARTNERING + MOST PREVALENT ELEMENTS TO PARTNERING.

By identifying the key elements of partnering it can be seen that many of the parts are, in themselves, subject areas in their own right. For the purposes of this thesis the elements will be only discussed in the context of partnering. However, where there is a perceived weakness in the explanations and theories put forward in the partnering literature clarification is made by referring to general and construction management literature (Trust: Powell, 1993; Win - Win philosophy; Covey 1989). To cover these areas in greater detail would extend the coverage of the thesis beyond its initial aims and objectives. Also, many of the elements discussed are not mutually exclusive, many have an impact on other parts of partnering.

Due to the lack of distinction made within the published literature between those papers written pertaining to 'project partnering' and those to 'strategic partnering' no discussion is held within this section comparing elements between the two partnering methods.

<i>Harbuck et al (1994)</i>	<i>Stevens (1993)</i>	<i>Fleet (1996)</i>	<i>Sanders & Moore (1992)</i>	<i>Larson (1995)</i>
Commitment from the top	Commitment	Seek win - win solutions	Common Goals	Teamwork
Equity	Mutual Goals	Client offer repeat work	Co-operation	Collaboration
Trust	Implementation	Mutual trust & openness	Open Communication	Trust
Mutual Goals	Solving Problems		Group Working	Openness
Implementation	Continuous Evaluation		Co-operative management team	Mutual Respect
Continuous Evaluation			Problem Solving	
Timely Response to problems				
Celebration				

<i>RCF (1995)</i>	<i>CIDA (1993)</i>	<i>Master Builders (1992)</i>	<i>Hartnett (1990)</i>	<i>Mosley et al (1991)</i>
Free & Open Communication	Commitment	Commitment	Develop co-operative management team	Joint Relationships
Open book Costing + Respect for Confidential Information	Equity	Equity	Common Goals	Honour and Shared Values
Annual Review of Performance	Trust	Trust	Act in good faith	Common Goals
Joint Training / Workshops	Mutual Goals / Objectives	Mutual Goals / Objectives		Problem Resolution
Continuous Improvement	Helpful systems and procedures	Helpful systems and procedures		Win - Win Philosophy
Secure Project Team	Continuous Joint Evaluation	Continuous Joint Evaluation		
Mutual Objectives	Timely Responsiveness	Timely Responsiveness		
Problem Resolution				

TABLE 2.6 : KEY ELEMENTS TO PARTNERING.

<i>Cook & Hancher (1990)</i>	<i>Jones (1994)</i>	<i>Weston & Gibson (1993)</i>	<i>AGC (1991)</i>	<i>Wilson (1995)</i>
Commitment	Commitment	Trust	Commitment	Team Building
Trust	Mutual Objectives	Shared Vision	Equity	Conflict Management
Mutual Advantage & Opportunity	Trust & Integrity	Long Term Commitment	Trust	Trust
			Development of mutual objectives	Mutual Goals
			Implementation	Objective Development
			Continuous Evaluation	
			Timely Responsiveness	

<i>AGC (1993)</i>	<i>Moore et al (1992)</i>	<i>Cowan et al (1992)</i>	<i>NEDO (1991)</i>	<i>CHI (1991)</i>
Commitment - from top management down	Problem Resolution	Full Partnership	Ongoing Workload (Client)	Long Term Commitment
Equity	Mutual Goals	Win - Win	Careful Selection of Partner	Trust
Trust	Shared Risk	Joint Problem Solving	Trust & Confidence in Partner	Shared Vision
Mutual Goals and Objectives	Commitment from Top Management	Joint Project Teams	Commitment at the highest levels in both organisations.	Equity
Strategies for Problem Solving		Risk Sharing		Investment
Continuous Evaluation		No Claims		Synergism
Timely Responsiveness		Mutual Goals		Shared Risk
				Rewards, Systemic, Competitive Edge.

TABLE 2.7 : KEY ELEMENTS OF PARTNERING

2.8.1 Goals and Objectives.

Those authors that comment on goals and objectives were identified as: Cowan et al (1992), Moore et al (1992), Harbuck (1994), Stevens (1993), Wilson et al (1995), Sanders & Moore (1992), CIDA (1993), Master Builders (1991), Mosley et al (1991), Hartnett (1990), Jones (1994), AGC (1991) and (1993), RCF (1995).

Despite the traditional conflict between parties within construction Cowan et al (1992) believed that many companies' / individuals share sufficient common goals to form more collaborative relationships. Cowan et al continued by saying that the typical contractor / owner relationship was characterised by win-lose strategies and mistrust. Cowan et al believed that these strategies restricted management through confrontation in solving problems and maintains an arms length relationship with two project teams with conflicting objectives. Cowan et al proposed that although this inherent conflict existed, the owner and the contractor share sufficient common goals to form a closer working relationship. RCF (1995) stated that many people feel that it is difficult to find mutual objectives given the great variety of organisations that are needed to design, manufacture and construct a modern building or engineered facility. Case studies cited in RCF (1995) show that if the project teams are brought together to discuss their individual interests they can find mutual objectives.

Moore et al (1992) wrote that the primary advantage of partnering was that it recognises and honours the objectives of all parties thereby creating synergy for project success. Sanders and Moore (1992) continued on this point by stating that partnering approach to managing construction relationships highlighted the establishment of common goals and utilises the concept of group dynamics to achieve these goals. However, Cowan et al (1992) warned the reader to look beyond goals and objectives when discussing partnering, they stated that partnering was in fact more than a set of goals and procedures, it was a 'state of mind.' However, RCF (1995) take a different view. They wrote that the most fundamental requirement of partnering is an agreement on mutual objectives. They stated that the aim was to identify objectives that firmly established, for everyone involved, their own best interests that will be served by concentrating on the overall success of the project RCF (1995).

Wilson et al (1995) make a clear differentiation between partnering values and goals. Wilson et al wrote that values are fundamental notions of correct behaviour which form the foundation of an organisations character where as goals were mutual understandings which establish the

operational parameters driving mission fulfillment. The key aspect of the goals and objectives is that they must be acceptable to all stakeholders CIDA (1993).

Examples of partnering goals / objectives put forward by Wilson et al (1995) and AGC (1991) include: on-time delivery; within budget; no claims and litigation; quality product; no rework; increased communication; better working environment; customer satisfaction; achieving value engineering savings; meeting the financial goals of each party; limiting cost growth; early completion; no lost time because of injuries; minimise paperwork generated; and no litigation.

At a partnering workshop the stake holders identify all respective goals and objectives for the project. These goals / objectives are then incorporated in to a partnering charter AGC (1991).

The charter is a symbol of the stakeholders commitment to partnering and a standard against which the stakeholders implementation of the process can be measured.

Partnering workshops and charters will be discussed in more detail in chapter 3.

Once goals and objectives have been established and the partnering process is underway, a system of evaluating the goals has to be established. This is known as 'continual evaluation' (AGC, 1991 & 1993), (CIDA, 1993) (Harbuck et al, 1994) and is undertaken to ascertain whether the partnering is proceeding as intended and that all stakeholders are carrying out their commitments.

Continual evaluation is dealt with generally in section (2.8.6) and because of the importance it has with partnering will be dealt with specifically in chapters 3 and 7.

2.8.2 Trust

Trust within the context of partnering was mentioned by 14 authors. These were: Cook & Hancher (1990); Jones (1994); Weston and Gibson (1993); AGC (1991) and (1993); Wilson et al (1995); Moore et al (1992); NEDO (1991); CII (1991); Harbuck et al (1994); Fleet (1996); Larson (1995); CIDA (1993); and Master Builders (1992).

CIDA (1993) stated that trust was a 'warm,' 'fuzzy' part of partnering which contractors and owners alike feel uncomfortable with. This was further developed by Powell (1993) who wrote that trust existed in five levels (micro to macro level); (1) the individual, (2) the firm, (3) the

building project, (4) the building industry and professions and (5) the community and society as a whole. However, Powell (1993) proposed that individual trust was central in the process of building trust.

CIDA (1993) proposed that the success of partnering fundamentally relied upon all parties conducting their business in an open and trusting way. This proposition was supported by Fleet (1996), Moore et al (1992), Wilson et al (1995) and Cook & Hancher (1990).

CIDA (1993) and CII (1991) both agreed that trust should commence during the workshop / charter formulation phase. However, CIDA further commented that every opportunity should be taken to develop trust at all times. CIDA also warned that trust is something that cannot be bought or sold. They proposed that it is earned by mutual endeavour.

NEDO (1991) reported that trust often is developed from less formal relationships which have been built up over several years.

Trust is important for two main reasons. Firstly, because the relationship is long term and each party has to make a commitment based on integrity and reliability. Secondly, clients have to divulge information concerning future plans early on in the conceptual phase NEDO (1991). NEDO's comments can be seen to be in the context of strategic partnering because of the emphasis put upon 'long term' and 'future plans.' In the context of project planning these reasons can be applied although not to the same extent. To confirm this CIDA (1993) reported that on a case study of project partnering, that trust could not be totally developed on a single project.

When discussing 'cultural change' in partnering CII (1991) believed that trust had a major impact to play in promoting change. CII wrote that 'mutual trust' was the corner stone to a partnering relationship. Mutual trust in this instance should be developed to a greater degree than that found in traditional adversarial relationships. Also, CII believed that trust should be seen as a 'leap of faith;' or a 'paradigm shift' based on a long term commitment.

Benefits in developing trust were seen as: improving team work (CIDA, 1993) (Master Builders, 1992); improved understanding (CIDA, 1993) (Master Builders, 1992) (AGC, 1991); promoting a mutually beneficial relationship (CIDA, 1993) (Cook & Hancher, 1990); improved communication (Master Builders, 1992); better chances of developing a synergistic relationship (Master Builders, 1992) (Cook & Hancher, 1990) (AGC, 1991); and promotes

shared information (CII, 1991). No clear evidence was given on how these benefits were accrued.

2.8.3 Problem Resolution.

Nine authors referred to problem resolution directly as an essential element of partnering. These include: Harbuck (1994), Stevens (1993), Sanders (1992), Mosley et al (1991), Wilson (1995), AGC (1991) and (1993), Moore et al (1992), and Cowan et al (1992). However, most of the above authors only give a passing mention to problem resolution. Most effort is given to the development of an Issue Resolution Policy. It was also noted that some authors refer to problem resolution in the context of 'Timely Responsiveness.' These authors include: CIDA (1993), Master Builders (1992), AGC (1991) and (1993), Hartnett (1990).

Moore et al (1992) believed that one of the main aims of partnering was to design an effective problem finding / problem solving management team. Sanders (1992) and Hartnett (1990) saw that the focus of the management was to focus on problem resolution rather than litigation.

Problem resolution is about solving problems at the lowest level of management within a predetermined time period. If they are not solved at this level then they are escalated to the next level of management (Sanders, 1992), (Harbuck, 1994), (RCF, 1995).

RCF (1995) reported that the overall aim of issue resolution is to resolve disputes without needing to use mediation or any harder legal issues. RCF continue that every effort should be made to find a way forward without using Alternative Dispute Resolution (ADR) processes.

The process of developing issue resolution policies is critical (Moore et al, 1992) to the partnering process and will therefore be discussed in greater detail in chapter 3 and in sections (7.9) and (7.4.8).

2.8.4 Commitment.

Authors who have commented on commitment within the context of partnering include: Harbuck et al (1994), Stevens (1993), CIDA (1993), Master Builders (1992), Cook & Hancher (1990), Jones (1994), AGC (1991) and (1994), Moore et al (1992), NEDO (1992), CII (1991), and Weston & Gibson (1993).

The most important element in establishing partnering relationships is commitment (Cook & Hancher, 1990). Commitment to the partnering process must come from top management (Master Builders, 1992), (Harbuck et al, 1994), (AGC, 1991 and 1993). Harbuck et al (1994) and Moore et al (1992) justify this by stating that because of additional efforts, new behaviours and up front costs required for partnering, top levels of management must be fully committed to the concept and process. Moore et al continue by stating that without continual commitment and active support of management, the process will have little chance of success. CIDA (1993) warn that management should give real commitment, not just lip service. CIDA comment that history has shown how critical this point is and how closely project performance is linked to top management leadership. RCF (1995) reported that if top management commitment is not sustained the partnering arrangements can be ended. RCF added that this was largely due to top management not been regularly supplied with convincing evidence of the benefits of partnering.

Commitment was also seen as necessary because of the long term nature of partnering, especially when considered with the context of strategic partnering (RCF, 1995). NEDO (1991) believe that the decision to partner is of great magnitude from a client's perspective especially when reliance is shown to a chosen partner.

2.8.5 Collaboration and Co-operation.

Larson (1995) discusses collaboration in the context of team work. He writes that partnering represents a change in how one manages projects involving multiple, contracted parties. Instead of treating other parties as adversaries in which one individual or organisations gain is the others loss, the parties involved, view each other as a team working in collaboration towards common goals.

Sanders (1995) discusses co-operation, also in the context of 'teams.' The concept of partnering involves developing a co-operative management team with key players from organisations involved in the construction process.

2.8.6 Continuous Evaluation.

Authors who were identified within the selected publications to discuss continuous evaluation include: Harbuck et al (1994), Stevens (1993), CIDA (1993), Master Builders (1992), AGC (1991) and (1993), and RCF (1995).

In order to ensure successful implementation of partnering on a project, a method of evaluating the effectiveness of the partnering team needs to be developed by the stakeholders to ensure 'follow through' on the partnering agreement and the successful implementation of the project goals (CIDA, 1993).

Continuous evaluation within the context of partnering is aimed at the common goal of improvement (Harbuck et al, 1994).

Harbuck et al (1994) describes continuous evaluation as a report card that has to be undertaken in a positive manner. Harbuck et al continue that criteria must be developed prior to any evaluation.

The measures of continual evaluation should be, as reported by RCF (1995), devised at a workshop and drawn up either by an action group or workshop participants. It is imperative that all measures are understood and accepted by all parties.

The development of evaluation procedures is discussed in greater detail in chapter 3 and sections (7.4.9) and (7.9.1).

2.8.7 Group Working / Teams

Abudayyeh (1994) refers to team working at a macro level. Abudayyeh states that in order for partnering to be successful there needs to be developed between the parties commitment to the concept of team work. By contrast to Abudayyeh, Sanders & Moore (1992) and Mosley et al (1991) look at team working in the context of management teams. The concept of partnering involves developing a co-operative management team with key players involved within the construction process.

However, Cowan et al (1992) divide team working in partnering into two levels. Firstly, there is team building between project managers. This is seen as imperative as these individuals are the main players involved in the construction of the project. Secondly, team building between other stakeholders. This level of team working is usually achieved through a partnering workshop.

RCF (1995), Cowan et al (1992), Sanders & Moore (1992) and Abudayyeh (1994) all believe that team working is best developed, in the first instance, within partnering workshops.

2.8.8 Equity

The following authors all make reference to equity within the context of partnering: AGC (1991) and (1993); CII (1991); Harbuck et al (1994); CIDA (1993) and Master Builders (1992).

Equity is seen by these authors primarily within the context of creating and developing mutual goals. CIDA's (1993) comments sum up the general rationale of these authors writing that all stakeholders interests should be considered equally when creating project goals, thus promoting a successfully completed project based on equity and a win - win philosophy.

2.8.9 Shared Risk and Win - Win Philosophy.

Shared and equal risk commensurate with rewards was briefly mentioned by CII (1991), Cowan et al (1992), Moore et al (1992). A win - win philosophy was identified in 3 papers (Cowan et al (1992), Fleet (1990), Mosley et al (1991)), however, it was identified that no authors defined a win - win philosophy. Phrases such as 'win - win solutions,' (NEDO, 1991), 'win - win situations' (Hellard, 1995), 'win - win culture' (Uher, 1994) are quotes frequently used within the partnering literature with little or no attempt made to clearly define a 'win - win' philosophy. However, Warne (1994) described a 'win - lose' philosophy, the antithesis of a 'win - win' philosophy, as the idea that: '*if I win you have to lose.*' Stevenson (1996) simply defines a win - win philosophy in the context of partnering as a situation in which there are no losers.

Although Covey's (1989) publication "*The Seven Habits of Highly Effective People*" is not written in the context of partnering, or even the construction industry, the definition put forward for a win- win philosophy does closely match the overall intentions of partnering.

Covey (1989) wrote that a win - win philosophy was a frame of mind that constantly seeks mutual benefit in all human interactions. Covey continued that win - win means that agreements or solutions are mutually beneficial, mutually satisfying. Covey concluded that win - win is a belief in what he calls the 'third alternative.' It is not your way or my way; it is a better way, a higher way.

For the purposes of this thesis a win - win philosophy will be defined using Covey's (1989) explanation.

2.9 CONTRACTUAL NATURE OF PARTNERING.

2.9.1 Partnering, Partnerships, Joint Ventures and Alliances.

Confusion has arisen between the differences between partnering, partnerships, alliances and joint ventures. CII (1991) and Palmer (1995) wrote that partnering is a term used to define an optimum relationship and should not be confused with the formal entity of a partnership and its associated mutual liabilities. RCF (1995) continue on this point.

Partnering and partnerships have entirely separate characteristics which must be clearly understood. This is also true for joint ventures. If parties wish to develop a full partnership, then they must expect to create a relationship where the law will expect them to have a higher standard of conduct, one to another, than they would under a normal traditional relationship (RCF, 1995). This conduct is known as fiduciary duty (Building Services, 1995). Partnerships place an obligation to conduct one's affairs, as they affect one's partners, with the utmost good faith and integrity (RCF, 1995). However, CIBSE (1995) warn that it is quite possible for legal relationships, both of a statutory nature, to be created by mistake.

A joint venture means that profits, if not losses, will be shared. joint venture also implies joint management and control, usually for a single project or purpose, all of which will be determined by the joint venture contract (Building Services, 1995). Moreover, other authors see strategic alliances as a form of joint venturing. Yoshino and Rangan (1995) defined strategic alliance as a trading partnership that enhances the competitiveness of participating firms by providing mutually beneficial trade of technologies, skills, or products. An alliance can take a variety of forms, ranging from an arms-length contract to a joint venture Yoshino and Rangan (1995) Bleeke and Ernest (1993).

By contrast to joint ventures, partnerships and strategic alliances, partnering is fundamentally concerned with the spirit of co-operation contained within a partnering charter / agreement to which all stakeholders sign up at the end of a partnering workshop (Wame, 1994).

By outlining the basic characteristics of joint ventures, strategic alliances and partnerships it can be seen that there are many similarities between the approaches, most commonly the need for co-operation. However, no commentary was found that details the specifics of each approach compared to that of the others. Although texts can be found pertaining to the

individual subject areas, no author has yet compared each approach and identified the relative differences. It can be concluded that this comparison would assist those in identifying what form of approach best suits their individual needs.

2.9.2 Contracts in Partnering.

NEDO (1991) defined partnering as a contractual relationship between a client and his chosen contractor. However, CIDA (1993) stated that the partnering process establishes the working relationships amongst the stake holders whilst the contract establishes the legal relationships. AGC (1991) develop this point further. They believed like CIDA that partnering was not a contract, but a recognition that every contract implies a covenant of good faith. While the contract establishes the legal relationships, the partnering process attempts to establish working relationships amongst the stockholders. Warne (1994) proposed that partnering should not be mandated or legislated. He believed that partnering should be voluntary in order for it to be effective. Partnering has to be a practical arrangement. If it is dealt with as a legal, philosophical or even philanthropic relationship it will fail.

Loraine (1995) and CII (1991) put contractual issues in the context of partnering into perspective. CII stated that the contract is not an important part of the partnering process whilst Loraine maintained that any partnering agreement should be overlaid by a standard condition of contract. Schultzel & Unruh (1996) confirmed this point by stating that partnering goes beyond legal contracts and requirements. Partnering is based on non-binding agreements and involve co-operation.

Warne (1994) commented that one of the early issues in the implementation of partnering is whether or not a change in contract specifications is needed. Loraine believed that this was in essence dependent on the organisation developing the approach and the partnering approach they wanted to adopt. Loraine (1994) reported that ADOT amended its contract specifications to accommodate the principles of partnering for its project partnering projects. This, Loraine believed, provided for some contractual mechanism within the partnering process. Fleet (1996) also stated that Partnering should be incorporated into contracts. Fleet wrote in the context of strategic partnering, that without undermining the fundamental principles of collaboration and trust, specific contractual terms for partnering should be considered irrespective of whether the arrangements proceeds under standard form of contract or hybrid. NEDO (1991) identified, through case studies carried out both in the UK and (primarily) the USA, that contractual relationships of partnering fall into two categories:

where the partnering relationship is essential and is intended to cover a section of business rather than an individual project; and

where the partnering relationship is a subsidiary to the main contractual relationship and essentially is to facilitate good communications and to reduce confrontation.

NEDO stated that the first category has a common objective which should be reflected in the contract conditions. However, the second category is merely an expression of good intentions and the real contractual position of the parties is expressed within a separate standard construction contract. NEDO concluded that the second category was in essence a partnering agreement to assist communication and problem solving.

NEDO (1991) concluded:

“The broad spectrum of intentions of parties to partnering arrangements is reflected in the difference between these two contractual arrangements. At its simplest there is a desire to reduce confrontation. At its most intensive, there is the drive on the part of the owner to reduce expenditure on non-core business activities.”

However, Warne (1994) took the opposite opinion to Loraine (1994) and Fleet (1996). He believed that a thorough understanding of the partnering process leads one to realise that there is really nothing about partnering that requires contract language to enforce.

The author concludes that although there is disagreement on whether partnering requires additional contractual enforcement. The reality in today's commercial environment, dogged by legalities, arbitration, litigation, unfair contracts and with a change process that is slow, formal agreements representing all stakeholders equally will have to be developed as learning of formal partnering in the UK develops. The author also concludes that because of the long term nature of strategic partnering formal agreements to define the extent of the relationship will have to be developed. The aim for the construction industry, and its legal representatives, will need to be to develop contracts and conditions that promote and complement partnering rather than

promoting / contributing to adversarial relationships. To some extent the development of the New Engineering Contract has already progressed this development.

NEDO (1991) support these views. NEDO recommended that a form of contract or agreement should be designed for partnering. This document should be kept as simple as possible, but should fully describe the objectives of the association and the steps to be taken to create it, maintain it, and if necessary dissolve it. The elements of such a form have been put forward in the form of a contract model that can be applied to partnering relationships.

2.10 SUMMARY.

The published papers, reports and research reviewed in this chapter highlight a number of salient points and observations which are useful in the overall context of this research. Also, categorisation of observations made on the partnering literature have been carried out in sections (2.4), (2.5), (2.6), (2.7) and (2.8).

Generalised conclusions are summarised as follows:

(i) Project partnering was pioneered in the USA during the mid to late 1980's. Australia followed suit by adopting the partnering philosophy during the early 1990's. To this end a significant amount of literature pertaining to partnering has been published in the USA. Early significant works have seen to include AGC (1991), CII (1991), Cook (1990), Moore et al (1992) and Sanders & Moore (1992). Publications originating from the UK have been published only recently with NEDO (1991) and RCF (1995) reports being the most significant. However, generally the content of the UK publications were seen to be far weaker than those from the USA and Australia. This factor can be attributed to the successful implementation of partnering in these countries which have produced non theoretical publications on the practicalities of adopting partnering (CII, 1991), (Sanders & Moore, 1992), (Larson, 1995) and (Weston & Gibson, 1993).

(ii) It was shown that partnering is commonly defined using either the CII (1991) or NEDO (1991) definitions. Other definitions put forward were typically defined using either partnering 'attributes' or by the 'process' where partnering is seen as a verb.

(iii) Partnering can either be short term, known as project partnering, or long term known as strategic partnering.

(iv) It was seen that comparisons between project and strategic partnering are most commonly non tangible.

(v) Analysis undertaken within the literature clearly showed that benefits of partnering are accrued by stakeholders under one of the following categories: improved contractual situation; improved communication; increased understanding; improved efficiency of resources; improved financial position; and improved quality. The prime risks / problems of partnering were seen to be: commitment; using partnering as a marketing tool; and cultural issues of changing from a traditional mind set to a partnering mind set and then changing back again when something goes wrong.

(vi) It was concluded that key elements of partnering were: goal and objective setting; trust; problem resolution; commitment; continuous evaluation; group working; equity; shared risk; win - win philosophy; and collaboration and co-operation.

(vii) Confusion was identified between the differences between partnering, partnerships, alliances and joint ventures.

(viii) There is general disagreement on whether partnering requires additional contractual enforcement.

CHAPTER THREE

3. SELECTION OF PARTNERING APPROACH AND DEVELOPMENT OF RESEARCH STRATEGY.

3.1 SELECTION OF PARTNERING APPROACH.

Chapter 2 reviewed the literature pertaining to partnering to ascertain current perceptions. This review established an understanding of partnering and enabled opinions to be formulated on how it can be applied to construction operations in the UK.

A collaborating contractor was located to act as the focus for the ideas and concepts of partnering geared specifically to their methods of working.

This chapter will detail the selection criteria employed for an appropriate partnering approach to be developed for the collaborating contractor. The partnering characteristics pertaining to these criteria are shown as well as the rationale behind the decisions.

A four stage research methodology was developed to meet the requirements of the study. This methodology is briefly outlined in section (3.5). Subsequent research methodology objectives are also outlined.

Finally, publications are identified that assisted in the development of an alternative approach to project partnering (PP).

3.2 THE CRITERIA FOR SELECTION OF PARTNERING APPROACH.

A break-down of the implications and characteristics of adopting partnering was required relating to the following criteria: duration of relationship(s); likely cost savings that can be accrued; the initial cost and time and cost taken to set-up partnering; could price competition be employed; possible use of alternative non partnering subcontractors; would the relationship(s) promote the use of subcontractor knowledge; did the relationships involve elements of trust, honesty and integrity.

3.2.1 Duration of Relationship.

The collaborating contractor did not want to make a commitment to long term relationships without fully understanding the practicalities and legal implications of what they were doing. They wished to identify, in the first instance, an approach of developing relationships for a project by project basis only.

3.2.2 Cost Savings.

The collaborating contractor wanted to achieve the maximum cost saving for all parties concerned in the approach. It was therefore important to gain an understanding of cost savings that could be achieved.

3.2.3 Initial cost and time taken to set-up partnering.

The collaborating contractor at the time of this research were not profitable. Therefore, any partnering approach adopted had to be both cost effective whilst offer the best possible return on investment (ROI).

3.2.4 Price competition.

An element of price competition was required from the approach. This competition was seen to enable assurances to be obtained that any price quoted was representative of the current market price. Senior management in the collaborating company were of the opinion that competition, even limited, would act as a stimulus to price competitively and accurately.

3.2.5 Use of alternative SC once partnering relationship set-up.

No restrictions should be placed on the number of SC's that could be used. The collaborating contractor required a partnering approach that would allow them to employ new or different SC's as saw fit, and not be restricted to using only partnering SC's.

3.2.6 Relationship should promote the use of the SC's specialist knowledge.

Senior management in the collaborating contractor were of the opinion that SC's knowledge of a given element of work was often far superior to theirs. That required a partnering approach that could use SC's knowledge during the design or tendering / estimating stages.

3.2.7 Did the partnering relationships involve elements of trust, honesty and integrity.

The management of the collaborating company were of the opinion that they had good relationships with some of their SC's. They believed that the most successful relationships with SC's were those relationships that had elements of trust, integrity and honesty.

The literature review identified two general approaches to partnering, strategic and project partnering. Table 3.1 was developed to show how each type of partnering would effect the selected criteria.

Strategic Partnering:	Important Elements	Project Partnering:
Long Term - over 1 project	Duration of relationships	Short Term - for 1 project
30% +	Possible Cost Savings	Up to 10%
Slower than PP Higher than PP	Initial Set up time Initial Set-up cost	Quicker than SP Lower than SP
Not recommended as the philosophy of SP is that price competition defeats the object of the relationship.	Element of Price Competition	Yes, if required.
No.	Use of alternative subcontractors	Yes.
Yes.	Promote the use of subcontractor knowledge.	Not as great as SP.
High	Trust, Honesty,	Because short term does not have to be as high as SP

TABLE 3.1 : IMPLICATIONS OF STRATEGIC AND PROJECT PARTNERING.

3.3 SELECTION OF PARTNERING APPROACH.

Project partnering was selected, based on the literature review and table 3.1, as the most appropriate form of partnering for the collaborating contractor. However, no existing models / approaches were identified that would fit the collaborating company's organisation. After examining the models / approaches proposed by Crowley and Karim (1995), Harbuck et al (1994), Moore et al (1992) and Cowan et al (1992). It was concluded that the models presented had the following limitations:

developed and primary applicable to foreign construction industries, namely U.S. and Australia;

models and approaches presented were not of a practical content and did not deal adequately with the practicalities of tendering and estimating;

more applicable to the public sector rather than the private sector of construction;
and
had limited application to the main contractor - sub contractor relationship.

Due to these above limitations it was concluded that an alternative approach to PP had to be developed.

3.4 RATIONALE BEHIND THE SELECTION OF PROJECT PARTNERING:

A PP approach was selected based on the following rationale. The possibility of developing strategic partnering relationships with selected subcontractors in the future was not disregarded.

3.4.1 Duration of relationships.

As shown in table 3.1 strategic partnering has a long term approach to partnering. Due to the reasons mentioned in (3.2.1) it was concluded that PP with its project by project relationship best suited their requirements.

3.4.2 Possible Cost Savings.

SP arrangements offer greater potential cost savings than PP. However, because of the lack of experience in partnering relationships and the belief that successful PP relationships could develop into SP relationships, the possible short term gain of implementing SP was disregarded.

3.4.3 Initial Set up time.

Due to the relative ease of setting up project partnering relationships compared to strategic partnering relationships it was concluded that PP would be quicker to set up than SP.

3.4.4 Initial Set-up cost.

As with initial set-up time, the costs associated with PP are less than those for SP.

3.4.5 Element of Price Competition.

As previously stated in (3.2.4) it was imperative that any partnering relationship had an element of price competition which would stimulate competitive tendering. It was understood that this may promote adversarial elements.

3.4.6 Use of alternative subcontractors.

Alternative SC's had to be selected for each particular contract as it was concluded that very few subcontractors could offer services within their trade for all types of construction i.e. residential, commercial and industrial.

3.4.7 Promote the use of subcontractor knowledge.

SC's have specialist knowledge of trades, beyond that level possessed by the collaborating contractor, which could be used to make their tenders more competitive. It was critical that subcontractors were used more within the estimating and design stages of tendering procedures. Early involvement of SC's could happen within both approaches although it was seen to take place earlier within SP.

3.4.8 Trust and Honesty.

Due to the long term nature of SP it was concluded that trust and honesty had to be greater than that required in PP.

3.4.9 Other factors considered.

In order to implement strategic partnering there needs to be a continuity of work which the collaborating contractor can place with their SC's. The collaborating contractor concluded that they could not offer this because of the lack of work within the current economic climate. It was seen by the contractor as inappropriate to make offers and claims to subcontractors which they could not keep.

It was concluded that SP required some kind of contractual enforcement or regulation, whilst PP could be employed using the preferred approach of non-contractual agreements.

3.5 RESEARCH METHODOLOGY.

In order to develop the new approach to PP a 4 stage research methodology was developed. This methodology enabled opinions on how SC's could improve their dealings with both the CC and other main contractors to be gathered; how SC's believed that the CC and other main contractors could improve their dealings with SC's and identify those procedures and elements that the CC were good and bad as compared to their competitors. Once all these stages had been completed recommendations could be formulated on how to improve the CC procedures of

procuring and managing SC's. These recommendations could then, where applicable, be implemented into the alternative PP approach. A case study methodology was to be employed based on those recommendations proposed by Simister (1995) and Yin (1989).

3.5.1 Stage 1: "Assess the requirements of subcontractors: the CC view."

The aim of the first stage of the research strategy is to assess the requirements of subcontractors from CC's perspective in order to ascertain on how CC's and SC operations could be improved. Also, to obtain an holistic view on how practices and approaches between CC and SC's could be improved and what features of their relationships were perceived to be important and unimportant.

3.5.2 Stage 2: "Assess the requirements of main contractors: the SC view."

The second stage of the research has the aim of assessing the requirements of main contractors from the SC's perspective by undertaking a review of features of a main contractors organisation which are perceived to be important and un-important. This would enable the researcher to identify from a random sample of SC's what were the most important and un-important parts of a main contractors dealings with SC's.

3.5.3 Stage 3: "Compare the collaborating contractors performance to that of it's competitors."

Stage 3 of the strategy has the aim of identifying those practices and approaches used to procure and manage SC's that were perceived by subcontractors to be better and worse than the collaborating contractors competitors. Also, if required questions may be asked to confirm findings of stages 1 and 2.

3.5.4 Stage 4: Develop an alternative project partnering approach.

The aim of this stage was to develop an alternative approach to PP taking into consideration the findings of the first 3 stages.

These stages are developed more fully at the beginning of chapters 4, 5 and 6.

3.6 IDENTIFICATION OF CRITICAL ASPECTS OF PROJECT PARTNERING.

In completing the literature review it was concluded that any PP approach had to primarily possess the following features:

Issue Resolution Policy;	(Cowan et al, 1992) (AGC, 1991) (Sanders & Moore, 1992) (RCF, 1995) (Crowley & Karim, 1995).
Partnering / team building work shops;	(RCF, 1995) (Harbuck et al, 1994) (Moore et al, 1992) (Cowan et al, 1992) (Abudayyeh, 1994).
Partnering Evaluation Procedures;	(CIDA, 1993) (AMBA, 1993) (AGC, 1991) (Stevens, 1993) (CII, 1991) (RCF, 1995) (Cowan et al, 1992).
Charter formulation approach.	(CIDA, 1993) (AMBA, 1993) (RCF, 1995) (Cowan et al, 1992) (Mosley et al, 1990) (Abudayyeh, 1994).

The following publications were identified as having sufficient content to assist in the development of a working PP approach to partnering:

CIDA (1993) - Partnering Work shop, Issue Resolution Approach, Partnering evaluation approach.

AGC (1991) - Partnering Work shop, Creation of Partnering Charter, Developing an issue resolution approach, Evaluation Approach.

Cowan et al (1992) - Partnering Work shop, Charter Development.

Other publications that were perceived as having limited assistance included: Sanders and Moore (1992), Harbuck (1994), Cowan et al (1992), Stevens (1993), Mosley et al (1991).

Since this identification took place the following publications were identified as also being helpful in assisting the development of the PP approach: RCF (1995), Kubal (1994), Warne (1994), Stevenson (1996), Wilson (1995).

3.7 SUMMARY.

This chapter has detailed the selection criteria and process employed in choosing to adopt project partnering. In order to reach this decision a comparison took place between strategic and project partnering. It was concluded that existing PP approaches detailed in published literature did not meet their requirements for the following reasons:

the PP approaches developed in the USA and Australia were applicable to those construction industries and not the UK;

models and approaches presented were not of a practical content and did not deal adequately with the practicalities of UK tendering and estimating procedures;

PP approaches proposed were more applicable to the public sector rather than the private sector of construction; and

PP approach's had limited application to the main contractor - sub contractor relationship.

It was identified that any PP approach developed would have to have the following characteristics: Issue Resolution Policy; Partnering / team building work shops; Partnering Evaluation Procedures; and a Charter formulation approach.

CHAPTER FOUR

4. ASSESSING THE REQUIREMENTS OF SUBCONTRACTORS: THE CC VIEW.

4.1 INTRODUCTION.

In chapter 2 a literature review was undertaken in order to summarise the published work on the concept of partnering applied primarily to the construction industry whilst chapter 3 detailed the selection criteria employed for an appropriate partnering approach to be chosen. It was concluded that an alternative approach to partnering was needed.

In order to develop this alternative approach to partnering a 4 stage research methodology was designed. The aim of the first stage of this methodology was to assess CC requirements of subcontractors. This chapter describes this research and is the first stage of the company data.

4.2 CHAPTER OUTLINE.

Section (4.3) details the methodology employed in the development of the questionnaire. The process of testing and revising the questionnaire is discussed as well as the type of questions used and the form of data collection. Section (4.3.5) discusses the analysis of the open ended questions whilst section (4.3.6) discusses the analysis of the tick the box questions. Section (4.8) details the results of the research and those points that will be primarily carried forward to subsequent studies. Finally section (4.9) summarises what has been found during the research.

4.3 METHODOLOGY.

4.3.1 Identification of Questions.

Before questions were identified for the questionnaire survey and interviews, basic subject areas were identified that were to be covered. Within all areas of the research the following were established by the researcher as being of primary importance:

- CC - subcontractor relationship;
- CC - other main contractor relationships;
- other main contractors - subcontractor relationships;

partnering;
subcontracting practices and processes; and
adversarial practices adopted by CC, other main contractors and SC's.

Questions to be incorporated into questionnaires were in the first instance identified by referring to construction industry literature. Primary sources of literature used were academic papers and trade journals.

Further questions were identified by interviewing personnel from CC and SC's. Twelve members of staff were interviewed for each questionnaire survey. Personnel interviewed in SC organisations included senior management, middle management and site operatives.

Questionnaires were distributed through either the postal service or through CC internal mail. All interviews set up throughout this research were established by the researcher. Letters of confirmation were, when possible, forwarded to interviewees.

4.3.2 Development of Questionnaire.

The questionnaire was developed through means of a test and revision process depicted in figure 4. The aim of the test and revision process was to test the understanding and the content of the questionnaire. This process was carried out on two occasions. Firstly, the questionnaire was tested 'in-house' with CC quality director and chief buyer. Secondly, an 'extended company test' was undertaken with a further 9 CC personnel: 2 estimators, 2 buyers, 2 contracts managers, and 3 quantity surveyors. On each occasion revisions were made to the questionnaire. Changes made included: restructuring questions; changing the content of questions; and the deletion of non valid questions.

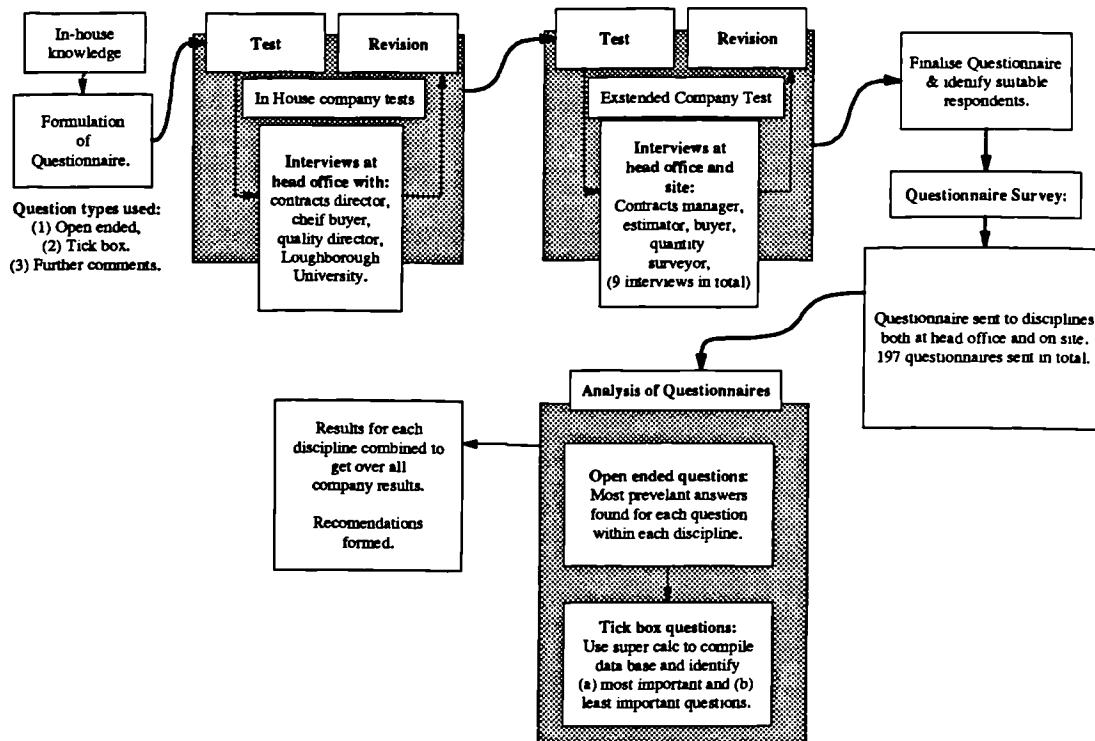


FIGURE 4 : TEST AND REVISION PROCESS FOR: "ASSESSING THE REQUIREMENTS OF SUBCONTRACTORS: THE CC VIEW."

The design of the questionnaire was established by referring to recommendations put forward by Sinclair (1975), Wright and Barnard (1975), Oppenheim (1966) and Hoinville (1977). These recommendations include:

- the questionnaire where possible should be self-explanatory;
- biased questions should be avoided;
- the questionnaire should be written using simple English;
- the questions should be short as possible;
- the questionnaire should be well set out;
- questions should be designed to facilitate easy analysis; and
- the questionnaire should be clear, unambiguous and easy to answer.

The questionnaire contained both open ended and 'tick the box' questions. Open ended questions were selected as they enabled the respondents to stress what they believed was important rather than what was perceived to be important. Tick the box questions were selected as they enabled basic statistical testing to take place.

4.3.3 Questionnaire Survey.

Once questionnaires were formulated they were distributed through the post. In total 197 questionnaires were distributed to the following disciplines: architects (11/9); building services managers (7/7); buyers (10/9); civil engineers, structural engineers and temporary work engineers (10/7); contracts managers (16/8); design team directors (3/3); environmental service engineers (17/12); estimators (18/14); general foreman (9/5); lawyers and insurance manager (1/1); main board directors (5/4); business development managers (4/3); project design managers (3/2); planners (9/6); project managers (14/12); quantity surveyors - building (13/8); quantity surveyors - design (5/5); safety manager (2/2) site engineers (11/6); site managers (17/11); and surveyors (12/7).

The first figure in the brackets is the number of questionnaires sent to each discipline and the second figure is the number returned. One hundred and forty one questionnaires were returned yielding a return rate of 72% (141/197). Also, 11 interviews were conducted during the formulation of the questionnaire. This produced a total of 152 sources of information.

The researcher was aware that biased answers could be given by both CC and SC's personnel. CC's personnel could be influenced by their company's ethos whilst S/C, who were made aware of the researchers collaboration with CC, could have influenced their responses in the belief that they would be looked upon more favorably by CC. In order to overcome these biases the researcher undertook all interviews identifying those questions and scenarios where false answers were possibly been given. In these cases closer examination of the answer was undertaken by further questioning the respondent.

4.3.4 Method of Analysis.

The questionnaire was divided into two sections. The first section contained all the open ended question whilst the second contained all the tick the box questions. Separate analyses were undertaken for both sets of questions.

4.3.5 Open ended questions.

Initially all questionnaires were arranged according to their respected disciplines. This enabled the most prevalent answers to each question to be identified within each individual discipline. In those scenarios where the same type of answers appeared for a question, an 'x' followed by a value was given. It was concluded, when this happened, that this showed a consensus of opinion.

Once a full analysis had been completed for each discipline a précis was written highlighting the most frequently occurring answers and statements for each question. An overall company view was concluded by identifying keywords and areas of consensus in the ways different disciplines answered specific questions.

4.3.6 Tick the box questions.

The tick the box questions were divided into 4 sections in order that similar questions were answered together. The 4 sections were: professional profile; organisational characteristics; supervision and management; and practices and processes. Within the 'professional profile' section questions were asked pertaining to a SC's image, reputation and business philosophy, whilst in the 'organisation characteristics' section questions were asked regarding size and type of company as well as the level of expertise and use of information technology (IT). The third section, 'supervision and management' dealt with the ability of the SC's staff within the context of head office and site management and supervision skills. Finally, the fourth section was concerned with the practices and process employed by the SC.

Each respondent had to tick a box from 1 being no importance to 6 being very high importance.

The tick the box questions were arranged into separate disciplines and into different sections. A matrix was developed to allow responses for each question within a discipline to be recorded. This matrix is shown in appendix 1.

Box Number:	1	2	3	4	5	6
Weighting	-3	-2	-1	+1	+2	+3

TABLE 4.1 : WEIGHTING OF QUESTIONS.

It was necessary to weight the results obtained in order that a statistical test could take place and also to give a better representation of the relative importance to each statement. This was achieved by assigning a value to each of the 6 boxes. It was decided that the weighting would be as shown in table 4.1.

To calculate the overall percentage importance for a question, the maximum and minimum score that could be achieved was calculated. This corresponds to 100% importance or -100% not important, and occurs when all respondents tick either box '1' or '6.'

All data recorded on the matrices was transferred to a spreadsheet (Supercalc and Excel) and entered in order that percentage scores could be calculated for all questions within all disciplines. Once this was completed all questions were ranked with the highest percentage being the most important and the lowest being the least important. The percentage scores for each section of questions within a discipline were tabulated for comparison. This enabled an overall company percentage to be calculated.

4.3.7 Presentation of Results.

The results of this questionnaire survey were presented in a 190 page report. This report contained a full analyses of all questions and is available for inspection. Examples from this report are available in appendix 1. A copy of the questionnaire can be seen in appendix 3.

The information from the report was used in two ways. Firstly, it was fed into subsequent questionnaires and secondly it was utilised at the end of all the surveys and interviews when developing recommendations for improving CC procurement and management of SC's. It was also used in developing an alternative approach to project partnering.

The report was distributed to all department heads within the CC for feedback and possible action and to encourage personnel to continue to assist with the research project.

4.4 ANALYSIS OF OPEN ENDED QUESTIONS

The following is a summary of the results obtained for the open ended questions. This has been developed by collating the most frequent occurring responses from all disciplines. For the purposes of this analysis the following disciplines have been grouped together: (1) architects' design directors and project design managers (PDM's); and civil, structural and temporary work engineers. In total there were 18 separate disciplines.

4.4.1 "What characteristics of a subcontract firm can have a detrimental effect on the relationship between it and CC?"

Poor management and supervision were seen by two thirds of the respondents as being the primary detrimental effect on CC - SC relationships. Individual comments from the disciplines include poor management and supervision on site and at head office made by 9 of the site managers. Also, 8 environmental services engineers stated that 'poor management style and

lack of quality supervision' was detrimental. Other disciplines that mentioned poor management included: building service managers (4), contracts managers (7), planners (4), buyers (5), project managers (3), and main board directors (3).

The next most prevalent detrimental effect was identified as subcontractors being too contractual. Fifty per cent (9/18) of the disciplines found this feature to be a problem with 5/10 (50%) of the buyers and 42 % (5/12) of the surveyors stating that subcontractors were 'too claims conscious' and made too many 'spurious applications for claims.'

The quoting and pricing procedures of subcontractors was identified as a problem with 44% (8/18) mentioning it. The most popular statement was identified as 'unrealistic competitive pricing to obtain subcontract' with site managers (4), main board directors (3) and estimators (5).

Nine (50%) of the 18 disciplines commented that bad attitude had a detrimental effect on relationships. This was further substantiated by site managers and site foreman who commented that subcontractors could be 'too aggressive and argumentative.' Other comments relating to attitude were: 'lack of trust' mentioned by 4 building quantity surveyors (QS's); and unco-operative personnel referred to by both the design QS's (2) and general foreman (2).

4.4.2 "What aspect of the service provided by a subcontractor will have most positive impact on your ability to carry out your job."

It can be concluded from this question that a positive attitude has the most positive impact on a CC's employee ability to carry out his or her job. Forty four per cent (8/18) of the disciplines identified this as a feature with the following statements being most common: co-operative and team spirit; subcontractor contributing to problem solving.

Programming was also seen as important with 6 CC disciplines mentioning it. Interestingly of these 6 disciplines 5 were site based (site manager, building services manager, contracts manager, project manager) with planning being both office and site based. The two most common statements identified pertaining to programming were: 'the subcontractor complying with the programme;' and 'the subcontractor starting and completing the subcontract on the agreed dates.'

As with the previous question, supervision and management was also an issue. Six CC disciplines, 5 of which were site based commented that 'good efficient site supervision' would have a positive impact on their job.

4.4.3 "What makes you like working with particular subcontractor?"

Fifty per cent of the CC disciplines believed that a positive attitude, co-operative and a relationship based on trust were seen to be the most common characteristics that make CC personnel like working with certain SC's. Also, adequate supervision and management were important with architects (5), environmental service engineers (2), contracts managers (2), project managers (6), building QS's (4) and estimators (3) mentioning it. However, it was stated that management had to be communicative by the QS's (4) and the contracts managers(2).

4.4.4 "How do you feel the pre-contract / contract / post contract phases of CC's subcontract process could be changed to make an improvement on the way we deal, select and communicate with subcontractors?"

There was very little consensus from CC relating to this question. The answer that was most common and was stated by 8 of the CC disciplines was that there needed to be more feedback and review of subcontractors primarily at the pre and post contract stages. Buyers (2), civil engineers (2), estimators (4), planners (2), site managers (2), and surveyors (2), all believed that feedback on performance should be improved throughout all stages of a project. However, building services managers and environmental services engineers believed it should take place primarily during the contract period.

Other notable comments include better selection and appointment of subcontractor bids. The most common statements identified stated: 'better evaluation of subcontractor bids;' and 'allow the site team more say in the selection of subcontractors.'

According to both project managers and site engineers improvements could also be achieved by reducing the cost criteria used when selecting subcontractors.

4.4.5 "Explain what attributes you look for from prospective subcontractors at their design stage, including tendering?"

The attributes identified by the CC employees can be categorised into 4 main headings. These are: understanding of the subcontract; track record; in house design capability; and compliance with tender and programme.

Estimators (4) environmental service engineers (5) and architects (4) all stated that they looked for understanding of the subcontract.

A good proven track record was identified by 8 of the CC disciplines. Most common was a good track record with other main contractors with 5 disciplines mentioning it. Previous CC experience was only mentioned by the site managers (2), QS's (2) and planners (2).

An in-house design capability was seen by the main board directors (2) civil engineers (2) and buyers (3) as being important. Other factors relating to in-house design capability include: 'good and informative drawings and literature'; and 'design team expertise.'

Compliance was stated in various ways. The project managers (4), planners (2) and environmental services engineers (2) all looked for compliance to the design programme. However, surveyors (3), contracts manager (4) and the civil engineers all looked for compliance in the context of complying with tender documents.

4.4.6 "How do you feel that relationships with the subcontractors could be improved?"

Very little consensus could be identified from CC pertaining to this question. However, two common themes were evident. Relationships could be improved by having improved communication and more team work. Communication was identified by the building services managers (3), site engineers (3), civil engineers (2) and the main board directors (2). Comments received pertaining to improving relationships through better communication include: 'regular face to face meetings;' and 'organise joint seminars and events.'

Teamwork was identified by 5 CC disciplines, however most comments made were promoting the earlier use of subcontractors in order to make him / her feel part of the team.

4.4.7 "Do you prefer subcontractors who are efficient but maybe contractual to those who are not contractual but less efficient?"

All disciplines stated that they preferred efficient and contractual subcontractors. However, 2 project managers stated that they preferred not contractual and less efficient. Buyer (3), civil (1), environmental service engineers (2) and architects also said that they would prefer 'efficient - non contractual companies.'

4.4.8 “How crucial is it for the subcontractor to have his own directly employed labour force? Does this have an effect on installation performance and quality?”

This question is split into two sections. The first section asks if directly employed labour is important. The results from the survey are not definitive. No single discipline could be identified that agreed that it was either crucial or not crucial. The second part of the question was also answered in the same way. No consensus could be identified to say if directly employed labour had an effect on installation performance and quality. However, it was noted that project managers (4), building services managers (2), site engineers (2) QS building (3), civil engineers (2) and contracts managers (4) all stated it was more important to have direct supervision.

4.4.9 “Should we (CC) encourage partnering arrangements and / or back-to-back Submissions with selected subcontractors?”

All disciplines were in favour of partnering and back to back submissions with only 2/12 project managers and 3/11 site managers stating that CC should not encourage them.

4.4.10 “How would the fact that the subcontractor was a “one man band” or a nationally known organisation affect your dealings with it?”

The answers given to this question were dependent on: if the subcontractors work had a large amount of design; if the subcontractors work had a small amount of design work; or if the subcontractors work had no design work.

For work with a large amount of design, most disciplines (12/18) stated it would effect their dealings as it was only large subcontractors who had the resources to undertake large amounts of design work. For work with little or no design work all disciplines were in agreement that the fact the SC was a one man band would not affect their dealings.

4.5 ANALYSIS OF TICK THE BOX QUESTIONS.

The method used to analyse the tick box questions has been detailed in section (4.3.6). List of questions can be seen in appendix 2.

The following is a summary of the results obtained from the tick box questions. Fifty one questions were asked and the 2 highest and lowest scoring questions have been included in table 4.2.

Importance	Section 'A' (H1 to H10) Professional Profile		Section 'B' (C1 to C15) Organisational Characteristics		Section 'C' (M1 to M12) Supervision & Management		Section 'D' (P1 to P14) Practices & Processes	
	Most	Least	Most	Least	Most	Least	Most	Least
Arch / PDM / DTD	8 (62) 3t (60) 4 (60)	6 (-33) 1 (11)	2 (82) 5 (82) 6 (78)	4 (-22) 3 (-7)	7 (89) 8 (84)	9 (27) 2 (31)	4 (91) 1 (82)	9 (-24) 11(-22)
BSM	7 (85) 8 (78)	6 (-11) 1 (37) 10 (37)	2 (93) 6 (93) 7 (89)	4 (-56) 3 (-11) 14(-11)	7 (93) 8 (85)	12 (22) 4 (26)	3 (100) 1 (96)	9 (-52) 10(-30)
Buyers	5 (76) 9 (76)	6 (-15) 1 (39)	2 (79) 12 (73)	10(-36) 4 (-27) 14(-27)	10 (91) 7 (82)	12 (-3) 9 (15) 11 (15)	8 (91) 7 (82)	14 (6) 2 (9)
Civil / Star / T. Wk. Eng.	8 (72) 9 (72) 5 (67)	2 (-11) 6 (-6)	12 (94) 5 (89)	4 (-39) 3 (-22)	7 (100) 8 (94)	12 (28) 4 (39)	8 (100) 1 (89) 4 (89)	11(-17) 9 (6)
Contracts Management	5 (78) 9 (63) 3c (63)	6 (-52) 1 (7)	7 (85) 5 (81) 2 (81)	4 (-52) 14(-52) 10(-41) 13(-41)	10 (93) 7 / 8 / 1 (81)	12 (26) 4 (37)	3 (96) 1 (96)	1 (-44) 2 (4)
Environmental Services	5 (71) 3t (67)	6 (-2) 10 (26)	7 (93) 6 (86)	4 (-60) 14(-33)	7 (93) 10 (90)	12 (21) 4 (62)*	13 (90) 1 (79) 12 (79)	11 (-7) 2 (-5)
Estimating	7 (73) 3c (67)	6 (-31) 2 (24)	12 (84) 2 (80)	13(-38) 10(-33)	7 (87) 10 (67)	1 (22) 2 (24)	7 (87) 8 (87)	2 (-18) 11(-13)
General Foreman	9 (94) 3t (83)	6 (-28) 2 (28)	2 (89) 6 (83) 7 (83) 8 (83)	4 (-6) 9 (-6)	3 (100) 10(100)	9 (44) 1 (72)* 12 (72)	3 (100) 12 (94) 1 (94)	9 (-72) 11(-50)
Marketing	7 (100)	6 (-22) 4 (44)	2 (100) 6 (89)	4 (0) 13 (11)	3/7/8/9/ 10 all @ 100	4 (56) 5 (67) 12 (67)	3/4/7/8/ 14 all @ 100	1 (-22) 9 (22)
Project Managers	8 (83) 4 (77)	6 (-7) 10 (37)	2 (97) 7 (90)	4 (-57) 9 (-20)	8 (97) 10 (97) 7 (93)	12 (37) 11 (57)	3 (97) 6 (93) 14 (93)	9 (-43) 11(-10)

Importance	Section 'A' (H1 to H10) Professional Profile		Section 'B' (C1 to C15) Organisational Characteristics		Section 'C' (M1 to M12) Supervision & Management		Section 'D' (P1 to P14) Practices & Processes	
	Most	Least	Most	Least	Most	Least	Most	Least
QS - Building	4 (85)	6 (-19)	2 (74)	14(-56)	9 (100)	12(-22)	7 (78)	2 (-15)
	5 (74)	1 (19)	7 (63)	10(-56)	11(100)	4 (26)	1 (67)	9 (22)
CCDS - QS	8 (83)	6 (-39)	2 (89)	10(-11)	7 (83)	12(-17)	7 (89)	1 (-31)
	7 (61)	4 (6)	7 (83)	3 (0)	8 (83)	4 (22)	8 (89)	2 (-11)
Site Engineers	5 (61)	6 (-33)	5 (72)	1 (-61)	5 (89)	9 (-22)	6 (89)	9 (-39)
	3t (56)	10 (11)	7 (67)	4 (-44)	6 (78)	11 (-6)	3 (83)	10(-28)
Planning	3t (71)	6 (-5)	12 (76)	4 (-48)	3 (76)	9 (-14)	8 (81)	11(-48)
	5 (67)	1 (5)	5 (62)	14 (24)	5 (76)	2 (10)	6 (62)	7 (10)
Main Board Directors	4 (87)	6 (-7)	2 (87)	4 (-27)	8 (80)	12(-13)	8 (80)	2 (-27)
	9 (80)	10 (40)	7 (73)	9 (-20)	10 (74)	2 (27)	3 (80)	9 (-7)
Site Managers	9 (85)	1 (3)	2 (88)	4 (-48)	10 (94)	4 (15)	6 (91)	9 (-45)
	3t (73)	7 (15)	5 (76)	13(-30)	7 (91)	9 (30)	3 (85)	11(-18)
Surveyors	5 (71)	6 (10)	12 (76)	4 (-43)	9 (86)	12(-10)	8 (71)	2 (-24)
	8 (67)	7 (10)	11 (62)	14(-19)	11 (81)	2 (38)	7 (57)	9 (-24)
	4 (67)							3 (29)

TABLE 4.2 : MOST AND LEAST IMPORTANT TICK THE BOX QUESTIONS.

For the purposes of this analysis the following disciplines have been amalgamated: Architects, Project Design Managers (PDM's), and Design Team Directors; and Civil Engineers, Structural Engineers, and Temporary Works Engineers.

This was carried out for two reasons. Firstly, because the disciplines were so similar in their duties and secondly some of the samples received from a discipline were small. By combining similar functions better sample sizes are produced.

4.5.1 Architects, Project Design Managers and Design Team Directors.

This group of disciplines saw the SC's ability to respond quickly and correctly to CC needs (M7) as the most important with a score of +89%. This statement was followed by a further question from the 'Supervision and Management' that stated (M8) that the necessary information is provided by the SC to the agreed detail. This statement also scored highly with a score of 84%. Two questions from the 'Organisational Characteristics' which scored +82% were: 'the SC is financially stable;' and 'the members of the SC firm display high standards of technical skills / knowledge as required.'

By contrast, 'the SC submitting the lowest price' was seen as unimportant with a score of -24%. 'The SC having a claims procedure' was not important with a negative score of -22%.

4.5.2 Building Services Manager (BSM).

The BSM's results show that they found the same questions as the architects were important, however individual percentages are higher. The subcontractor being financially stable and the SC's ability to respond quickly and correctly to CC's needs both scored +93%. Also, with a positive score of +93% was 'the SC's office backup was of a sufficient standard.'

As with the architects, the BSM's also found 'the subcontractor offering national coverage of work' and 'the subcontractor being a member of a professional or trade associations' as unimportant with scores of -56% and -52% respectively. Both 'the geographical location of the SC firm to a specific project' and 'the SC investing in research and development (R & D)' was identified as not being important with negative scores of -11%.

4.5.3 Buyers.

Buyers within CC deal with SC's regularly. When preparing tenders and estimates information is sent from one party to another. This fact can be identified with those statements identified as being important. 'The SC performing to agreed standards and commitments' (M10) received the joint highest score of +91% with 'the ability of the SC to submit a comprehensive and competitive bid.' As with the BSM's and architects, 'the ability to respond quickly and correctly to CC needs' was important with a score of +82%. Finally, 'the ability of the SC to submit a consistently reliable tender prices' was important and also scored +82%.

As with previous disciplines, questions within the 'Organisation Characteristics' section scored poorly. 'The subcontractor being registered to BS5750 / ISO 9000' (C10) scored the lowest

with -36%. This would seem surprising as it is the buyers duty to find quality SC's to undertake CC work and BS5750 is the construction industry's 'registration' for quality companies. (C4), 'the SC's ability to offer national coverage of work' (-27%) and 'SC investing in R & D' (C14) were also found to be unimportant receiving a negative score of -27%. Finally, as with previous disciplines (H6) 'the SC not previously working with CC' was not important with -15%.

4.5.4 Civil Engineers.

The civil engineers found that (M7) 'the SC's ability to respond quickly and correctly to CC needs' and (P8) 'the SC ability to submit a comprehensive and competitive bid' was important as they both scored +100%.

As with the BSM's and architects, the civil engineers also found that 'the necessary information is provided by the SC to the agreed detail,' however the civil engineers scored it +94%. This was higher than both BSM's and architects.

Also of importance with a score of +94% but within the 'Organisation Characteristics' was 'the SC giving technical and market knowledge which provides CC with a commercial advantage.'

Unimportant statements were identified as: (C4) 'ability of the SC to offer national coverage of work' with -39%; (C3) 'geographic location of SC firm for a specific project' with -2%; and (P11) 'the SC has a claims procedure' with -7%.

4.5.5 Contracts Management.

Within the 'Professional Profile' section the contracts managers found (H6) that 'the SC had not previously worked with CC' was not important with a score of -52%. By contrast the highest positive score within this section was (H5), 'the SC has a history of good dealings and working relationships with CC staff' which scored +78%.

Within the 'Organisation Characteristic' (C7) 'good communication exists between the SC head office and site team' which received the highest score with +85%. Four statements all scored negative percentages. These were: (C14) 'the SC invests in R & D' with -52%; (C4) 'ability of the SC to offer national coverage of work' with -52%; (C10) 'the SC is registered to BS5750' with -41%; and (C13) 'the SC invests in information technology' with -41%.

The 'Supervision and Management' section the subcontractor performs to the agreed standards and commitments was the highest scoring with a score of +93%.

The 2 statements which obtained the highest scores within the contracts management discipline were (P3) 'the SC works to high standards of safety procedures' and (P1) and 'the standard of the finished work is acceptable.' Both statements scored +93%.

4.5.6 Environmental Services.

Within the 'Professional Profile' section no statement scored particularly high apart from 'the SC having a history of successfully completed CC projects' which scored +71%. However, a negative score was received for 'the SC not previously working with CC' (-2%). This result can be seen to be similar to the contracts managers however the environmental services engineers scored it lower with a score of -52%. Also similar to the contracts managers, environmental services engineers found that 'good communication between the SC's head office and his site team' was important with a score of +93%.

Within the 'Organisational Characteristics' section both 'the ability of the SC to offer national coverage of work' and 'the SC's investment in R & D' were found not to be important with scores of -60% and -33% respectfully. These results are similar to those in construction management, buyers and building services managers. Clearly a general consensus can be seen to be developing between the disciplines.

As with other disciplines, scores for the 'Supervision and Management' statements scored highly. Again (M7) 'the ability of the SC to respond quickly and correctly to CC needs' was found to be important. Environmental services engineers scored it +93% which can be seen to be comparable with those scores obtained from the architects (+89%), building services managers (+93%), buyer (+82%), civil engineers (+100%) and contracts managers (+81%).

Also, (M10) 'the SC performs to agreed standards and commitments' was important with a positive score of +90%. No questions within the 'Supervision and Management' section scored low, although 'the SC being of a specialist nature' and 'the SC having sufficient contractual awareness' scored the lowest with +21% and +62%.

'The SC's ability to produce a high standard of documentation' (P13) was found to be the most important statement within the 'Practices and Processes' section with a score of +90%. The lowest score was for (P11) 'the SC having a claims procedure' which scored -7%.

4.5.7 Estimating.

The estimators and the buyers are the 2 disciplines that deal with SC's the most. Within the context of CC both disciplines are concerned with developing tenders and quotations, albeit at different stages of the project. Due to this it is worth comparing the results of the 2 disciplines to see where consensus and areas of differences accrue.

Buyers	Ref No.	Ref No.	Estimators
+76%	P5	H7	+73%
+76%	P9	C3	+69%
+73%	C12	C12	+84%
+79%	C2	C2	+80%
+91%	M10	M10	+67%
+82%	M7	M7	+87%
+82%	P7	P7	+87%
+91%	P8	P8	+87%

TABLE 4.3 : TICK THE BOX QUESTIONS, BUYERS AND ESTIMATORS COMPARED.

It can be seen from table 4.3 that buyers and the estimators generally find the same statements important. The only section where criteria are not similar is in the 'Professional Profile' section where estimators score 'the SC maintains confidentiality when dealing with CC' (P7) +73% and 'the SC has a history of commercial success on completed CC projects' (C3) with +69%. These similarities can be attributed to the similar duties of the 2 disciplines. Both disciplines work primarily with SC's and have the role of identifying the most cost effective and capable SC's to undertake a CC subcontract. Both duties are concerned primarily with SC tenders and estimates and as such they require very similar services from the SC's.

The estimators found (H6) 'the SC has not previously worked with CC' was not important with -6%. This can be seen to be similar to contracts managers (-52%), civil engineers (-6%), buyers (-15%), BSM's (-15%) and architects (-33%) who all give the statements a negative score.

Within the 'Organisational Characteristics' section (C13) 'the SC invests in R& D' and 'the SC is registered to BS5750' both received negative scores of -38% and -33% respectively. The 'Supervision and Management' lowest scores were obtained by: (M1) 'members of the SC team have the appropriate managerial and interpersonal skills' with +22%; and 'the management structure of the firm relative to the job' with a score +24%.

4.5.8 General Foreman.

The general foremen scored 3 statements with +100%. These are: 'the SC utilises his time allocated to him efficiently and effectively;' 'the SC works to high standards of safety procedures'; and 'the SC performs to agreed standards and commitments.' Other notable positive scores were identified within the 'Practices and Processes' section with (P12) 'the SC monitors the standard of his work' and (P1) 'the standard of finished work is acceptable' both scoring +94%. Also scoring +94%, but within the 'Professional Profile' section was (H9) 'the importance the SC gives to CC subcontracts.'

Negative scores within the general foremen discipline were primarily in the 'Practices and Processes' section. As with the architects, general foremen scored (P9) 'the SC submitting the lowest price' (-72%) and 'the SC having a claims procedure' (-50%) negatively, with (P9) scoring the lowest over the whole of the analysis. Other notable negative scores include: (C4) 'the ability of the SC to offer national coverage of work' with -9%; 'the SC is a member of trade / professional associations' also with -9%; and (H6) 'the SC has not previously worked with CC' with a score of -28%.

4.5.9 Marketing.

The marketing discipline scored 12 statements with 100%. However, this can be attributed more to the fact that only 3 respondents completed the questionnaire than marketing, as a whole, concluding that they were important. Two statements scored -22% and these represented the lowest scores within this section.

As marketing was not perceived as a 'core discipline' and because only 3 questionnaires were returned completed, these results have been ignored.

4.5.10 Project Managers.

Project Managers		G* Foremen		Site Managers	
Ref No:	(%)	Ref No:	(%)	Ref No:	(%)
C2	+97	H9	+94	C2	+88
M8	+97	M3	+100	M10	+94
M10	+97	M10	+100	M7	+91
P3	+97	P3	+100	P6	+91
C4	-57	P12	+94	C4	-48
C9	-20	P1	+91	C13	-30
P9	-43	H6	-28	P9	-45
P11	-10	C4	-6	P11	-18
		C9	-6		
		P9	-72		
		P11	-50		

TABLE 4.4 : PROJECT MANAGERS, GENERAL FOREMAN AND SITE MANAGERS TICK THE BOX QUESTIONS.

From table 4.4 it can be seen that the Project Managers results are a good representation of what the three site based disciplines concluded. Of the 4 positive and 4 negative statements identified by the Project Managers, only (M8) 'the necessary information is provided by the SC to the agreed detail' (+97%) cannot be identified in either the General Foremen or Site Managers results.

The highest positive score given by the Project Managers was +97% for: 'the SC is financially stable' (C2); 'the necessary information is provided by the SC to the agreed detail' (M8); 'the SC performs to agreed standards and commitments' (M10); and 'the SC works to high standards of safety procedures' (P3).

Most consensus can be seen to arrive from the negative statements, i.e. those that are not important. The Project Managers results show that the following are all not important with only (C9) not being mentioned within both the General Foremen and Site Managers conclusions: (C4), 'the ability of the subcontractor to offer national coverage of work' with a score of -6%; (C9), 'the SC is a member of a professional or trade association' with a score of

6%; (P9), 'the SC submits the lowest price' with a score of -72%; and (P11), 'the subcontractor has a claims procedure' with a score' of -50%.

4.5.11 QS Building.

Within the 'Professional Profile' section 'the SC having a record of claims' scored the highest with +85%. However, within the 'Supervision and Management' section both 'the SC providing timely valuation' (M9) and 'the SC performs well in the production of valuation estimates' (M11) scored +100%. This is not surprising as a large part of a building QS's time on site is spent undertaking valuations and assessing variations. These two characteristics can be seen to be concerned with the importance of information. This point is confirmed when taking into consideration that (M8) 'the necessary information is provided by the SC to the agreed detail' scored the next highest score of +81%.

Negative scores were obtained from all sections, with section 'Organisation Characteristics' having the lowest results. Both 'the SC investing in R & D' and 'the SC being registered to BS5750' scored -56%. 'The SC being of a specialist nature' was not seen to be important with a score of -22%. The remaining negative scores were 'the SC has not previously worked with CC (-19%) and 'the SC works to a documented quality plan / QA procedure' (-15%).

4.5.12 CC Design Services Quantity Surveyors (CCDS - QS).

From table 4.5 it can be seen that although the 2 disciplines are primarily QS's, they do not have totally different requirements from SC's. The design QS's duties are primarily concerned with the development of bills of quantities for design and construct contracts and tenders. This can be seen in the fact that 'the SC's ability to submit a consistently reliable tender price' and to 'submit a comprehensive and competitive bid' both scored +89%. Within the 'Organisation Characteristic,' 'the SC being financially stable also scored +89%.

Most correlation between the 2 disciplines can be seen in the non important statements: (H6) 'the SC has not previously worked with CC;' (C10) 'the SC is registered to BS5750;' (M12) 'the SC is of a specialist nature;' and 'the SC works to documented quality plan / QA procedures' were common to both types of QS's.

CCDS - QS		QS - Building	
Ref No:	(%)	Ref No:	(%)
H8	+83	H4	+85
C2	+89	M9	+100
P7	+89	M11	+100
P8	+89	M8	+81
H6	-39	H6	-19
C10	-11	C10	-56
M12	-17	C14	-56
P1	-31	M12	-22
P2	-11	P2	-15

TABLE 4.5 : CCDS QS'S AND BUILDING QS'S TICK THE BOX QUESTIONS.

4.5.13 Site Engineers.

'The relationship with people providing the supervision' was found to be jointly the most important with 'the level of supervision provided by the SC.' Both statements scored +89%.

As with the Project Managers and General Foremen, the Site Engineers identified that 'the SC works to high standards of safety procedures' was important. However, the Site Engineers scored this +83%, lower than those scores from the Project Managers and General Foremen. The Site Engineers found 7 statements to be unimportant, the highest number of any of the disciplines. 'The size of the firm relative to the size of the order' was identified as the least important with -61%, the second lowest score recorded across CC. Other notable negative scores include: -44% for 'the ability of the SC to offer national coverage of work;' 'the SC submits the lowest price' with -39%; 'the SC has not previously worked with CC' with -33%; 'the SC is prepared to negotiate on his bids' with -28%; and 'the SC provides timely valuations and cost information' with -22%.

4.5.14 Planners.

The Planners found (P8) 'the SC ability to provide a comprehensive and competitive bid' the most important statement with a score of +81%. Four other statements all scored +76% with 3 of these coming from the 'Supervision and Management' section: (M3) 'the SC utilises the time allocated to him efficiently;' (M5) 'the relationship with the people providing the supervision;'

and (M8) 'the necessary information is provided by the SC to the agreed detail.' Also, scoring +78% but not in the 'Supervision and Management' section was (C12) 'the SC can give technical and market knowledge which provides CC with commercial advantage / opportunities.'

Four negative scores were concluded from the planners. All 4 sections were represented with 'the SC's ability to offer national coverage of work' and 'the SC having a claims procedure' both scoring -48%. The other 2 negative scores were for: 'the SC provides timely valuations and cost information' with -14%; and 'the SC has not previously worked with CC' scoring -5%.

4.5.15 Main Board Directors.

The Main Board Directors (MBD) identified 2 statements to be important. 'The SC having a record for claims' and 'the SC being financially stable' both scoring +87%.

The MBD's found 6 statements to be not important with (P2) 'the SC works to a documented quality plan / QA procedure' and 'the ability of the SC to offer national coverage of work' being the lowest with the same score of -27%. 'The SC being a member of a trade or professional body' was also seen as being not important with a score of -20%. Other negative scores for the MBD's include: (H6) 'the SC has not previously worked with CC with -7%; (M12) 'the SC is of a specialist nature with -13%; and (P9) 'the SC submits the lowest price' with -7%.

4.5.16 Site Managers.

The Site Managers results have been previously mentioned within the Project Managers analysis.

The Site Managers found that (M10) 'the SC performs to agreed standards and commitments' as the most important with a score of +94%. However, the Site Managers also believed that (M7) 'the SC's ability to respond quickly and correctly to CC needs' and 'the key decision makers within the SC have the relevant experience' were also important with scores of +91%. Interestingly, these statements did not score as high in the other site disciplines results (Project Managers and General Foremen).

Negative results were largely similar to those of the General Foremen and Project Managers with (C4) 'the ability of the SC to offer national coverage of work' scoring the lowest score of -48% and (C13) 'the SC invests in IT' scoring -30%.

4.5.17 Surveyors.

Building QS		Surveyors	
Ref No:	(%)	Ref No:	(%)
M9	+100	M9	+86
M11	+100	M11	+81
H4	+85	C12	+76
M8	+81	H5	+71
C14	-56	P1	+71
C10	-56	C4	-43
M12	-22	P2	-24
H6	-19	P9	-24
P2	-15	C14	-19

TABLE 4.6 : SURVEYORS AND BUILDING QS'S TICK THE BOX QUESTIONS.

Surveyors within CC are QS's with senior positions. This usually means they have extensive experience over a period of 20 years or more.

Both the Surveyors and the Building QS's found that (M9) 'the SC provides timely valuations and cost information' and (M11) 'the SC responds well to the production of variation estimates' were important with scores of +86% and +81% respectively. No other correlations can be made between the positive statements.

Correlations with the negative statements can be made between (P2) 'the SC works to documented quality plan / QA procedure' and (C14) 'the SC invests in R & D.' Both disciplines scored them negatively with the Surveyors scoring them -24% and -19% and the Building QS's with -15% and -56%.

4.6 TICK THE BOX QUESTIONS - AVERAGE SCORES.

4.6.1 Supervision and Management.

Statement (M7) received the highest overall score both across CC and within the 'Supervision and Management' section. (M7) addressed the ability of the subcontractor to respond quickly and correctly to CC needs and scored an overall average of +84%. This characteristic was closely followed by the SC's performance towards agreed standards and commitments that scored an average of +82%.

No statement within this section scored an overall negative score, however the subcontractor being of a specialist nature scored the lowest with +26%. The management structure of the SC relative to the job was the next lowest with an average of +47%.

4.6.2 Organisation Characteristics.

Within this section the highest organisational characteristic was identified as the SC being financial stable which scored an overall company average of +76%. Good communication between the subcontractors head office and the site came second with an average of +71%.

Four questions within this section received negative scores with the ability of the SC to offer national coverage of work being the least important with an average of -33%. Also, the SC investment in R & D scored negatively with an average of -13%.

4.6.3 Practices and Processes.

Within this section the highest overall company average was calculated as being +72% for the standard of the SC finished work being acceptable. Two questions obtained averages of +67%: the SC works to high standards of safety procedures; and the level of supervision provided by the SC.

Two statements received negative scores within this section. The SC having a claims procedure was seen as unimportant with an average score of -10% whilst the SC submitting the lowest price scored an average of -9%.

4.7 PROFESSIONAL PROFILE.

Three statements received the highest average score of +64% within this section. These are: the importance the SC gives to CC subcontracts; the loyalty displayed by the SC when working with CC; and the SC has a history of good dealings and working relationships with CC staff.

Only one statement received an overall negative score. The SC has not previously worked with CC was scored -16%.

4.8 RESULTS.

The following are the main points that were carried forward from this research.

4.8.1 General points.

The open ended questions have shown that poor management and supervision had the primary detrimental effect on CC relationships with SC's, whilst a positive attitude by the SC would have the most positive impact on a CC's employees ability to carry out their job. This was supported by the fact that 50% of CC employees believed that a positive attitude, co-operation and a relationship based on trust made CC personnel like working with particular SC's. Very little consensus was identified in how relationships could be improved with SC's. However, more communication and team work were seen as positive ways to improve the relationships. Finally, there was general agreement by CC staff that CC should encourage partnering arrangements with selected SC's.

The 'tick the box' questions showed the individual needs of construction, procurement and design disciplines. Buyers and estimators stress importance on issues relating to selection criteria of SC's, evaluation of SC bids and the compliance of any tenders. However, site staff are more concerned with those issues relating to the management and the quality of work on site.

However, architects and engineers are concerned about the quality and timeliness of design information. This would seem a logical conclusion as the majority of CC architects and engineers deal with SC's when designing details at the design stage of a project. Compliance to commitments was another issue that arose throughout this research. Whether this compliance takes the form of complying to construction programmes, subcontracts or even with the production drawings, it was important to all parties.

4.8.2 CC Mission Statement for the Selection and Procurement of SC's.

The following mission statement was developed solely by the researcher to encapsulate the main conclusions from this part of the research. This statement is being used by CC employees to assess the suitability of SC's CC has not employed before. Also, the statement is being used to assess the compliance of those SC's who are regularly employed by CC.

“It is important that any subcontractor employed performs to agreed standards and commitments and responds to the needs of the main contractor. All decision makers within the subcontractors team should have appropriate experience displaying high standards of technical skill and knowledge. However, any subcontractor employed should be financially stable and able to fulfill his commitments.”

“The subcontractor should have a history of good dealings and working relations with the main contractor but conversely it is not important that the subcontractor has not worked with the main contractor before. Subcontractors should display loyalty and give value to the main contractors subcontracts but it is not important that the subcontractor offers national coverage of work or submits ‘cheap’ tenders.”

“Good communication should exist between the subcontractors head office and site team and any information provided by the subcontractor should be to the agreed detail. However, it is not important that the subcontractor invests in information technology.”

4.8.3 Tick box statements carried forward to next level of research.

To test whether the SC's could determine what was and was not important to the CC when dealing with SC's a series of statements were carried forward to the next questionnaire. These were selected and contained statements that were found to be initially both important and unimportant. The statements carried forward are shown in Table 4.7.

Reference No:	Statement:	Percentage Score
M7	Ability to respond quickly and correctly to CC needs	+79.56
C2	The subcontractor is financially stable	+76.83
M10	The subcontractor performs to agreed standards and commitments	+73.67
H5	The subcontractor has a history of good dealings and working relationships with CC staff	+64.83
C7	Good communication exists between the subcontractors head office and site team.	+71.33
P9	The subcontractor submits the lowest price	-11.83
M12	The subcontractor is of a specialist nature	+25.67
P11	The subcontractor has a claims procedure	-16.00
H6	The subcontractor has not previously worked with CC	-15.5
C4	The ability of the subcontractor to offer national coverage of work	-31.22

TABLE 4.7 : TICK THE BOX STATEMENTS CARRIED FORWARD.

4.9 SUMMARY.

The research reported within this section has highlighted a series of points and observations which will be of benefit within the overall context of this research. Generalised conclusions are summarised as follows:

- (i) The research proved that CC employees do believe that there is benefit in developing partnering arrangements with key SC's.
- (ii) It was established that 'supervision and management' characteristics are the most important features of SC's.
- (iii) Little consensus was identified on how relationships between CC and its SC's could be improved. However, two points were identified as having possible significance. These were: improving communication; and more team working.
- (iv) Positive attitude was demonstrated as having the most positive impact on the relationship between CC and it's SC's.
- (v) Compliance to commitments and the ability of the SC to respond quickly and correctly to CC needs was confirmed as critical and important across the whole of CC.

(vi) It was established within the research that CC subcontracting process could be improved by more feedback and review of SC's primarily within the pre and post contract stage. Other improvements identified include: better evaluation of SC bids; and allow the CC site team more involvement in the selection of SC's.

CHAPTER FIVE

5. ASSESSING THE REQUIREMENTS OF MAIN CONTRACTORS: THE SC VIEW.

5.1 INTRODUCTION.

This chapter describes the research undertaken in order to assess from a SC perspective the requirements of main contractors. This research represents the first part of the data obtained from SC's and builds off the findings of the previous studies discussed in chapter 4.

5.1.1 Chapter Outline.

Section (5.2) discusses the methodology employed when developing and analysing the questionnaire. Sections (5.5) and (5.6) detail the analysis of the questions. The analysis is presented by discussing the results obtained from each question as they arise within the questionnaire. Results are presented within the context of a percentage occurrence (%) and the number of times they occur. The analysis of the questionnaire survey and the interviews are presented separately. Section (5.5) details the analysis of the tick the box questions. Each section of tick the box questions are discussed separately with the most important, least important and overall findings outlined. Section (5.7) discusses the findings from the question set to identify if the SC's could determine what was important to CC when dealing with SC's. Finally, section (5.8) details the main points to be carried forward from this section whilst section (5.9) summarises what has been discussed within this chapter.

5.2 METHODOLOGY.

5.2.1 Development of Questionnaire.

As with the questionnaire developed for the research presented in chapter 4 a test and revision process was employed (4.3.2) to test the understanding and the content of the questionnaire as well as the content of the questions and the distribution of the questionnaires. Also, recommendations identified in section (4.3.2) for the design of questionnaires were used.

The questionnaire employed both open ended and tick the box questions. These types of questions were selected for those reasons previously stated in sections (4.3.5) and (4.3.6). These questions enabled both qualitative and quantitative data to be obtained.

The questionnaire contains 3 main sections. Each section comprised questions of similar content. These were:

- organisational profile;
- main contractors head office practices and processes; and
- main contractors site practices and processes.

Each section contained individual sub-sections of open and tick the box questions. A copy of the questionnaire can be seen in appendix 4.

5.2.2 Collection of Data.

Data collection was carried out in 2 ways. Firstly, 31 interviews were undertaken, employing a structured questionnaire, with various subcontracting organisations throughout the UK. Those people interviewed were primarily middle to senior management with an overall view of their business operations. Duration of interviews ranged from 1 hour to 3 hours.

SC's were selected primarily by their trade in order to obtain an holistic opinion. SC trades interviewed included: suspended ceiling installers; stone cladders; pilers; ground workers; bricklayers; landscapers; steel frame fabricators; and concrete frame fabricators.

Secondly, a postal questionnaire survey was undertaken. In total 76 firms were selected from CCs purchasing data base, from which 38 questionnaires were returned completed, producing a return rate of 50%. The same questionnaire was employed for both the postal questionnaire survey and the interviews.

5.3 METHOD OF ANALYSIS OF OPEN ENDED QUESTIONS.

Once all the responses had been received and interviews undertaken each questionnaire was allocated a reference number. A matrix was then devised which enabled each respondents answers to a specific question to be recorded. Each answer was then allocated a number. Answers obtained from the postal questionnaire survey and the interviews were then incorporated into separate matrices, thus enabling the most common answers to each question within each set of data to be identified. Separate matrices were used for those answers obtained from the postal survey and the interviews. The researcher was aware that biased

answers could be given by the respondents. This bias was overcome by using those methods described in section (4.3.3).

5.3.1 Tick the Box Questions.

The method employed to analyse the tick the box questions was similar to that discussed in section (4.3.6).

When identifying the most and least important statements, the 5 highest and 5 lowest statements were selected. Although some of the low statements scored negatively which showed that they were of no importance, some statements scored positively. Where this occurred it was interpreted to mean that the statement was the least important within the context of a set of statements and were therefore of little overall importance. Overall company results were obtained by adding together the individual scores from the interviews and the questionnaire surveys.

5.4 PRESENTATION OF RESULTS.

The results of this research were presented to all directors in the CC in an eighty page synopsis which contained primarily the answers to the open ended questions. An example of this summary can be seen in appendix 5.

5.5 ANALYSIS OF OPEN ENDED QUESTIONS.

5.5.1 “What Characteristics of a Main Contractor can have a detrimental effect on your relationships?”

Rank:	Characteristics:	%:
1	Payment: Bad, Lack of	58
2	Management: Poor, Bad	47
3	Procurement: Bad	23
4	Understanding: Lack of	20
5	Contracts: Biased, Unfair	17

TABLE 5.1 : MOST PREVALENT DETRIMENTAL CHARACTERISTICS.

The most prevalent detrimental effect identified (see table 5.1) by the SC's was 'bad or no payment.' Forty of the 69 SC's covered in this survey identified this characteristic with the

following statements being a sample of those received in both the questionnaire survey and interviews: bad payment record of main contractor; not acting promptly to agree final account; pay when paid clauses; unpaid extra work; main contractors retendering once the main contract has been won; and delayed payments, either as a deliberate policy or inefficient quantity surveyors (QS's).

The next most prevalent characteristic was identified as poor or bad management. Within the interviews 45% (14/31) of the respondents reported that management was a detrimental effect. Comments received in the interviews included: poor management structure, typical in site managers who issue instructions then 'wash their hands' when payment is required; site management are bad and unable to carry out their work due to lack of experience; main contractors who are good at managing direct labour but not so adept at managing SC labour; bad site management resulting in abortive work; and bad main contractor site management does not enable the SC to work efficiently. The questionnaire survey identified 18 (47%) SCs who thought management was an issue. Statements received which support this included: site staff (managerial) not suitable / experienced for a particular type of contract; lack of co-ordination between trades; and unhelpful site staff.

Procurement received an overall prevalence of 23% (16/69), with 26% of the interviewees and 21% of the questionnaire survey respondents stipulating its importance. Within the interviews, interviewees stated that main contractors fail to recognise the restraints against which the SC has tendered as well as the main contractors not using the SC's specialist trade knowledge for his own benefit.

Twenty three per cent of the questionnaire respondents identified procurement as a detrimental effect. This was supported with the following comments: main contractors deciding on what SC to use purely on price with no consideration given to quality and past performance; main contractors using SC's as a price checking mechanism; main contractors who constantly try to get the lowest price from SC's through unethical methods; and total disregard for previous quality of work when negotiating future contracts.

'Lack of understanding' and 'unfair - biased contracts' were the next 2 characteristics to be identified.

Twenty per cent (14/69) of the total number of respondents stated that lack of understanding was a detrimental issue. However, this understanding was seen to take many forms. These included: main contractors not understanding the SC's business; main contractors not understanding fully the SC's obligations; main contractors not understanding the cash flow needs of the SC; and lack of understanding of SC needs especially regarding progress and completion of outstanding work.

'Contracts' was identified by 17% (12/69) of the respondents with the following statements being typical of those made: onerous contracts stipulated by the main contractor; one sided contracts in favour of the main contractor; main contractor being too contractual; and high profile QS's which take use 'contra charges' to improve their cash flow.

5.5.2 "How do you feel relationships with a Main Contractor could be improved?"

Thirty per cent of the SC's identified that better dialogue and more contact would improve the relationships with main contractors. Within the interviews, the interviewees stated that closer liaison at the design stage would enable economic benefits from knowledge and design to be implemented. Also, better dialogue and more contact could be promoted by more inter-company social events which would assist in developing closer working relationships. The questionnaire survey produced similar comments. Earlier involvement of SC's in the design process was again seen as critical.

It can also be seen from both the questionnaire survey and the interviews that SC's should be included earlier within the building process to develop mutual understanding of the project and to utilise SC expertise. No consensus could be identified when this should occur, however times suggested include: pre-contract estimating; once the main contractor has won the main contract; just before the SC commences work on site; and once construction has started.

Better 'attitude' and more 'trust' were seen as other ways to improve the relationships. Twenty six per cent (18/69) of the total amount of respondents stated this. Comments from the interviews included: more honesty between main contractor and SC at the procurement stage; less 'high and mighty attitude' by the main contractor; and promoting trust at all stages throughout the project. The questionnaire survey produced similar comments with the following being examples: treat the SC with respect and be fair and reasonable; friendly and understanding main contractor staff; and main contractor should stop thinking that they are superior than the SC's.

5.5.3 “What aspects of the service given by a Main Contractor will have the most positive impact on your ability to carry out your job?”

Rank:	Characteristics:	%:
1	Site Management	33
2	Good Relations and a Positive Attitude.	26
3	Programming & Planning	23
4	Payment	23
5	Information	19

TABLE 5.2 : SERVICES GIVEN BY MAIN CONTRACTORS THAT HAVE THE MOST POSITIVE IMPACT.

As with previous questions, management was again seen as an important issue. The SC's when asked what aspect of the service given by a main contractor will have the most positive impact on you ability to carry out your job (see table 5.2), identified site management as the most important, with an overall prevalence of 33%. Individually, site management received a 35% (11/31) prevalence during the interviews and a 32% (12/38) during the questionnaire survey. Statements received from both sets of results included: main contractor maintaining site progress through effective management; provision of good site management that enables the job to get done; and good technical site management.

Good relations and a positive attitude received an overall score of 26% (18/69). However, both the interviews and questionnaire survey scored 23%. Good relations and positive attitudes within the interviews was explained by: the main contractor understanding the job in hand; that the main contractor fosters a good working relationship; and honesty and integrity in all the main contractors duties. These comments were supported by the comments made within the questionnaire survey: ability of the main contractor to treat the SC fairly; and main contractor working closer with the SC's in all aspects of the project.

Programming and Planning obtained a 23% (16/69) prevalence with individual results of 32% (10/31) from the interviews and 16% (6/38) from the questionnaire survey. It was also identified that any programming undertaken by the main contractor should be realistic, accurate and achievable.

Overall, payment was identified by 23% (16/69) of the respondents. Twenty six per cent (6/38) of the interviews mentioned payment whilst 21% (8/38) mentioned it within the questionnaire survey. However, in order for payment to have a positive impact it would have to be prompt and accurate, i.e. paid in full.

Finally, information was identified by 19% (13/69) of the respondents. Sixteen per cent (5/31) of the interviewees and 21% (8/38) of the questionnaire respondents mentioned the impact information would have. Thirty per cent (21/69) of the total amount of respondents commented that most main contractors send too much information out at the tender stage. However, any information would have to be clear, timely, accurate and available in order that any benefit could be accrued.

5.5.4 “Do you prefer Main Contractors who are efficient but may be contractual to those who are not contractual but less efficient?”

This question was asked in the previous research to identify CC perceptions in the context of SC's. It was concluded that all disciplines in CC preferred SC's who were efficient and contractual to those who were not contractual and less efficient.

Within the interviews 87% (27/31) of those SC's interviewed and 55% of the questionnaire respondents stated that they preferred efficient and contractual main contractors. Of the 87% of the interviewed SC's, 30% (8/27) stated that efficiency was everything whilst 18% (5/27) stated that you know where you stand with efficient and contractual main contractors. None of the interviewees were identified as preferring non-contractual but less efficient main contractors. Within the questionnaire survey 55% (21/38) of the respondents preferred efficient and contractual main contractors whilst 1 (5%) SC completing the questionnaire stated that he preferred non-contractual and less efficient main contractors. Of those who preferred efficient and contractual main contractors, 43% stated that this was due to efficiency being the most important whilst 24% believed they knew where they stood.

5.5.5 “What do you understand by the term Partnering?”

The answers given to this question can be found within the detailed analysis in appendix 5. However, the following is an example of those statements received:

Only 6 respondents in total reported that they did not know what the term partnering meant. Forty two per cent (13 /31) of the interviews and (14 /38) 37% of the respondents from the questionnaire survey defined partnering within the context of team working - working together. The following statements are an example of those quotes received:

“teamwork to achieve clients goals through better understanding of the interrelationships between the professional team and the main contractor and SC;”

“working together to achieve common goals;”

“working hand in hand i.e. together;”

“two people or companies working together to achieve the same aim. This does not always apply to the construction industry. Too often we end up in conflict with each other blaming the other for their own mistakes;” and

“working together as one to achieve the common goals for the good of the client.”

The characteristic of mutuality and goals was identified in the SC's statements. Eight statements were identified that believed that partnering was about '*joint effort for joint reward.*' Other comments included:

“two or more people working together for an equal share of responsibility;”

“relationship which is mutually beneficial where both parties assist one another towards common goals;”

“where two or more parties engage in a commercial business sharing profits and loses;” and

“an agreement between one or more parties to mutually carry out an act of work.”

5.5.6 “Have you undertaken a partnering arrangement before?”

Once the subcontractor had answered the previous question, the interviewees and the questionnaire respondents were told what partnering meant within the context of this questionnaire. The definition given was largely based on CII's (1991) definition which stated:

“partnering is a long term (strategic partnering) or short term (project partnering) commitment between two or more organisations for the purpose of

achieving specific business objectives by maximising the effectiveness of each participant's resources."

In doing this the SC's were made aware of a published meaning of partnering so they could answer this question in the correct context.

Overall, 43% (30/69) of the total respondents believed that they had undertaken partnering type arrangements before, with 57% (39/69) believing that they had not.

5.5.7 "Would you be willing to consider partnering arrangements in the future?"

One hundred per cent of the interviewees asserted that they would consider a partnering arrangement in the future. By contrast, 87% (33/38) of the questionnaire respondents stated they would consider partnering with 3% (1/38) stating that they would not. Four questionnaire respondents did not answer the question at all. Overall 94% (64/68) of the total respondents said they would consider partnering arrangements with main contractors.

5.5.8 "When you receive enquiries / tenders for the same contract from different Main Contractors, does the price you give differ for each Main Contractor?"

Forty two per cent (13/31) of the interviewees and 39% (15/38) of the questionnaire respondents declared that the prices given during tendering and estimating changed according to who the main contractor was. Overall, 41% (28/69) of the total amount of respondents stated that their prices did change whilst 52% (36/69) asserted that their prices did not change.

5.5.9 "What is the extent of the difference?"

Of the 28 respondents who answered the previous question positively, 36% (10/28) stated that the price would change between 1 to 10%, whilst 25% (7/28) concluded that the difference would be between 10 and 20%.

5.5.10 "Would any preference be given to a particular Main Contractor?"

Within the interviews 71% (22/31) stated that they would give preferential treatment, compared with 55% (21/38) of the questionnaire respondents. Overall, 64% (44/69) of the total amount of respondents believed they would give preference to a particular main contractor. However, 6% (4/69) of the respondents said that it was dependent on what type of contract was being employed. It can therefore be concluded that in some cases preferential treatment is more dependent on the type of contract being used rather than who the main contractor is.

5.5.11 “If Yes, against what criteria?”

The 2 most prevalent criteria identified from both the interviewees and the questionnaire survey were ‘previous performance’ and ‘fairness of payment of the main contractor.’ Forty four per cent (19/43) of the respondents stated that if the SC had worked with the main contractor before and that there had been good performance, preference would be given. If the main contractor was fair in payment and contract administration, 28% (12/43) of the respondents would also give preferential treatment.

5.5.12 “Do timely payers receive a tangible benefit in your tender to them?”

Of the 31 interviewees, 10 (32%) stated that timely payers did receive tangible benefits in their tenders whilst 25 of the 38 questionnaires completed stated that tangible benefit in tenders would be accrued by timely payers. By contrast, 68% (21/31) of the interviewees and 32% (12/38) of the completed questionnaires said there would not be any benefit. Of those 25 respondents who identified a measure of benefit 52% (13/25) confirmed that there would be a 10% discount, whilst 8% (2/25) stated that there would be a discount of between 10 to 20%.

5.5.13 “Do you consider Main Contractors place too much importance on price at the detriment of quality?”

Eighty four per cent (26/31) of the interviewees confirmed that considered main contractors do place too much importance on price at the detriment of quality. This conclusion was supported by 90% (34/38) of the questionnaire respondents. Of the 26 respondents who identified why they believed this occurred, 12% (3/26) stated that it was due to the current recession whilst 15% (4/26) believed that main contractors wanted a full service but did not want to pay for it. Only 10% (7/69) of the total amount of respondents believed that main contractors did not place too much importance on price to the detriment of quality.

5.5.14 “What number of subcontractors do you consider make a reasonable tender list for a Main Contractor to get a competitive response for a particular trade?”

No:	Quest:	Interview:	Total:	(%)
Upto 2	3	0	3	5
2 to 4	10	11	21	32
4 to 6	10	7	17	26
6 to 8	2	0	2	3
4	10	12	22	34

TABLE 5.3 : NUMBER OF SC'S THAT MAKE A REASONABLE TENDER LIST.

From table 5.3 it can be concluded that 34% of the total amount of respondents stated that ‘4’ SC’s make a reasonable tender list. However, 32% also believed that between 2 and 4 subcontractors would suffice. Only 3% of SC’s believed that between 6 and 8 SC’s should be used when tendering.

5.5.15 “When a Main Contractor is slow in paying valuations, would this effect the level of service you give?”

Seventy four per cent (23/31) of the interviews and 61% (23/38) of the questionnaire respondents believed that service would be effected if the main contractor was slow in paying valuations. By contrast only 32% (22/69) of the SC’s believed that their service would not change.

5.5.16 “Where a Main Contractor operates a “Pay when Paid” procedure in their dealings with subcontractors, would this affect your relationship with respect to:

“Pricing?”

Fifty eight per cent (18/31) of the interviewees and 66% (25/38) of the questionnaire respondents believed that pricing would change. Within the interviews it was stated that the price would increase when pay when paid clauses were used and when payment was late. Overall 62% (43/69) of the total respondents believed that pricing would change and 22% (15/69) believed

that it would not change. However, 11 (16%) of the respondents stated that they would not accept pay when paid clauses in the first instance.

“Service?”

Thirty two per cent (10/31) of the interviewees and 29% (11/38) of the questionnaire respondents confirmed that service would change. Overall this produced 30% (21/69) of the total amount of the respondents who confirmed that pay when paid procedures would detrimentally effect the service they gave. Thirty seven (54%) of the total amount of respondents stated that service to the main contractor would not be affected.

5.5.17 “Does the quality of the Main Contractors team have a significant effect on the time it takes you to undertake your subcontract?”

Overall 96% (66/69) of all the respondents pronounced that the quality of the main contractors site management does effect the time it takes to complete their subcontract. Of the 28 interviewees who stated that the main contractors site management did effect them 11% (3/28) asserted that if the main contractor is efficient, their work can be completed more quickly and 25% (7/28) believed that site co-ordination between trades was imperative.

5.5.18 “How do you feel you quality of work is affected by your own subcontractors.”

Overall 33% (23/69) believed that their quality of work was not effected by their SC's. However, 20% (14/69) declared that their quality of work was affected. Forty one per cent (28/69) of the SC's pronounced that they did not even use SC's.

5.5.19 “Has any other Main Contractor ever approached you before to ascertain your perception of his performance and to invite objective assessments of areas of improvement?”

Only 30% (21/69) of the SC's questioned reported that they had been approached before.

5.6 TICK THE BOX QUESTIONS.

5.6.1 Organisation Profile.

See tables 8.2 and 8.5 in appendix 6.

5.6.2 Most Important.

Within the interviews 'the main contractor being honest, trustworthy and fair dealing' was seen as the most important with a value of +95%. Of the 31 interviews, 26 (84%) ticked a '6' box to show that it was of significant importance. These results were confirmed within the questionnaire survey where the same question received a score of +97%.

Thirty six per cent of the 38 (95%) questionnaire respondents also ticked a '6' box. The next most important characteristic identified within the questionnaire survey was, 'the main contractor displaying loyalty and fairness when representing the SC's needs to the client.' Within the questionnaire survey, a score was calculated of +96%. Within the interviews the same question was only identified as the 5th most important characteristic, with a score of +81%.

The 'main contractor applying the contract fairly (non adversarial)' was identified as being important within both the questionnaire survey and the interviews where it scored +94% and +88% respectively. 'The main contractor having a history of fair dealings and good working relations with the SC's' was identified as being of prime importance with scores of +95% (questionnaire survey) and +81% (interviews).

The 5th most important characteristic within the questionnaire survey was identified as 'the main contractor having financial strength and stability' with a score of +92%. Although the same characteristic received a higher position of importance within the interviews, it only received a score of +86%.

5.6.3 Least Important.

The lowest score received by a question within the 'organisational profile' was recorded by 'the main contractor being registered to BS5750 / ISO 9001.' Within the interviews it obtained a score of -44%. This result was confirmed by the questionnaire survey, where it received a negative score of -33%. Also, within the questionnaire survey, 'the SC has not previously worked with a main contractor' was also identified as not being of any importance with a score of -17%. The same question received a negative score within the interviews where it scored more highly with -4%. Although 'the main contractor works to a documented quality procedure' scored a positive score of 6% it was the 5th lowest characteristic identified within the interviews. However, within the questionnaire survey it did receive a negative score of -6%.

By contrast to this the 5th lowest score in the questionnaire survey was identified as 'the perceived profile of the main contractor within the market place.' Within the questionnaire survey it scored a positive result of +11% whilst in the interviews it scored -8%. Finally, 'the main contractor being forward thinking and investing in R & D' was perceived to be unimportant within the interviews with a score of -12%, although it received a positive score of +5% in the questionnaire survey.

5.6.4 Overall.

Overall it can be identified from table 8.8 in appendix 6 that 'the main contractor being honest, trustworthy and fair dealing' was identified as the most important characteristic within the organisational procedure section with an overall score of +96%. The 2nd highest score recorded within this research. The next 2 most important questions were identified as both scoring +89%: 'the main contractor applies the contract fairly;' and 'the main contractor has financial strength and stability.' The remaining 2 questions both scored +88% and were concerned with the 'fairness' of the main contractor: 'the main contractor has a history of fair dealings and good working relations with his subcontractors;' and 'the main contractor displays loyalty and fairness in representing your needs to the client.'

5.6.5 Main Contractors Head Office Practices and Processes.

See tables 8.3 and 8.6 in appendix 6.

5.6.6 Important.

Within the interviews, the highest scoring question was identified as 'the necessary contract information is provided by the main contractor to enable you to carry out your obligations' which obtained +85%. However, within the questionnaire survey the same question was identified as only being the 4th most important with a comparable score of +81%.

The highest scoring question recorded within the questionnaire survey was concerned with 'the main contractor always giving feedback with regards to your (SC) tender.' This received a score of +88% but only +66% within the interviews.

The 2nd most important question within the interviews was that 'the main contractor acknowledges, discusses and addresses your subcontracting problems.' This question was also

identified as being the 2nd most important within the questionnaire survey with similar scores of +81% and +87% respectfully.

Both the questionnaire survey and the interviews found that 'the tender documents being comprehensive and clearly define responsibilities' the 3rd most important question. Scores of +80% (interviews) and +86% (questionnaire survey) were given. The 5th most important question identified within the interviews was that 'tender lists' contained a limited number of SC's which received a score of +65%. However, the 5th most important question in the questionnaire survey was 'that the SC received a formal order / subcontract' with a score of +68%.

5.6.7 Least Important.

Both the interviews and the questionnaire survey identified 'the main contractor is purely price driven' as not important with scores of -40% and -36%. Again, the interviews and the questionnaire survey were both in agreement on 'the main contractor will as a matter of course re-tender if he wins the contract.' The interviews scored this +4%, whilst the questionnaire survey scored it -17%. Although the interviews made it their 2nd lowest characteristic it still received a positive score.

'The main contractor accepting the lowest bid' received a negative score of -14% in the questionnaire survey and a positive score in the interviews of +26%. Within the interviews both 'the tender documents are short and simple' and that 'the SC can freely give the main contractor feedback' received the next low score of +40%. The remaining lowest scores within the questionnaire survey were both positive scores. 'The tender documents are short and simple' scored +52%, whilst 'the main contractor will seek to impose further liability by increasing the risk under the terms of the contract' which scored +35%.

5.6.8 Overall.

Overall it can be identified from table 8.8 in appendix 6 that the SC's identified 2 questions as the most important within this section. 'The tender documents are comprehensive and clearly define responsibilities' and 'the main contractor acknowledges, discusses and addresses your subcontracting problems' both scored the highest score of +83%. 'The necessary contract information is provided by the main contractor to enable you to carry out your obligations' scored the next highest score with +82%. The remaining 2 highest scores were received for

'the main contractor always gives feedback with regards to the SC's tender' which scored +74% and 'tender lists contain a limited number of SC's' which scored +63%.

Three of the lowest scoring questions scored negative scores which interprets into being not important. These questions were: 'the main contractor is purely price driven' which scored -36%; 'the main contractor will accept the lowest bid' with -18%; and 'that the main contractor will as a matter of course re-tender if he wins the contract' with -7%. The remaining questions all received positive results: 'the main contractor will seek to impose further liability onto the SC by increasing the risks under the terms of the contract' with +41%; and 'the tender documents being short and simple' receiving +45%.

5.6.9 Site Practices and Processes.

See tables 8.4 and 8.7 in appendix 6.

5.6.10 Important.

Within both the questionnaire survey and the interviews the same 4 questions were all found to be important. 'The main contractor makes an effort to be fair and prompt when agreeing a final account' scored +98% in both the questionnaire survey and interviews, the highest scores recorded within the site practices and processes section.

'The main contractor provides timely certification followed by prompt payment' scored +94% also within both the questionnaire survey and the interviews. Although 'the main contractor pays variations promptly' was the 3rd most important statement within this section it did score differently. Within the interviews it obtained a score of +91% whilst in the questionnaire survey it scored +94%. 'Cash flow in relation to your ability to perform' scored similarly. Within the interviews it scored +89% whilst in the questionnaire survey it scored +90%.

The remaining highest scoring statement within the interviews was 'the main contractors site staff have co-operative attitudes' which scored +89%. This statement was not found to be in the top 5 most important within the questionnaire survey as 'the main contractor co-ordinates your activities with other main contractors' and 'the main contractor notifies you of variations' scored +90%.

5.6.11 Least Important.

The least important statement within both the questionnaire survey and the interviews was 'the building services manager is present on site for the duration of your subcontract.' Within both sets of data it scored negatively with -15% being recorded in the questionnaire survey and -8% in the interviews. Both results show that this statement was seen as not important. All other least important statements scored positively. 'The main contractor expects the subcontractor to provide all site supervision' scored +26% in the questionnaire survey and +8% in the interviews. Within the interviews 'the main contractor expects the subcontractor to provide all site supervision' scored the 3rd lowest score of +17%. The third lowest scoring statement within the questionnaire survey was 'how important to your tender price is your perception of the main contractors site management capabilities' which although scored +38% was still one of the lowest scoring statements.

'The level and amount of supervision provided by the main contractor' scored +42% and was the highest scoring least important statement within the questionnaire survey. Within the interviews both 'the main contractor suggests ways by which you can work more productively' and 'the importance to your tender price is your perception of the main contractors site management capabilities' scored low with +25% and +22% respectively.

5.6.12 Overall

Overall it can be identified from table 8.8 in appendix 6 that 'the main contractor makes an effort to be fair and prompt when agreeing a final account' was the most important statement within this section, with a score of +97%. Both 'the main contractor provides timely certification followed by prompt payment' and 'the main contractor pays variations promptly' both scored the next highest with +94%. The remaining 2 most important statements were 'cash flow in relation to your ability to perform' with +90% and 'the main contractors site staff have co-operative attitudes' with +89%.

The lowest scoring statement identified was 'the building services manager is present on site for the duration of your subcontract' which scored an overall negative score of -9%. The remaining least important statements all scored positively: 'the main contractor expects the subcontractor to provide all site supervision' scored +13%; 'how important to your tender price is your perception of the main contractors site management capabilities' scored +32%; 'the main contractor suggests ways by which you can work more productively' scored +36%; and 'the main contractor monitor's the standard of your work' scored +38%.

5.7 COLLABORATING CONTRACTORS TICK THE BOX STATEMENTS CARRIED FORWARD.

From the previous research discussed in chapter 4, 10 statements were carried forward into this research to identify if the SC's could determine what was and was not important to the CC when dealing with SCs. The statements can be identified in table 4.7. Results from the SC's can be found in tables 8.9 and 8.10 in appendix 6.

Of the 10 statements the most important identified by CC was 'the ability of the SC to respond quickly and correctly to CC needs.' CC scored it +80% whilst the SC's scored it +76%. The highest scoring statement identified from the SC's was 'the SC performs to agreed standards and commitments' which scored +81% whilst CC employees scored it +74%. The greatest correlation between the SC's and CC were the respective scores given to the statement 'good communication exists between the SC's head office and site team. CC employees scored it +71% whilst the SC's scored it +69%. The greatest difference identified was 'the ability of the SC to offer national coverage of work.' Although both CC and the SC's scored this statement negatively with -31% and -0.5% respectively, the difference between the two scores was -30.5%.

Another notable difference between the two is the scores given for 'the subcontractor being of a specialist nature.' Both parties scored this positively, however CC gave it 26% and the SC's 54%, a difference of 28%.

Of the 5 remaining statements the differences in scores ranged from 3% to 14%. This shows a strong indication that SC's have an understanding of what is and is not important to CC.

5.8 RESULTS.

The following are the main points to be carried forward to the next stage of the research.

5.8.1 Detrimental Characteristics of SC - Main Contractor Relationships.

This research identified that the prime factors which detrimentally effect the SC - main contractor relationships were related to payment and contract administration. Slow payment by the main contractor on previous contracts, unfair sub-contracts, pay when paid clauses and main contractors re-tendering once they had won a main contract were all identified as

detrimental. These were also identified as adversarial practices frequently adopted by main contractors. These results were supported by those obtained from the tick the box questions which identified 'the main contractor applies the contract fairly' as being important.

It was also identified that timely and accurate payment would have a positive impact on a SC's ability to carry out his job. It can also be concluded that SC's prefer those main contractors who are efficient but maybe contractual to those who are not contractual but less efficient.

Pay when paid procedures were seen to have a detrimental effect on the relationship between SC's and main contractors. The majority of the SC's confirmed that prices given in tenders would increase if pay when paid procedures were present. However, 16% of the respondents would refuse to quote if pay when paid procedures were present. The SC's were undecided if pay when paid procedure would effect the level of service given to a main contractor. Thirty per cent of the SC's stated that service would be detrimentally effected whilst 54% believed it would not be.

Bad / poor management was also identified as a significant detrimental effect on SC - main contractor relationships. Poor site management was frequently identified with the following statements being typical of those given by the SC's: main contractors seem to be good at managing their own direct labour but not so good at managing SC labour; and site management were bad and unable to carry out their work due to lack of experience.

By contrast, site management was seen as a key aspect of the service given by a main contractor that would have the most positive impact on the SC's ability to carry out his job. This is supported by 96% of the SC's confirming that the quality of the main contractor's site team would have a significant effect on the time it takes the SC's to undertake his work.

5.8.2 Ways of Improving Main Contractor - SC Relationships.

More contact and better dialogue was identified as a significant way to improve SC - main contractor relationships. Also, a better attitude towards the SC coupled with trust and fair dealing would improve relationships. Payment was identified again as an issue with fairness of payment being most important. These results are supported by those conclusions drawn from the tick the box questions. 'The main contractor being honest, trustworthy and fair dealing' was identified as being the most important characteristic within the organisational procedures section.

It can also be concluded that SC's would prefer to be involved earlier in the building process than they are at present. This earlier involvement would develop mutual understanding and would utilise more fully the SC expert knowledge.

5.8.3 Partnering Arrangements.

It can be identified that the most common way SC's define partnering is within the context of team working. Also, the characteristics of mutuality, goals and joint effort for joint reward were identified when SC's defined partnering. Overall the majority of the SC stated that they had not undertaken a partnering type arrangement before, however all SC's confirmed that they would be willing to undertake one in the future.

5.8.4 Preferential Treatment.

The majority of the SC's (64%) stipulated that they did give preferential treatment to certain main contractors. Moreover, it was identified that when tender SC's give different prices to different main contractors. Price differentials were seen to range from 1% to 20%. In order to obtain this price difference and preferential treatment a main contractor would have to had good past working relationships with the SC and was fair when paying the SC. However, when the SC's were asked if timely payers receive a tangible benefit in their enquiries the majority of SC's (68%) commented that there would be none. Clearly a disparity can be seen in the statements given by the SC's.

5.8.5 Selection of Subcontractors.

Ninety two per cent of the SC's stated that between 2 and 6 SC's make up a reasonable tender list for main contractors. Also, it was noted that SC's believe that main contractors do not fully appreciate the restraints against which the SC has tendered. The SC's also commented that main contractors use SC's too much as a price checking mechanism and give too much importance to price over quality when selecting a SC. This result was further supported by the tick the box questions which concluded that 'the main contractor being purely price driven' was not important.

Tender documentation was another issue that was identified as being important. It was concluded from the tick the box questions that it was important that 'tender documents are comprehensive and clearly define responsibilities' whilst 'the necessary contract information is

provided by the main contractor to enable him to carry out his obligations.’ However, it was also noted that generally main contractors send out too much information within their enquiries. Any information sent by the main contractor should be clear, timely, accurate and available.

5.8.6 SC’s views of CC’s requirements.

It can be identified from the commentary given in section (5.7) that SC’s have a good understanding of what is important to CC when dealing with SC’s. Of the 10 randomly selected statements carried forward from the 1st level research the SC’s, only 2 statements (‘the ability of the SC to offer national coverage of work’ and ‘the SC being of a specialist nature’) were found to have significantly different scores. Both of these statements were identified by both CC and the SC’s as being of little or no importance.

5.9 SUMMARY.

The research undertaken within this chapter has highlighted a series of notable points and observations which are helpful in the overall context of this research and assisted in the development of an alternative approach to project partnering.

Generalised conclusions and the main findings are summarised as follows:

(i) It was established that slow payment, unfair sub-contracts, pay when paid procedures and main contractors retendering once the main contract has been won are all characteristics that detrimentally effect main contractors - SC relationships. They were all found to be adversarial practices.

(ii) Poor site management was identified as being a characteristic which detrimentally effects the main contractor - SC relationship. By contrast it was proven that good site management would have a positive impact on the SC’s ability to carry out his work.

(iii) Main contractors are perceived to be good at managing their own direct labour, but not so adept at managing SC labour.

(iv) It was concluded that a better attitude towards SC’s and more trust and fair dealing, especially when paying SC’s were identified as being ways of improving main contractor - SC relationships.

(v) It was established within the research that SC's should be involved earlier within the building process to develop mutual understanding of the project.

(vi) All SC's interviewed confirmed that they would be willing to undertake partnering arrangements in the future.

(vii) The research confirmed that SC's gave certain main contractors received preferential treatment.

(viii) Main contractors place too much importance on price to the detriment of quality.

(ix) The research proved that SC's have a good understanding of what is important to CC when dealing with SC's.

(x) Issues demonstrated within the research as being important in improving the main contractor - SC relationships are: payment; communication; feedback; selection; tendering; contract management; and contract administration.

CHAPTER SIX

6. COMPARING THE COLLABORATING CONTRACTORS PERFORMANCE TO THAT OF OTHER MAIN CONTRACTORS

6.1 INTRODUCTION.

This chapter details the research undertaken to compare CC's performance to that of other main contractors. In achieving this aim certain issues raised in previous research have been clarified as well further identifying ways of improving SC - CC relationships. The research is the second part of the data obtained from SC's and the final section of the interviews and questionnaire surveys.

6.2 CHAPTER OUTLINE.

Section (6.3) details the methodology used to extract information from SC's at a structured interview. The methods of analysis are described as well as the selection criteria employed when choosing SC's to be interviewed. Section (6.4) discusses the analysis of all the questions. Questions are presented in the same order as they appear in the questionnaire. Section (6.13) details the results from the research and those points that be will primarily carried forward to subsequent research. Finally, section (6.14) summarises what has been found from the research.

6.3 METHODOLOGY.

A structured 10 page questionnaire was developed in order to extract comparable information from SC's at an interview. Questions were identified by using those methods employed in previous questionnaire surveys. The questionnaire contained 65 questions and was divided into 8 key areas which had been identified as being important from previous stages of the research. These areas were: (1) payment issues; (2) communication; (3) feedback; (4) selection; (5) tendering; (6) contract management; (7) contract administration; and (8) general questions. Those recommendations stated in section (4.3.2) were employed when designing the questionnaire.

In order to assist the interviewer key words to questions were underlined. This enabled the interviewer to stress in which context the questions were to be answered. Also, as certain questions become invalid, guidance notes directing the interviewer to the next valid question were given. The researcher was aware that biased answers could be given by the respondents. This bias was overcome by using those methods described in section (4.3.3).

The questionnaire contained 2 types of questions: open ended; and tick the box questions. The questionnaire can be identified in appendix 7.

6.4 METHOD OF ANALYSIS.

6.4.1 Open Ended Questions.

Open ended questions were analysed by identifying the most frequently occurring answer to a given question. Results from the open ended questions were incorporated into a database in order that overall answers could easily be identified.

6.4.2 Tick the Box Questions.

Tick the box questions were analysed according to the type of answer required. The answers required could either be pre-defined where the interviewee needed to identify the most appropriate pre-defined answer or numerical where respondents needed to rate a criteria or characteristic from 1 (excellent) to 5 (very poor) etc.

For those pre-defined answers the most prevalent response was identified by incorporating answers onto a database.

For the numerical tick the box questions each score given by an interviewee was recorded on to a database. Each number had an equivalent score. The method used to obtain overall scores and ratings is the same as that described in section (4.3.6).

6.4.3 Selection of Subcontractors.

In total 17 interviews were undertaken with SC's who had either previously completed questionnaires or had been interviewed in the second part of the research.

Those SC's interviewed were selected on the following criteria: they had shown a genuine interest in the research; they had previously been interviewed; and had agreed in principle to be questioned further.

Personnel who were interviewed were middle to senior management. Although these people had an overview of the whole of their business operations, in some instances interviewees could not answer questions as they did not have a full appreciation of the 'day to day' issues within their company.

All interviews were held at the SC's head office with the duration ranging from 1.5 to 3 hours.

6.4.4 Presentation of Results.

The results of this research were presented to CC in a 10 page report distributed to the CC personnel.

6.5 ANALYSIS OF PAYMENT ISSUES.

6.5.1 "From your dealings with CC, do you believe that they are timely payers?"

Seventy six per cent (13/17) of the SC's interviewed stated that the CC were timely payers. The remaining 24% (4/17) asserted that payment was dependent on the form of contract being used. None of the SC's stated categorically that CC were untimely payers.

6.5.2 "Please explain (mitigating circumstances)?"

The form of sub-contract was seen as the only mitigating circumstance. SC's commented that because CC used both standard and non standard forms of sub-contract, payment would be largely dependent on the stipulated terms and conditions. However, it was also noted that just because standard forms of sub-contract were being used, does not mean that the SC would get paid any quicker.

6.5.3 "Do you experience any regular difficulties when being paid by CC?"

Two (12%) of the interviewees stated that they have experienced regular difficulties in being paid by CC, whilst 14 (82%) believed they did not. The remaining subcontractor said difficulties were largely dependent on which QS was making the payment.

6.5.4 “Can you give specific examples?”

Both SC's who answered the previous question negatively, stipulated that bad payment are more to do with personality conflicts between the subcontractors and main contractors QS's.

6.5.5 “How often does this happen?”

The 2 SC's stated that the previously described scenario only happens 'when a certain CC individual is on site.'

6.5.6 “Do those issues highlighted previously affect the price given by you when tendering?”

Both interviewees stated that the price would be affected.

6.5.7 “If so, by how much (%)?”

Neither SC was prepared to identify how much their tender would be affected.

6.5.8 “Are pay when paid procedures more prevalent in CC or in other main contractors?”

Eight two per cent (14/17) of the SC's believed that paid when paid procedures were more common in other main contractors whilst 8% (3/17) stated that they were as common in CC as they were in other main contractors. None of the interviewed SC's believed that 'pay when paid' procedures were more common in CC.

6.5.9 “Why do you think this is?”

Of those 6 SC's who were prepared to answer this question all stated that the use of 'pay when paid' procedures was due to the current economic recession. Three interviewees noted that even SC's use 'pay when paid' procedures on their sub-subcontractors.

6.5.10 “How do you believe that CC payment procedures could be improved within the terms of the contract?”

Thirty five per cent (6/17) of the SC's commented that CC payment procedures did not need to be improved. However, 23% (4/17) noted that valuations and final accounts could be certified quicker by QS's and processed faster by the accounts department.

6.5.11 “Generally speaking do you get paid quicker when working with CC or other main contractors?”

Forty one per cent (7/17) of the interviewees stated that they got paid quicker when working for CC whilst 47% (8/17) believed they were paid at the same speed. None of the SC’s were reported to have concluded that other main contractors paid more quickly than CC. However, 2 interviewees stated that they were unable to comment as they did not have specific experience of main contractor’s payment procedures to make a valid judgment.

6.6 ANALYSIS OF COMMUNICATION ISSUES.

6.6.1 “Do you believe that CC subcontractors should be involved earlier in the building process to develop mutual understanding of the project and to utilise your experience?”

One hundred per cent (17/17) of the SC’s interviewed stated that SC’s should be involved earlier within the building process.

6.6.2 “At what time do you feel this should happen?”

From table 6.1 it can be identified that 88% (15/17) of the interviewees concluded that earlier involvement of SC’s should take place at pre-contract estimating. The benefit in doing this was seen by all 15 subcontractors as using the SC’s specialist knowledge to the benefit of the project. Also, a greater understanding of the work undertaken by different parties would be achieved.

Answer	No.	%
(a) Pre contract estimating.	15	88
(b) Once contract has been won by CC.	1	6
(c) Just before subcontract works are to commence.	0	0
(d) Once construction has started	0	0
(e) Other	1	6

TABLE 6.1 : EARLIER INVOLVEMENT OF SC'S IN THE BUILDING PROCESSES.

6.6.3 “Are you invited to become more involved in the project earlier with other main contractors?”

Fifty three per cent (9/17) of the interviewees stated that other main contractors did invite their SC’s to get more involved within the project whilst 47% (7/17) believed they did not.

6.6.4 “In what way?”

The most prevalent answer identified from the 9 (53%) interviewees who answered the previous question positively was that other main contractors phone up SC’s earlier to use their knowledge on design details and specifications.

6.6.5 “What advantages do you perceive in doing this?”

Two main advantages seen in doing this were that it improves the knowledge and understanding of the project which is of benefit to all involved and that the main contractor and SC can share their own specialist knowledge.

6.6.6 “Do you believe that by improving communication, CC could improve their relationships with subcontractors?”

Ninety four per cent (16/17) of the SC’s stated that relationships could be improved by improving communication. Only 1 SC believed that the relationships could not be improved as it was stated that communication between the SC and CC was excellent.

6.6.7 “If Yes, how?”

The most common statements made pertaining to improving communication were: more communication the better; better communication will assist each party to overcome problems; and talking ‘to’ rather than ‘at’ the SC would be more be more effective.

6.6.8 “Do other main contractors communicate better with their subcontractors?”

Six per cent (1/17) of the SC’s stated that other main contractors did communicate better with their SC’s whilst 94% (16/17) stated they did not.

6.6.9 “How is this done?”

The respondent who answered the previous question positively stated that other main contractors are less contractual in their approach to communication. CC will always send a letter where a phone call in many instances would suffice.

6.7 ANALYSIS OF FEEDBACK ISSUES.

6.7.1 “Do you feel that you get adequate feedback from CC?”

Sixty five per cent (11/17) of the SC’s stated that they did not get adequate feedback from CC whilst 35% (6/17) asserted that they did.

6.7.2 “What type of feedback do you require, when would you require it and how often would you want it?”

Of the 11 interviewees who stated that they did not receive adequate feedback, 5 (45%) pronounced that they would require post contract feedback. Also, 2 (18%) SC 's stated that they would only require feedback when things were going wrong. The most prevalent time for feedback to be given was identified as the tender stage.

6.7.3 “How do you rate the feedback you get from CC on your tender in comparison to other main contractors?”

	Rating	CC	Others
1	Excellent	0	0
2	Good	7	3
3	Adequate	5	11
4	Poor	3	2
5	Very Poor	2	1
	Scores:	51 / 17 = 3.0	52 / 17 = 3.05

TABLE 6.2 : RATING OF TENDER FEEDBACK.

Table 6.2 shows those results given in order to rate the feedback given by CC and other main contractors on SC tenders. It was concluded that overall CC received a value of 3.0 equating to an adequate grade. However, other main contractors received a value of 3.05, which although is a higher score (not as good) than CCs', still equates to an adequate grade.

6.7.4 “Do you receive more feedback at precontract stage (competitiveness of tender etc.) from other main contractors?”

Five (29%) of the interviewees stated that they did receive more feedback at pre-contract stage from other main contractors whilst 12 (71%) commented that they did not receive more pre-contract feedback.

6.7.5 “If CC were to give you more feedback at precontract stage, how would this affect your: tender price; accuracy of estimate; and overall performance.

Only 13 SC's answered this question as 7 SC's were not prepared to comment.

Of those 13 SC's who did comment, 38% (5/13) believed that more pre-contract feedback would make their tender prices more comprehensive. Forty six per cent (6/13) of the

interviewees declared that more feedback would make their estimates more accurate, whilst all 13 SC's stated that overall performance would not improve.

6.7.6 “How do you rate the performance feedback you get from CC and from other main contractors?”

	Rating	CC	Others
1	Excellent	0	0
2	Good	8	4
3	Adequate	6	9
4	Poor	3	4
5	Very Poor	0	1
	Scores:	46 / 17 = 2.9	56 / 17 = 3.3

TABLE 6.3 : RATING OF PERFORMANCE FEEDBACK.

Table 6.3 shows those results given in order to rate the performance feedback given to SC's by CC and other main contractors. It was concluded that CCs performance feedback was rated from 'adequate to good' (2.9) whilst other main contractors was rated from 'adequate to not adequate.'

6.7.7 “Do you receive more performance feedback from other main contractors?”

Eighty eight per cent (15/17) of the SC's stated that they did not get more performance feedback from other main contractors. However, 2 (12%) interviewees declared that they did get more performance feedback from other main contractors..

6.7.8 “What from is this feedback in?”

Both SC's believed that this extra feedback was given at a post contract stage on the SC's overall performance

6.7.9 “How do you rate the overall feedback you get from CC compared to the industry as a whole?”

	Rating	CC	Others
1	Excellent	0	0
2	Good	5	1
3	Adequate	8	11
4	Poor	3	2
5	Very Poor	1	3
	Scores:	49 / 17 = 2.9	58 / 17 = 3.4

TABLE 6.4 : RATING OF OVERALL FEEDBACK.

Table 6.4 shows those results given in order to rate the overall feedback given to SC's by CC compared to the industry as a whole. It was concluded that CCs overall feedback was rated from 'adequate to good' (2.9) whilst the industry as a whole was rated from 'adequate to inadequate' (3.4).

6.8 ANALYSIS OF SELECTION ISSUES.

6.8.1 “Do you frequently get enquiries from main contractors who you do not wish to work for?”

Thirteen (76%) of the SC's stated that they frequently get enquiries from main contractors who they do not wish to work for whilst 4 (24%) believed that they did not.

6.8.2 “Do you get invited to tender by CC or does the enquiry simply arrive on your desk unannounced?”

Only 1 (6%) SC stated that he was invited to tender. However, 9 SC's (53%) believed that tender enquires simply arrive announced. By contrast 7 (41%) interviewees declared that they were invited to tender and enquiries did arrive unannounced.

6.8.3 “Would it be beneficial to both parties that you are consulted before enquiries are sent out, and what would such benefits be?”

Seventy six per cent (13/17) of all SC's interviewed stated that it would be beneficial that SC's are consulted before enquiries were sent out. The primary benefit of having a consultation was seen that both parties could discuss technical details of the project, specifications and designs.

This would increase the SC's understanding of the project. However, 24% (4/17) of the SC's believed that no benefit could be accrued.

6.8.4 "How many enquiries do you perceive CC send out for your particular trade?"

Numbers:	Respondents:	Percentage (%):
1 to 3	4	24
4 to 6	6	35
6 +	7	41
Total	17	100

TABLE 6.5 : ENQUIRIES SENT BY CC.

Thirty five per cent (6/17) of the SC's interviewed believed that CC send out between 4 and 6 enquiries for a trade. However, 41% (7/17) stated that CC sent out 6 or more enquiries. By contrast only 24% (4/24) believed that CC sent out between 1 and 3 enquiries.

6.8.5 "On average how many enquiries do you believe other main contractors send out for the same trade?"

Numbers:	Respondents:	Percentage (%):
1 to 3	0	0
4 to 6	10	59
6 +	7	41
Total	17	100

TABLE 6.6 : ENQUIRIES SENT BY OTHER MAIN CONTRACTORS.

Fifty nine per cent (10/17) of the SC's interviewed stated that other main contractors send out between 4 and 6 enquiries for a trade whilst 41% (7/17) believed that 6 or more enquiries were sent out.

6.8.6 "If a limited number of subcontractors, say 4, were used in tendering, how would this affect the competitiveness of your bid? (with the assurance of getting the work) Why?"

Thirteen (76%) SC's stated that the competitiveness of a bid would not be affected by only 4 SC's being used when tendering. By contrast, 3 (18%) SC's stated that their bid would be more competitive. SC's substantiated this by saying: those SC's who were being used would

have to be comparable in size of turnover; more effort would be put into estimating which would produce a more realistic price; and because of the limited competition more effort would be given to obtain the sub-contract.

6.8.7 If only you (one subcontractor) were used in the tendering process, how would this affect the competitiveness of your bid? (with the assurance of getting the work) Why?"

Seventy one per cent (12/17) asserted that if only 1 SC were used when tendering the bid would become more competitive. The remaining interviewees believed that their tender would not be more competitive.

6.8.8 "Do you find that you are being asked to tender on CC projects against 'non-comparable' companies, e.g. those who do not have the resources or ability to give CC a comparable service?"

Answer:	Respondents	Percentage
Always.	6	35
Sometimes	6	35
Never.	2	12
Don't Know.	3	18
Total	17	100

TABLE 6.7 : TENDERING AGAINST NON-COMPARABLE COMPANIES.

Six (35%) SC's stated that they found themselves 'always' tendering against non-comparable companies to obtain CC sub-contracts whilst a further 6 (35%) SC's believed that they 'sometimes' had to compete against non-comparable companies. Only 2 (12%) SC's 'never' found themselves competing against non-comparable companies.

6.8.9 "Is this more prevalent with other main contractors?"

Forty seven per cent (8/17) of the interviewees believed that competing against non comparable companies for sub-contracts was more common in other main contractors. However, 12% (2/17) concluded that it was not as prevalent as in CC with 41% (7/17) stating that it was the same.

6.8.10 “To get a true reflection on your abilities, who (discipline) within CC would you like to have an input into subcontractor selection? ”

Forty seven per cent (8/17) confirmed that they would like site management to have an input into SC selection whilst 35% (6/17) stated they would like the project and contracts management to have an input. 2 interviewees wanted directors to have an input.

6.9 ANALYSIS OF TENDERING ISSUES.

6.9.1 “Do you give preferential treatment to certain main contractors at the tender stage? (timely, accurate, competitive)”

Fifty nine per cent (10/17) of the SC’s interviewed stated that did give preferential treatment to main contractors at tender stage with 41% (7/17) stating that they did not give any preferential treatment.

6.9.2 “Do CC benefit in any of these ways? Explain and Justify”

Of the 10 SC’s who previously stated that they did give preferential treatment all 10 confirmed that CC obtained it. Four SC’s stated that they only quote for CC whilst 3 asserted that they quote more competitively for them.

6.9.3 “The following characteristics of a main contractor have been identified as having a detrimental effects on a subcontractors tendering / estimating service. Which, if any, occur most frequently?”

Answer:	CC	Others
Slow payment by main contractor on previous contracts.	3.5	1.9
Unfair contracts.	3.2	2.1
Pay when paid clauses.	2.9	2.3
Main contractor retendering once contract has been won.	2.2	2.3

TABLE 6.8 : MOST PREVALENT DETRIMENTAL CHARACTERISTICS ON A SC'S TENDERING AND ESTIMATING SERVICE.

The above statements (see table 6.8) were ranked by the SC’s from 1 being most frequent to 4 being least frequent. Therefore, the higher the number the less frequently it occurs.

The most frequently identified detrimental characteristic was 'slow payment by the main contractor on previous contracts.' Other main contractors scored 1.9 whilst CC scored 3.5. Again the prevalence of 'unfair contracts' was seen as greater with other main contractors than it was with CC. Other main contractors scored 2.1 whilst CC scored 3.2. However, 'the main contractor re-tendering once the contract has been won' was seen to be more common in CC than in other main contractors. CC scored 2.2 whilst other main contractors scored 2.3. Pay when paid clauses were seen to be more prevalent in other main contractors with a score of 2.3 than they are in CC with a score of 2.9.

6.9.4 "How do you regard the information that CC provide at tender stage? Please explain?"

Only 15 respondents answered this question as two believed that they could not make an adequate assessment.

Seventy three per cent (11/15) of the SC's interviewed concluded that the amount of information provided by CC at a tender stage was of the right amount. Twenty per cent (3/15) regarded the information as being too much whilst 13% (2/15) believed that there was not enough information. None of the interviewees believed that the information provided by CC was irrelevant.

6.9.5 "How does this compare with other main contractors?"

Of the 15 SC's who answered the previous question 66% (10/15) believed that the information sent by CC was the same as that provided by other main contractors. Twenty per cent (3/15) stated that the information from CC was better, whilst 14% (2/15) reported that it was worse than that provided by other main contractors.

6.9.6 "How often do you feel that main contractors use you as a 'check' price?"

Fifty nine per cent (10/17) of the SC's stated that main contractors 'sometimes' use SC's as a check price. Four (23%) SC's believed that they were 'rarely' used whilst 3 (18%) concluded that they were 'always' used as a check price.

6.9.7 "Do CC employ this approach?"

Only 16 interviewees answered this question.

No SC's stated that CC 'always' use SC's as a check price whilst 38% (6/16) believe that CC 'sometimes' and 'rarely' use them as check prices. Four (26%) SC's concluded that CC never use them as a check price.

6.9.8 “Have you had experience of back to back (Partnering) arrangements or Joint Ventures?”

Fifty three per cent (9/17) believed that they had had experience of these arrangements whilst 47% (6/17) believed they had not.

6.9.9 “Who do you feel benefits most from such arrangements?”

Of those 9 who had had experience of back to back and joint venture arrangements 33% (3/9) stated that everybody gained equally whilst a further 33% (3/9) believed that the main contractor gained the most. Only 2 (22%) SC's declared that they (SC's) benefited the most whilst only 1 (11%) interviewee stated that the client benefits the most.

6.10 ANALYSIS OF CONTRACTS MANAGEMENT ISSUES

6.10.1 “It has been noted from previous interviews that there is a perception that whilst main contractors are good at managing their own direct labour, they are not so adept at managing subcontractors. How do you feel CC compare to other main contractors?”

Only 16 SC's were prepared to comment. Of those 9 who did comment 38% (6/16) believed that CC were better than other main contractors whilst 44% (7/16) stated that CC and other main contractors were about the same.

6.10.2 “How would you rate the performance of the following disciplines both within CC and other main contracting organisations?”

Discipline:	CC	No.	Others	No.
Site Manager.	2.0	15	3.2	15
Contracts Manager.	2.1	15	2.9	15
Project Manager.	1.9	15	2.5	15
Project QS	2.3	15	2.8	14
Site Engineer	2.1	8	2.6	7

TABLE 6.9 : PERFORMANCE OF SITE BASED DISCIPLINES WITHIN CC AND OTHER MAIN CONTRACTORS.

The original questionnaire requested SC's to assess 'building services managers (BSM's).' As none of the interviewees had experience of working with BSM's and as the occupation only seemed to exist at CC, no results could be obtained.

SC's were requested to grade each discipline from 1 (excellent) to 5 (very poor). The highest grade achieved by the disciplines was gained by the Project Managers (PM's) who scored 1.9 (good to excellent). Within other main contractors PM's only scored 2.5 (good to adequate). Site Managers (SM's) also scored highly within CC with a score of 2.0 (good) whilst within other main contractors they only scored 3.2 (adequate to poor). The lowest score obtained by a CC profession was that given to the Project Quantity Surveyors (PQS). CC PQS's scored 2.3 (good to adequate) whilst other main contractors PQS's scored 2.8 (adequate to good). Both CC's Site Engineers and contracts managers scored 2.1 (good to adequate) whilst on other main contractors the disciplines score 2.6 (adequate to good) and 2.9 (adequate to good) respectfully.

6.10.3 "How would you rate the interface between yourself and CC site management compared to other main contractors? (interface = communication, management, supervision, general contact)"

Those SC's interviewed rated the interface between CC and themselves as 'good' (2.0) whilst they rated the interface between themselves and other main contractors as 'adequate to good' (2.6).

6.11 ANALYSIS OF CONTRACT ADMINISTRATION ISSUES.

6.11.1 "How would you rate attitude, fairness of payment, trust and fair dealing in the context of CC and the industry norm?"

Answer:	CC	Others
Attitude.	2.2	2.8
Fairness of Payment.	2.3	2.8
Trust.	2.1	3.1
Fair dealing.	2.2	3.2

TABLE 6.10 : RATING A POSITIVE ATTRIBUTES.

SC's were requested to grade the characteristics from 1 (excellent) to 5 (very poor).

CC obtained 'good to adequate' grade for all characteristics bar fairness of payment which obtained a 'adequate to good' grade. The industry norm was seen to be lower than that of CCs with attitude and fairness of payment receiving their highest grade of 'adequate to good.' Both trust and fair dealing for the industry norm received a grade of 'adequate to poor.'

6.11.2 “How would you rate the performance of the following disciplines, both within CC and within other main contractors?”

Discipline:	CC	No.	Others	No.
Estimating.	2.2	17	2.5	17
Buying.	2.5	17	2.4	17
Project Design Manager.	2.0	17	-	17
Architects.	1.9	17	2.4	17
Design Engineers.	2.1	17	2.5	17

TABLE 6.11 : PERFORMANCE OF OFFICE BASED DISCIPLINES WITHIN CC AND OTHER MAIN CONTRACTORS.

Those SC's interviewed stated that because CC was primarily a design and construct main contractor the discipline of Project Design Managers was not common to other organisations. Therefore no score or grade could be given.

The highest grade obtained by all the disciplines was that of 1.9 (good to excellent) given to CC's architects. This compared favourably to the score of 2.4 (good to adequate) given to other main contractors architects. Other disciplines both within CC and other main contractor received a grade of 'good to adequate' although scores varied between 2.0 to 2.5 with CCs being the lowest (better).

6.11.3 “CC pride themselves on having a good name for being fair and reasonable to subcontractors. How does this compare with other main contractors?”

Seventy one per cent (12/17) of the interviewees reported that CC had a better name than other main contractors for being fair and reasonable. Twenty four per cent (4/17) believed CC's were about the same as other main contractors. None of the SC's believed that CC were worse than other main contractors.

6.11.4 “Do you believe there would be any benefit in CC developing a non contractual agreement which would promote fairness and trust between CC and its subcontractors?”
Seventy one per cent (12/17) of the interviewees believed that there would be benefit in developing non-contractual agreement with SC’s. This was supported by the SC’s who commented that non -contractual agreements would promote trust and would be a positive step in improving main contractor - subcontractor relationships. Twenty nine per cent (5/17) believed that there would be no benefit to be accrued in developing the agreements as they would not be contractually enforceable.

6.12 ANALYSIS OF GENERAL QUESTIONS.

6.12.1 “What attraction does CC have that makes you want to work with them rather than one of their competitors?”

The following are the most common attractions identified by the SC’s:

- financial security;
- prompt payment;
- fairness;
- good relationships with CC staff; and
- good professional staff.

6.12.2 “What activities would have to be performed by CC to get the best out of you at tender stage?”

The SC’s stated that in order to get the best from them at the tender stage, CC would have to be prompt in paying, good at communicating and good at supplying relevant information.

6.12.3 “Ideally CC try to provide you with uninterrupted access to your part of the works. This is not always possible, but do you find that it poses problems when other subcontractors have been unnecessarily scheduled into the same part of the works as you? What sort of problems?”

All SC’s interviewed (100%) confirmed that problems do arise when other SC’s have been unnecessarily scheduled into the same section of work. The main problem in this is that all subsequent trades are affected and have in fact less time to undertake their works than was initially scheduled.

6.12.4 “Are CC willing to consult you about different solutions to (their) problems? Are you willing to help them choose the most appropriate resolution?”

Seventy one per cent (12/17) of the interviewees stated that CC were willing to consult SC's over their problems whilst only 18% (3/17) believed they were not. One SC believed that CC would ask when it suited them.

All 17 SC's interviewed commented that they would be willing to assist CC find suitable solutions to their problems.

6.12.5 “It was concluded from the first questionnaire that main contractors place too much importance on price to the detriment of quality. Can this statement be said of CC? If so, what do you attribute the problem to?”

Answer	Number	(%)
Current economic climate.	12	80
Wanting a full service but not wanting to pay for it.	3	20
Tendering process makes it like that.	0	0
Poor Site Management.	0	0
Other.	0	0

TABLE 6.12 : ATTRIBUTING FACTORS TO MAIN CONTRACTORS PLACING TOO MUCH IMPORTANCE ON PRICE TO THE DETRIMENT OF QUALITY.

Eighty eight per cent (15/17) of the SC's interviewed believed that CC do place too much importance on price to the detriment of quality whilst only 12% (2/17) stated they did not. Eighty per cent (12/15) of the interviewees attributed the current economic climate making CC like this. Twenty per cent (3/15) believed that CC wanted a full service but did not want to pay for it and a further 20% (3/15) thought that CCs tendering process was too price biased.

6.12.6 “How does the quality of other main contractors documentation compare to CC's?”

Only 15 SC's were prepared to comment on this question. Of those, 13 (76%) believed that the quality of CC's documentation was about the same as other main contractors. One SC believed that CCs documentation was better than other main contractors whilst 1 SC concluded it was worse than others.

6.12.7 “How does the amount of other main contractors documentation compare to CC’s?”

The amount of documentation sent by CC was seen by 65% of the SC’s as about the same as other main contractors. 3 (18%) SC’s believed CC sent more than others whilst 2 (12%) thought CC sent less than other main contractors.

6.13 RESULTS.

6.13.1 Payment Issues.

CC were perceived by the SC’s as timely payers with only 2 SC’s stating that they experienced regular difficulties in being paid by CC.

Pay when paid procedures were identified as being more prevalent in other main contractors than in CC. The use of pay when paid procedures was attributed to the current economic recession.

6.13.2 Communication.

All SC’s believed that SC’s should be involved earlier in the building process. This earlier involvement should take place during the pre-contract estimating stage. The advantages in doing this were seen as employing the SC’s specialist knowledge to the benefit of the project and the understanding of the work undertaken by different parties would be more clearly understood. The majority of the SC’s interviewed believed that they became involved earlier on other main contractors projects than they do on CC projects. This earlier involvement took the form of phoning SC’s to use their knowledge on design details and specifications.

The SC’s believed that by improving communication CC could improve their relationships with SC’s. No suggestions were put forward by the SC’s on how CC might improve their communication.

6.13.3 Feedback.

The research identified that SC’s required more feedback from CC at both the tendering and post contract stage. At present CC tender feedback was only seen as ‘adequate’ whilst performance feedback was seen as ‘good to adequate.’ CCs tender and performance feedback was rated more highly than other main contractors. The advantages of CC giving SC’s more

feedback at the pre-contract stage were that any prices quoted would be more comprehensive and accurate.

6.13.4 Selection.

Only 1 SC was identified who reported that he got invited to tender for CC work. Most SC's stated that tenders simply arrive unannounced. The benefit in consulting SC's before enquiries are dispatched are that both parties (main contractor and SC) could discuss technical details of the project, specifications and designs. This was seen to increase the SC's understanding of the project.

Other main contractors were seen to send out more enquiries than CC for a given trade. Seventy per cent of those SC interviewed confirmed that they tendered on CC projects against non comparable companies.

No benefit was seen in limiting the number of SC's used in tendering to 4. However, if only 1 SC was used in tendering, competitiveness of SC bids would be greater. It was identified by the SC's that to obtain a true reflection on their capabilities they would like CC site management to have a greater input.

6.13.5 Tendering.

It was identified that SC's do give main contractors preferential treatment at the tender stage. CC was seen the benefit from this treatment.

CC were seen to seek further tenders from SC's once they had won a main contract. CC's use of this approach was identified as being more prevalent than other main contractors. However, CC's use of pay when paid procedures, unfair contracts and slow payment mechanisms were seen to be significantly lower than other main contractors.

The information sent by CC and other main contractors during tendering was seen by the SC's as the right amount.

Approximately 50% of the SC's interviewed believed that they had undertaken some kind of partnering - joint venture arrangement before. All parties were seen to benefit from the use of such approaches.

6.13.6 Contracts Management.

The level of performance of CC's site based disciplines was seen as superior to that of other main contractors with CC project managers achieving the grade of 'good to excellent.' Also, the interface between CC and its SC's was seen as better than that of other main contractors.

6.13.7 Contract Administration.

CC were seen as more trusting than other main contractors. They were also seen as fairer when paying, having a better attitude and generally being much more fair dealing across their business operations. This observation was supported by the fact that 70% of the SC's interviewed believed that CC had a superior reputation for being fair and reasonable.

As with the site disciplines CCs office staff were seen to out perform other main contractor's staff. The only discipline that was perceived to perform lower than other main contractors was CC buyers.

6.13.8 General Comments.

Working for CC was seen as having the following attractions: financial secure; promptness in paying; fairness; good relationships with CC staff; and good professional staff. However, in order for CC, or any other main contractor, to get the best from SC's during the tender stage they would have to have be prompt when paying, good at communicating and supply relevant information.

All the SC's interviewed stated that they would be willing to assist CC in identifying different solutions to their problems.

Eighty eight per cent of the SC's interviewed believed that CC place too much importance on cost to the detriment of quality. This was seen to be attributed to the current economic recession.

6.14 SUMMARY

(i) It was established that bad payment was attributed to personality conflicts between the SC's and main contractors QS's.

(ii) The research proved that earlier involvement of SC's should take place at the pre-contract estimating stage.

(iii) Benefits of involving SC's earlier were identified: increasing knowledge and understanding of the project; and the main contractor - SC can share their specialist knowledge.

(iv) It was concluded that the most important time for feedback to be given to SC's was at the tender stage. Tender feedback from CC and other main contractors was only established as being 'adequate.'

(v) Other main contractors invite SC's to tender more frequently than CC.

(vi) No real benefit was identified within the research in only using 4 SC's when tendering for a package. However, it was identified that if only one SC was used 71% of the SC's stated that bids would become more competitive.

CHAPTER SEVEN

7. SEMI PROJECT PARTNERING

7.1 INTRODUCTION.

It was concluded by the researcher after the completion of the 3 areas of research, that the project partnering approach to be developed should concentrate on the tendering and estimating stage of a project. This decision was made based on the following rationale:

most relationships between CC and SC's are first established during the tendering / estimating stages of a project, therefore it is important that relationships commence properly;

although issue resolution and partnering evaluation procedures are critical aspects of partnering they are primarily employed during the construction stage of a project. However, in order for these procedures to be developed properly they have to be raised during the early stages of a project (Cowan, 1992) (Master Builders, 1992) (AGC, 1991). It was decided that the most appropriate time for these to be developed would be during the estimating / tendering stage;

many partnering commentators believe that partnering should commence as early as possible (Harbuck et al, 1994) (CIDA, 1993) (Moore et al, 1992) (Brown, 1994); and

many of the issues raised during the research surveys are primarily attributed to the estimating and tendering stages of CC's and its SC's.

The researcher was able during the research to gain an in-depth understanding of CC's tendering and estimating procedures. This research employed this knowledge to develop three alternative approaches to project partnering. Also, this knowledge was used to identify those research conclusions (section 7.3) that were more appropriate to CC's operations.

Alternative project partnering proposals developed by the researcher were:

competitive project partnering;
semi project partnering; and
non-competitive project partnering.

Competitive project partnering. This approach to project partnering employed competitive tendering. CC would identify the S/C tender that offered the best value for money. The SC's are interviewed and assessed by CC without any input from the client or other project team members. Once CC have identified a suitable S/C only then will the partnering philosophy be applied. The relationship between CC and S/C is then terminated.

Semi-project partnering. This approach, unlike competitive project partnering, only employs limited competition. Only 4 SC's are requested to submit tenders. The SC's are made fully aware at the beginning of the tender process that a partnering philosophy will be used on the project and all SC's will be seen as valuable members of the project team. Also, are inform that if successful they will have to attend a project day and will have to commit themselves to the project objectives by signing a project charter. The relationship between CC and S/C is then terminated at the end of the project.

Non-competitive partnering. This approach, unlike the previous, adopts no competition. One S/C is selected by CC from an approved list of SC's but based on approved criteria developed by the project team for the project. The S/C is then given time and cost parameters in which to develop his / her tender. At all times an 'open book' approach is used and the SC's specialist skills are used to develop alternative cost saving ideas. Once all partnering SC's have been identified a project day is undertaken and a project charter is signed. The relationships between CC and S/C is then terminated at the end of the project.

Based on the comments of RCF (1995) and CIBSE (1995) that strategic partnering provides greater benefit than project partnering and the conclusions of Matthews (1996), Gardiner and Theobald (1995) and Jamieson et al (1996) that change in the UK construction industry is slow and that project partnering approaches would provide a platform for the development of strategic partnering it was decided to implement the semi-project partnering approach. This approach adopted the partnering philosophy with an element of competition which met more closely the criteria discussed in chapter 3. Also, it was concluded by both the researcher and

CC that the semi-project partnering approach adopted more of the conclusions drawn from the data collection exercises (see figure 13).

7.2 CHAPTER OUTLINE.

Section (7.3) identifies the main research findings to be incorporated within the semi project partnering approach. The approach is discussed within section (7.4) with each part of the process outlined. The key elements of partnering are also discussed. Section (7.5) details the methodology employed in order to validate the approach. Sections (7.6) and (7.7) describe how the process was adopted on a 'live' construction project and discusses those changes made to the original approach. The methodology employed in order to develop the partnering charter and an issue resolution policy (IRP) are detailed in sections (7.8.4) and (7.9). Finally, section (7.10) summaries the findings of the chapter.

7.3 KEY RESEARCH FINDINGS TO BE INCORPORATED INTO APPROACH.

The approach was developed by incorporating the research findings from chapters 2, 3, 4, 5 and 6. The approach takes into consideration the following findings (see figure 5):

The literature review established that the key elements of partnering were:

- the identification and settlement of mutual project goals and objectives;
- the development of commitment towards the project;
- equity between all project participants;
- shared risk;
- a win - win philosophy; and
- collaboration / co-operation between project participants.

It was also proved that any partnering approach should contain the following activities:

- issue resolution policy;
- partnering / team building workshops;
- partnering evaluation procedures; and
- charter formulation process.

From the research discussed in chapters 4, 5 and 6 the following primary improvements were identified as being needed in order to improve the CC - SC relationships:

- earlier involvement of SC's within the building process to develop mutual understanding;
- improve communication between CC and its SC's;
- develop / promote a positive attitude between CC and its SC's;
- improve feedback on tenders and SC performance;
- improve the evaluation of SC bids;
- allow CC site team input into SC selection;
- remove the importance on price to the detriment of quality;
- obtain consistency in the quality of tendering SC's; and
- acquire an appropriate level of competition.

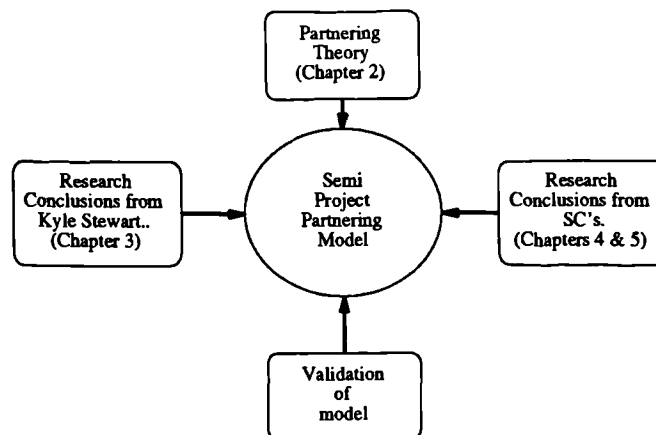


FIGURE 5: DEVELOPMENT OF SEMI PROJECT PARTNERING APPROACH.

7.4 SEMI PROJECT PARTNERING APPROACH.

The term semi-project partnering has been used to describe the project partnering approach developed. A true partnering approach would be based on negotiation rather than competition Matthews et al (1996). Semi-partnering uses limited competition, however it is not as wide spread as that undertaken in the traditional subcontractor tendering.

The process was divided into three main phases. These are:

(1) Procurement set up:

Package and company identification.

(2) Initial selection and notification:

1st subcontractor interview; and

2nd subcontractor interview.

(3) Selection and appointment of subcontractor:

3rd Interview tender clarification;

Subcontractor selection;

Project day; and

Pricing.

A 'Project Team' would need to be set up for the duration of the project. Although it was understood that the personnel on the team would change during the life of the project, it was proposed that the members of the team during the partnering stages would commonly be: CC's commercial representation (estimator); design representation (architect and project design manager); engineering representation (structural and services); and site management representation (project and contracts manager). The client representation should include where possible: the client; the private quantity surveyor; architect; and engineering representation (structural and services). The project team should meet regularly in order that project progress and problems can be discussed.

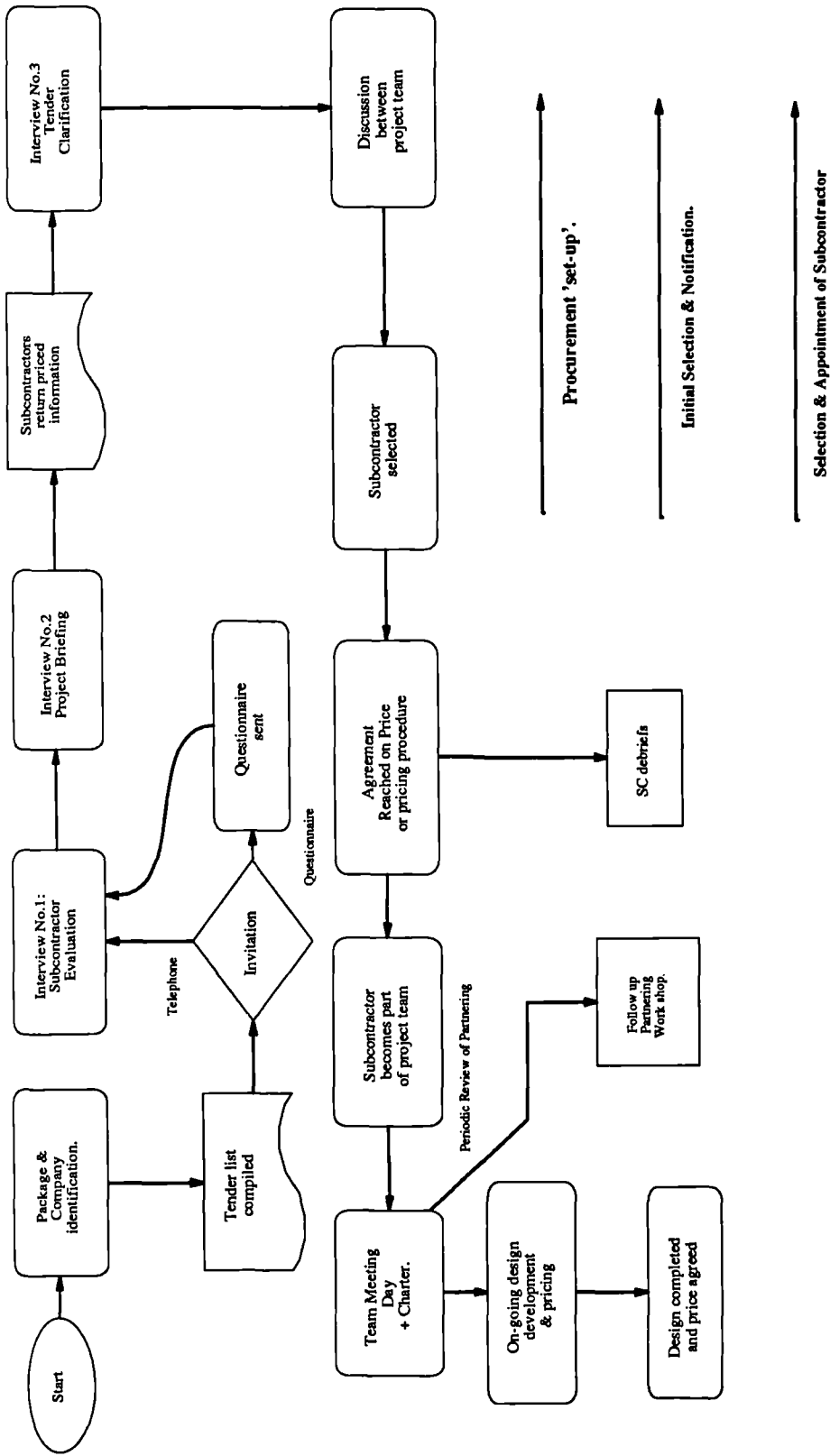


FIGURE 6 : SEMI PROJECT PARTNERING APPROACH WITH SUBCONTRACTORS.

7.4.1 Stage 1: Package and Company Identification:

The objective of this stage is to identify all major packages on the project that would accrue benefit from using the partnering approach. Packages are to be examined under the following headings:

- design content;
- complexity of construction;
- high subcontract value;
- long periods of construction;
- early commencement of construction;
- high level of aesthetics;
- long procurement times; and
- those trades that could 'add value' with their early input.

Having identified all trades / packages, names of subcontractors are to be put forward by all project team members during a team meeting. Each team member, including CC site staff, should have an opportunity to comment on the names put forward. The team assesses each company in order to shorten the list. SC's should be assessed primarily on their past performance. Other criteria to be employed include:

- ability to undertake this quantity of work;
- ability to produce the required standard of work;
- ability to undertake the work (not wanting to over 'stretch' the subcontractors);
- positive attitude (past experiences);
- firm financial background;
- where applicable, good in-house design service;
- good standards of management (site and head office); and
- would CC want to develop a long term relationship with the SC.

On conclusion of the team meeting between 3 and 5 names should remain for each package. It is to be agreed by all team members that these subcontractors can offer a comparable service.

A member of CC's project team, probably the estimator, then contacts each of the SC's and invites them to an interview. The team member informs the S/C's of the type of project, its location and programme time etc. The invitation is followed up by a confirmation letter.

7.4.2 Stage 2: 1st Subcontractor Interview.

The 1st subcontractor interview has three aims. Firstly, to assess the SC's ability in terms of attitude, pro-activeness, design capability, honesty, background and work load. Secondly, to introduce the project and the philosophy of 'the team' to the SC's and thirdly, if available, to hand over pricing details and other relevant information.

The project team should be represented by the PQS, project estimator, project manager (for primarily construction trades), appropriate engineer (services or structural trades), project design manager and in certain instances the architect for those trades with high aesthetical values, and a planner for those trades with programming implications.

A senior member of the project team needs to act as a chairman for the meeting. The SC's should be told under what criteria their submissions were to be evaluated. These criteria ought to include:

- (1) Understanding of the partnership concept;
- (2) Response to partnering;
- (3) Alternative proposals put forward for their package. This includes design innovation, alternative product specification and value engineering;
- (4) Indicative price;
- (5) Technical ability;
- (6) Enthusiasm for the project; and
- (7) Past experience of similar work;

Those subcontractors who do not reach the requirements of the project team are informed that they are not required to tender on the project.

Assessment of the SC's in the first instance should be made on a proforma which all attendees to the interview complete. The proforma can then be used as an memory aid later in the process.

7.4.3 Stage 3: 2nd Subcontractor Interview: Project Briefing .

In the scenario where the first interview acted as an 'evaluation interview' only, the second interview is to be used to give pricing document to the SC. The interview can also serve other purposes. If the subcontractor has not fully understood the requirements of the project from the

first interview, this meeting can be used to develop understanding. Also, if pricing or design details were not completed at the first interview, they can be passed over.

7.4.4 Stage 3: Tender Clarification.

This interview was set for those instances where the first interview acted as an initial SC evaluation whilst the second was used to hand over pricing documentation. The aim of this interview is to give both CC and the SC the opportunity to discuss the tender and check for compliance and accuracy following the return of the tender documentation.

7.4.5 Stage 3: Subcontractor Selection.

The final decision on which SC to use is left primarily to CC although the PQS and client should have an input into the decision.

The selection is made on those criteria communicated to the subcontractor during the first interview. The SC is informed by either the project buyer or estimator that CC wished to work with the him/her on the given project. An indicative price and budget rates are agreed upon based on the clients cost plan.

7.4.6 Stage 3: Project Day

A two day project workshop is planned and undertaken with the aim being to bring together all parties involved in the project and try to develop a 'team.'

Within this workshop, team exercises are undertaken and a partnering charter is developed. All those parties who have had an involvement on the project, and who are likely to have a further involvement, should be present. All partnering SC's should be invited. All parties present on the project day should agree and sign the project charter, in order to show their commitment to the project.

The arrangements and the location of the project day should be made jointly by the client and CC. As such any cost incurred should be met jointly by both parties.

7.4.7 Pricing.

A date is to be set by CC at the 'subcontractor selection stage' for a final indicative price to be agreed. However, agreeing a final price will be dependent on the information that was available whilst the design was being developed. Negotiations take place between the project

estimator and buyer. All subcontractors were employed under the DOM2 standard form of subcontract.

If it is perceived that the performance of a SC is inadequate, then the decision can be made to choose another. In this scenario the SC who previously came second is contacted.

7.4.8 Issue Resolution Policy.

An IRP is to be developed by the project team in order that any grievances could be resolved at the lowest level of management. All parties on the project should be aware of the IRP. Fundamental rules and guidelines that were identified from the partnering literature (RCF, 1995) (CIDA,1993) (Cowan et al, 1992) (AGC, 1991) to be included in the development of an IRP include:

- issue resolution policy to be developed during work shop;
- establish 3 separate levels (technical, managerial and political) of problem solving ;
- a problem solving team needs to be established at each level with the aim being to bring partnering parties together;
- each level should have a time limit;
- any partnering party may raise an issue;
- all problems are dealt with firstly at the lowest level. If not agreed in time period move to next level;
- no jumping of levels;
- ignoring the problem or 'no decision' is not acceptable; and
- if dispute is not settled in 3 stages then use mediation etc.

7.4.9 Partnering Evaluation Process.

A partnering evaluation process is to be developed which evaluates the impact of the partnering process on the project. All parties involved in the project are asked to comment. Questionnaires are completed monthly whilst forums are set-up after key stages of the project have been completed. These forums will give project members a 'platform' to voice their opinions on the strengths and weaknesses of the project.

7.4.10 Debrief Unsuccessful Subcontractors.

Each subcontractor who was not successful in obtaining work is asked if they would like to attend a debrief and identify why they were not awarded the work package. The debrief should be chaired by a senior member of CC's staff and should be attended by those personnel who had an input into the final selection.

7.5 VALIDATION OF SEMI PROJECT PARTNERING APPROACH.

The semi project partnering approach was validated by adapting that approach developed by Crowley and Karim (1995). Crowley and Karim validated their conceptual approach of partnering by testing it against the perquisite attributes of partnering as defined by CII (1991) and the process based description detailed by Cowan (1991).

Although this method of validation employed by Crowley and Karim is beneficial in that it sets out a base methodology, it is restrictive as it only takes into consideration 2 published works. Also, little effort was made by Crowley and Karim to validate their approach within the construction industry. As the semi project partnering approach developed within this research was to be employed on a live project, it was necessary that the approach was seen by CC to do what the initial research conclusions indicated.

To overcome the restrictions of Crowley and Karim's methodology, the method of validation employed within this research takes into consideration those key elements identified in the analysis of 20 authors as discussed in section (2.8). A validation meeting took place with 14 members of CCs personnel. These were: project leader; project manager; site manager; quantity surveyor; buyer; estimator (2); site manager; architect; engineer; project planner; contracts manager; assistant managing director; and the managing director.

7.5.1 Results from validation meeting.

It was concluded from the validation meeting that whilst possible time savings of the implemented approach could be measured and costed in time, the more intangible factors such as honesty, trust, integrity and collaboration can only be notionally assessed. This makes the validation of the content of the approach subjective. In order to overcome these problems a validation committee was formed comprising various members of CC's staff. Each member of the committee's had expert knowledge with a specific function. The committee's task was to identify if the approach could actually do what it is proposed. Three sections of factors were

identified as critical to the approach. These were: partnering elements; partnering activities; and tendering and estimating.

In total 20 factors were identified. The committee had to rate each factor depending on whether the approach was successfully achieved, had partially been successful or did not achieve what was identified in the research.

The conclusions of the committee are detailed in figure 7.

Partnering elements. The process would develop commitment and collaboration / co-operation. It was concluded that the process would identify the most committed and co-operative SC's. Although this would be partially successful the committee believed that it was inappropriate to give a 'satisfactory' until the approach had been implemented.

Partnering activities. Although the settlement of mutual goals and objectives was not detailed in the approach, the suggestions put forward and discussed in sections (3.6) and (7.4.6) for the development of a partnering charter would enable partnering goals and objectives to be developed. Also, it was concluded that the workshop would promote team / group working. Both the suggestions put forward for the continual evaluation of the partnering and the resolution of problems were accepted in principle.

Tendering and Estimating. The approach was seen to achieve all requirements it set out to accomplish. It was agreed that the approach would have a positive impact on improving all factors.

Key: S = successfully achieved.
 P = partially successful.
 U = unsuccessful.

Partnering Elements:

- | | | |
|----|--|---|
| 1. | Development of trust and fair dealing. | P |
| 2. | Development of commitment. | S |
| 3. | Equity. | P |
| 4. | Shared risk. | P |
| 5. | Win - win philosophy. | P |
| 6. | Collaboration / co-operation. | S |

Partnering Activities

- | | | |
|-----|--|---|
| 7. | Settlement of mutual goals and objectives. | S |
| 8. | Group working / teams. | S |
| 9. | Continual evaluation. | - |
| 10. | Issuance of Problems. | - |

Tendering / Estimating:

- | | | |
|-----|---|---|
| 11. | Improved communication. | P |
| 12. | Promotes positive attitude. | S |
| 13. | Improved feedback. | |
| | - tender. | S |
| | - subcontractor performance. | P |
| 14. | Improved evaluation of bids. | S |
| 15. | Site team input into SC selection | S |
| 16. | Earlier involvement of SC. | S |
| 17. | Increased understanding of project. | S |
| 18. | Consistency in quality of SC's tendering. | P |
| 19. | Appropriate amount of competition. | S |
| 20. | Quality as well as price. | S |

FIGURE 7 : VALIDATION OF SEMI PROJECT PARTNERING APPROACH.

7.5.2 Overall committee result.

It was agreed by all members of the committee that the approach developed would achieve what it set out to do. It was also agreed that as soon as a project became available the approach would be implemented in full.

7.6 IMPLEMENTATION OF APPROACH.

The process (figure 6) was implemented on a commercial development called No. 5 Brindleyplace. The contract value was £14.5 million and the contract duration was 19 months (from 19 June 1995 to December 1996). The JCT 1981 Standard Form of Contract was used with all partnering subcontractors employed under the DOM 2 standard form of subcontract. The project comprised of a seven storey building with a stepped atrium along the centre of the structure with a total area of 9,847 m². A basement contained parking for 58 cars.

CC's client was Argent Group Plc, a property developer based in London.

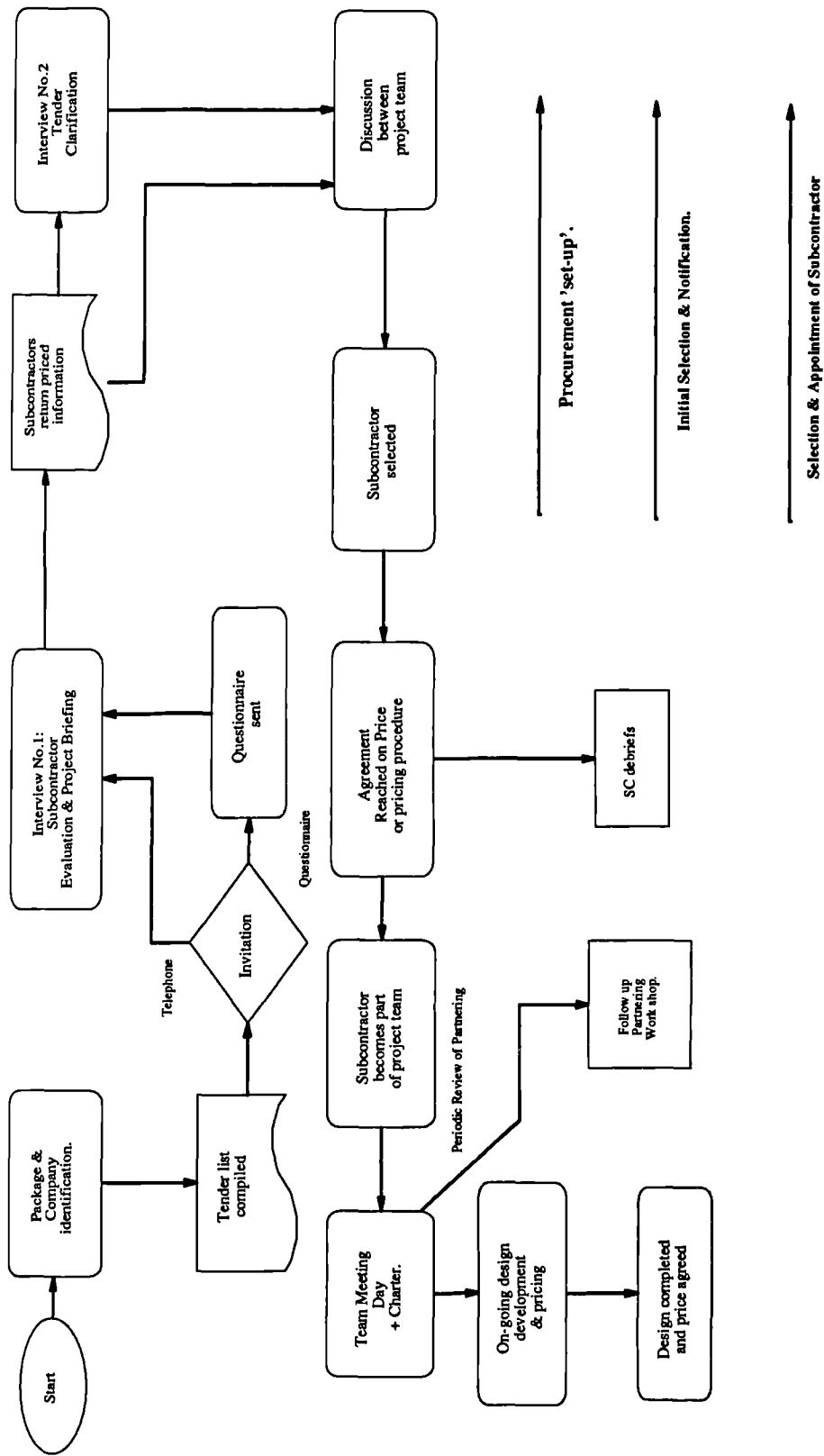


FIGURE 8 : IMPLEMENTED SEMI PROJECT PARTNERING APPROACH.

7.7 MONITORING AND CHANGING THE ORIGINAL APPROACH.

7.7.1 Stage 1: Package and company identification.

This stage took place exactly as discussed in section (7.4.1). A list (see appendix 8) was developed that identified all the key trades. Against each trade SC names were given. From these names SCs were selected for bidding. The project estimator contacted each SC to identify their willingness to tender. All the SC's contacted agreed to bid in principle.

7.7.2 Stage 2: 1st Subcontractor Interview.

The 1st subcontractor interviews were set-up by the project estimator. The PDM acted as a chairman for the meeting. He introduced the project to the subcontractor from a technical perspective. He informed the subcontractors of how CC obtained the main contract and outlined the 'philosophy of the project' within which the subcontractor would have to work to. The subcontractor was told that if he was successful in his tender he would have to attend a team workshop.

At the end of the meeting each project member assessed the SC on the following criteria: enthusiasm for the project; response to partnering; technical ability; past experience of similar work; and alternative proposals put forward for the package. A proforma was developed by the researcher to record all responses based on the criteria identified as important by the project team. The proformas were kept by the project estimator and would be used when assessing bids. A copy of the proforma used can be seen in figure 9.

Information given to the SC at this interview included maximum cost plan price, general arrangements' sections, specifications and approximate quantities. The structure and agenda for this meeting can be identified in appendix 9.

7.8 STAGE 3: SECOND SUBCONTRACTOR INTERVIEW: PROJECT BRIEFING

This interview was not employed as pricing information was given to the SC's at the first subcontractor interview.

7.8.1 Stage 3: Tender Clarification.

This interview was only used for the steel frame package. After the first interview and the review of the submissions the project team could not determine which SC to place the contract with. The tender clarification meeting was used in order for the SC's to present the submissions. The meeting was attended by the clients project manager and QS, project estimator, project engineer, architect and the PDM. After completion of the presentations the attendants still could not agree on where to place the SC. A final decision was made by the clients and CC's project managers.

Due to the project teams experience in making a final decision after this meeting, tender clarification took place on an *ad hoc* basis, usually over the telephone, between CC's estimator, the PQS and the SC. The researcher was involved in forwarding partnering literature to SC's.

7.8.2 Stage 3: SC selection.

The final selection made on which SC to be employed was left to the CC although the client did have an input. The selection was based on those criteria stipulated during the 1st interview. The scored proforma (used in the 1st subcontractor interview) and a SC assessment sheet, prepared by the project buyer were used as discussion points.

The selections were made at a meeting which was attended by the PDM, project estimator, CC project manager, project buyer, PQS, clients project manager and the researcher. The researcher's role was to assess partnering knowledge and experience of the SC. The SC was informed by the project estimator that their bid had been successful. An overall indicative price and budget rates were agreed.

7.8.3 Stage 3: Project Day

It was decided by Argent and CC that a 2 day workshop would not be of great benefit as the project team had been working successfully under the partnering philosophy for approximately

6 months before a workshop could be held. Although it was acknowledged that under normal circumstances 2 day workshops with group exercises would have a significant benefit it was decided that a 1 day project review would suffice.

The project day was initiated and paid for by the client and was set as soon as possible after all partnering subcontractors had been confirmed. The day was held at a hotel in neutral location away from the normal meeting areas of Birmingham and London. The aim of the day was to bring together all 'key' members of the project team, to review the progress made to date, where progress needed to be made in the future, and the signing of the partnering charter.

All parties that had worked on the project were represented at the project day. These included the structural and services engineers, concept architects, tenant, main contractor, project managers and all partnering subcontractors.

The day commenced with the client, main contractor and the tenant reviewing the progress made to date on the project. Each partnering party then presented their requirements / objectives for the project and what they could bring to the project. Once the presentations were completed the charter was agreed upon and signed.

The researcher's role during the project day was to act as a facilitator. Duties undertaken included:

- facilitating general discussions on partnering;*
- facilitating in the preparation of individual company partnering charters;*
- presenting and discussing provisional project partnering charter;*
- making changes to the charter based on project personnel's requirements;*
- preparing and printing partnering charter; and*
- charter signed by all present and distributed.*

7.8.4 The Charter.

In order to develop a partnering charter it was decided, on the advice of the researcher, to take an alternative approach than those suggested by the partnering commentators in section 3.6 (CIDA, 1993) (AMBA, 1993) (RCF, 1995) (Cowan et al, 1992) (Mosley et al, 1990) (Abudayyeh, 1994). A new approach was developed by the researcher as there was not enough time during the project day to commence the development of the charter. However the

researcher noted from the partnering literature that the development and the format of a partnering charter should contain the following:

- the actual process should be planned out;
- the charter needs to be prepared by all, not just by a committee;
- charter size should be limited to 1 page;
- the charter should where possible be multi coloured;
- all key logo's of organisations should be incorporated where possible;
- there should be no individual titles or signature blocks; and
- the charter is signed by all who participated in its development.

Each party involved in the project was asked to write down 10 objectives that they wanted to achieve during the project before the commencement of the project day. It was suggested that each party set up its own individual company meeting where different members of staff could have their input. If problems arose in the development of individual company objectives the researcher was made available to assist the companies in developing their objectives. Once all objectives had been returned the 'champion' identified the most prevalent objectives and put them into a provisional project charter. Individual company charters can be identified in appendix 10.

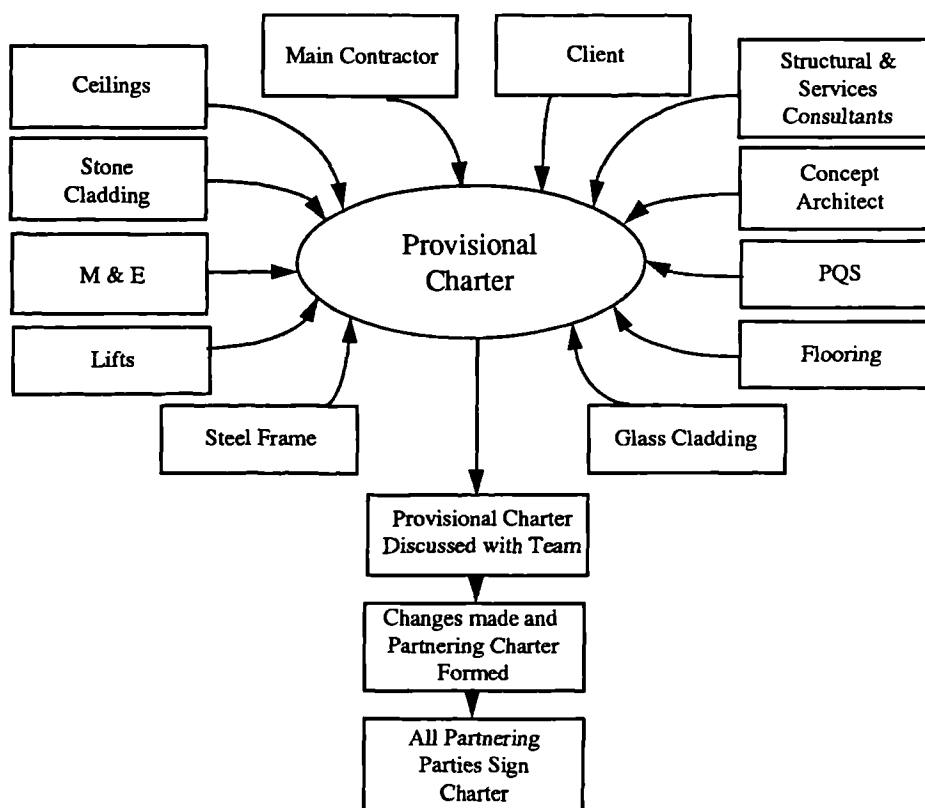


FIGURE 10 : CHARTER FORMULATION PROCESS.

During the project day the provisional charter was presented by the researcher to the attendees. The charter was presented via a computer link to a PC which enabled changes to be made to the charter as they were agreed. All parties were asked if they approved of the content of the charter, changes were made and the final charter was printed out. Once the charter had been checked all attendees signed the charter to signify their commitment to it. Copies of the charter were distributed by the researcher to all attendees of the project day. Figure 11 shows a copy of the final No.5 Brindleyplace project charter.

7.9 ISSUE RESOLUTION POLICY.

Due to the time restriction placed on the project day, no time was available to develop the IRP. However, on the suggestion of the researcher an IRP committee was formed which represented all the partnering projects. The aim of the IRP committee was to develop an IRP within 7 days of the project day.

The committee members were selected by the researcher. These included: 2 Argent personnel (client); 4 members from the clients team (private QS, services and structural engineer, estate agent); CC's project QS, estimator, project leader, project manager, contracts manager, project planner; 2 facilitators and 1 representative from each partnering SC.

The IRP committee and the researcher met at CC's head office and developed the No. 5 Brindleyplace IRP based on the rules and guidelines stated in section (7.4.8). The IRP for No.5 Brindleyplace is depicted in figure 12.

In validating (see table 7.1) the IRP the committee considered that the policy met all the requirements set out in section (7.4.8) apart from it being developed during the project day. The researcher and the committee concluded that because the IRP had representation from all sections of the project team, the overall effectiveness of the IRP would not be compromised.

Criteria:	Achieved	
	Yes.	No.
IRP developed at partnering work shop.		X
Establish 3 levels of resolution.	X	
Form problem solving team.	X	
Each level has time limit.	X	
Any partnering party may raise issue.	X	
Issues dealt with from level 1 upwards.	X	
No decision not acceptable	X	
Use mediation etc.	X	
No jumping of levels.	X	

TABLE 7.1 : IRP COMMITTEE VALIDATION CHECK LIST.

It was agreed, on the suggestion of the researcher, that the IRP committee would also act as the problem solving team. The No.5 Brindleyplace IRP had the following 6 primary rules which were proposed by the researcher:

1. Each level of resolution has a 24 hour time limit until the issue is escalated to next level.
2. All issues commence at level 1 and every effort is made to resolve problems at the lowest level.
3. Any partnering party can raise an issue.
4. No jumping of levels.
5. No decision is not acceptable.
6. Issue solving team have 24 hours notice to form. All members should make great efforts to attend.

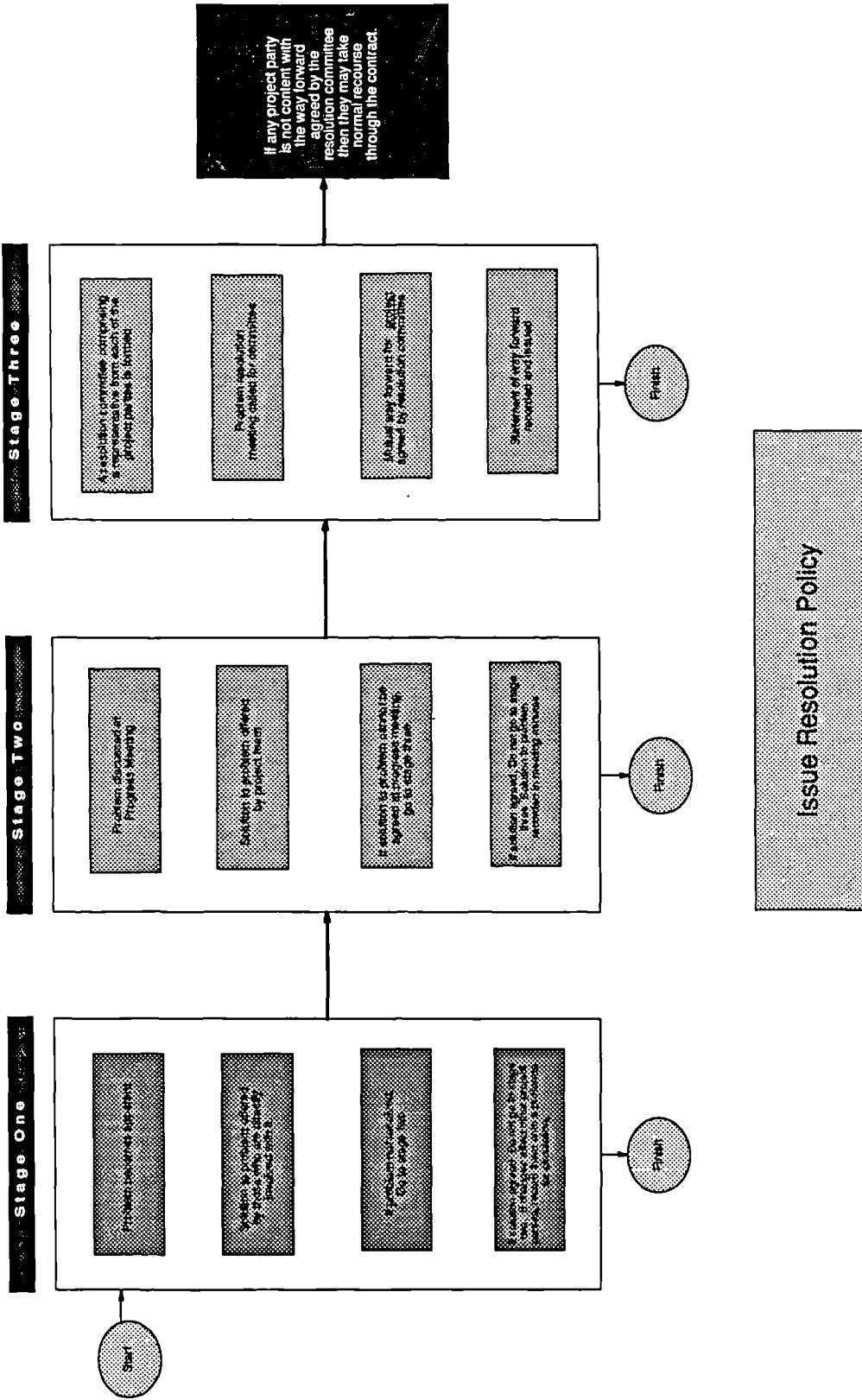


FIGURE 12: BRINDLEYPLACE ISSUE RESOLUTION POLICY.

7.9.1 Partnering Evaluation Process.

The partnering evaluation form was developed by the researcher using those recommendations put forward by the partnering authors (CIDA, 1993) (AMBA, 1993) (AGC, 1991) (Stevens, 1993) (CII, 1991) (RCF, 1995) (Cowan et al, 1992) and is completed every month by every member of the partnering project team.

The partnering evaluation form contained 7 tick the box questions. Each question deals with an objective from the partnering charter. Each question has to be ranked from 1 (very poor performance) to 4 (excellent). Any respondent answering below 2 is requested to give reasons within the comments section. The evaluation form also contains two open ended questions. These questions deal with how partnering expectations are being met as well as requesting any suggestions that may improve the partnering on the project. To date the results of the evaluation have shown that the semi project partnering process has satisfied the partnering participants in all areas specified within the charter.

A copy of the partnering evaluation form is included in appendix 11.

7.9.2 Debrief Unsuccessful Subcontractors.

All subcontractors accepted the offer of a debrief on their bid. The debrief was chaired by the Project Design Manager / Project Manager and was attended by the CC chief buyer, the researcher and either an architect or engineer depending on what trade was being debriefed.

All subcontractors stated that they found the debrief very informative. They substantiated their comments by saying that the information they received from the debrief would be used to make their tender more attractive on the next partnering project.

Attendees of the debrief concluded that although the subcontractors fully appreciated the partnering philosophy at the initial interviews, the people who attended the interviews did not put together the tender. Thus, the impact of partnering had been greatly diluted. It was also established during the debriefs that subcontractors were quoting approximately 10% cheaper on Brindleyplace bids than they were on other prospective projects. Another important issue that arose was the fact the SC's suggested that it would be better if they had the opportunity to formally present their bids at an interview. This would enable them to stress the difference of their products over others.

A feedback report prepared by the researcher from the debrief of the un-successful curtain walling SC can be seen in appendix 12.

The researcher's role within the debriefs was:

- to contact SC's to establish date and time;
- to develop an agenda;
- to prepare and forward a follow-up letter including the meetings agenda;
- to make sure the correct CC staff attended the meeting; and
- to write and distribute to senior CC minutes of the meeting.

7.9.3 Follow-up Workshops.

The aim of a 'follow-up' work shop is to reinforce the team building developed at the initial workshop and to assess the progress of the project. In doing so the partnering follow up work shop will:

- renew partnering commitment;
- build teams;
- review performance;
- further develop action plans to improve the performance of all work processes; and
- introduce new project staff and SC's to the partnering process.

The partnering literature (RCF, 1995) (CIDA, 1993) (Moore et al, 1992) make recommendations when undertaking follow up workshops. These recommendations were borne in mind by the researcher when developing No.5 Brindleyplace partnering workshops. The recommendations identified include:

- should be held at 3 month intervals;
- scheduled for 1 day;
- the use of any external facilitator is recommended; and
- undertake team building exercises to develop further group working.

Up until May 1996, 3 follow-up workshops had taken place. The facilitator's notes and the structure of the workshop can be seen in appendix 13. Also, contained in appendix 13 is a synopsis of the day which contains all the main points that arose.

7.10 SUMMARY

By developing an alternative approach to project partnering utilising the research findings of chapters 2, 4, 5 and 6 and implementing it on a live construction project during the tendering / estimating stages several notable points were established as being important in the overall context of this research. These are:

The semi project partnering approach had 3 main divisions: procurement set-up; initial selection and notification; and selection and appointment of SC's.

The approach did not contain strict methods on how partnering workshops (project days) or the charter should be developed. However, guidelines were identified from the partnering literature and developed further by the researcher.

The approach was validated by a validating committee. The committee and the researcher concluded that the approach would achieve what it set out to do.

The approach was implemented on a live commercial project.

The implemented approach changed primarily from the original in 2 ways. These were:

the original approach's' interviews were combined. Pricing information and project briefing were given at the same interview. This was carried out by the project team in order to save time that had been lost elsewhere in the procurement of the project; and

the original approach had a tender clarification meeting. Although this meeting did take place for the steel frame bid the project team did not see any benefit in undertaking the interview again. However, it was proven from the unsuccessful SC's during the debriefs that the SC's would have welcomed the opportunity to present their bids to the project team. It was established that this presentation would enable the SC to stress the difference in their product over others.

An alternative form of partnering workshop (project day) was developed by the researcher. Also, the researcher created an alternative approach to developing a partnering charter. Although the charter was not solely developed during the work shops as suggested in the partnering literature, all partnering project objectives were taken into consideration.

An IRP was developed by the researcher and the IRP committee after the project day. The IRP was validated against criteria identified by the researcher as being important within the partnering literature. Also, the researcher developed a partnering evaluation procedure taking into consideration the suggestions identified within the partnering literature.

It was clearly established during the debriefs of unsuccessful SC's that:

information received during the debriefs would make future partnering bids more competitive;

those employees who attended the initial interview where pricing information and project briefing took place were not those who developed the bid. This had the effect of diluting the impact of the partnering;

SC's were quoting approximately 10% cheaper on the Brindleyplace bids than they were on other prospective projects; and

SC's wanted the opportunity to present their bids to the project team.

CHAPTER EIGHT

8. CONCLUSION

8.1 INTRODUCTION.

The objectives of this research as stated in section (1.5.2) were:

- i) to undertake a 'state of the art' literature review on the subject area of partnering;
- ii) to assess the requirements of subcontractors: the CC view;
- iii) to assess the requirements of main contractors: the SC view;
- iv) to compare the CCs performance to that of its competitors; and
- v) to develop a project partnering approach, taking into consideration the findings from the previous areas of research, and to assess the impact this approach has on adversarial practices found between a main contractor and its SC's.

The findings in relation to these objectives are discussed in section (8.3).

8.2 CHAPTER OUTLINE.

Section (8.3) presents a summary of the main findings from this research. Findings are presented chapter by chapter. Section (8.4) details the major highlights that were drawn from the main findings. Areas identified include: partnering literature; partnering; improving relationships; earlier involvement; adversarial practices; and needs of parties. The testing of the hypothesis is undertaken in section (8.5). The results of the hypothesis test are discussed in section (8.5.1) whilst other results obtain from the test are discussed in (8.5.2). Observations and recommendations are given in section (8.6). General observations are made in section (8.6.1) whilst enhancements to the semi project partnering approach are discussed in section (8.6.2). Finally, in section (8.7) suggestions are put forward for areas of future research.

8.3 SUMMARY OF MAIN FINDINGS.

8.3.1 Literature review.

A literature review was undertaken to identify the literature pertaining to partnering and to ascertain current perceptions. The review enabled an understanding to be developed on the partnering theory which assisted in the formulation of ideas on how it may be applied to CC operations.

The literature review concluded that project partnering was initiated in the USA in the mid to late 1980's. Australia followed suit by adopting the partnering philosophy during the early 1990's. Due to this the majority of the partnering literature was identified as being published within the USA and Australia. Significant partnering publications were identified as: AGC (1991); CII (1991); Cook (1990); Moore et al (1992); and Sanders and Moore (1992). Although NEDO (1991) was identified as the first published report of substance pertaining to partnering (strategic) in the UK, RCF (1995) also published a noteworthy report.

The general context of the UK papers and reports was weaker than those from the USA and Australia. This factor was attributed to the successful implementation of partnering in those countries which had produced non-theoretical publications.

The literature review also identified that two types of partnering exist. Project partnering was seen to be short term and strategic partnering was identified as long term.

It was established that defining partnering was typically undertaken by referring to either CII's (1991) or NEDO's (1991) definitions. Other definitions stipulated within the partnering literature were seen to be typically defined by using either partnerings 'attributes' or by the 'process' where partnering is seen as a verb.

Comparisons between strategic and project partnering were non-tangible.

Research within the literature review identified the benefits that can be accrued by implementing partnering. These benefits were established as being: improved contractual situation; improved communication; increased understanding; improved efficiency of resources; improved financial position; and improved quality. The major risks of partnering were identified as: commitment; using partnering as a marketing tool; and cultural issues of changing from a traditional mind set to a partnering mind set.

By examining 20 partnering publications the key elements of partnering were highlighted as: goal and objective setting; trust; problem resolution; commitment; continuous evaluation; group working; equity; shared risk; win-win philosophy; and collaboration / co-operation.

Confusion within the partnering literature was found between the differences in partnering, partnerships, alliances and joint ventures. Also there was a general disagreement within the partnering literature as to whether partnering required additional contractual enforcement.

8.3.2 Selection of partnering approach and development of research strategy.

Based on the findings and the conclusions of the literature review the following were established as key characteristics which needed to be considered when selecting an appropriate approach for CC:

the major partnering publications were published within the USA and Australia. It was concluded that any partnering process presented was applicable to primarily those construction industries and not the UK;

due to the lack of practical partnering publications, approaches and processes proposed in the partnering literature did not adequately deal with the practicalities of UK tendering and estimating procedures;

partnering processes proposed were more applicable to the public sector than they were to the private sector of construction;

partnering processes had limited application to the main contractor - SC relationship; and

any partnering process developed and adopted would have to include: IRP's; team building / partnering workshops; partnering evaluation procedures; and charter formulation procedures.

8.3.3 Assessing the requirements of subcontractors: the CC view.

The objective of the first level of research was to assess the requirements of subcontractors from CC's perspective. Conclusions that directly satisfy this objective and are the requirements the CC want from SC's were identified as:

partnering arrangements;

improved communication and team working;

positive attitudes;

to respond quickly and correctly to CC needs; and

SC's to perform to agreed standards and commitments.

Other conclusions developed from this research were:

It was shown that CC employees believed that CC should encourage partnering arrangements with SC's. Only 17% (2/12) of the project managers and 27% (3/11) of the site managers stated that CC should not encourage partnering arrangements.

The tick the box questions within the 'supervision and management' scored higher than those questions in other sections. It was concluded that 'supervision and management' was the most important feature of a SC.

Little consensus was identified on how CC employees believed relationships with SC's could be improved. However, 2 common themes were evident. These were: improving communication; and more team working. Improving communication was stipulated by 4 of the CC disciplines whilst team working through earlier involvement was mentioned by 5 disciplines.

The aspect of the service provided by SC's that has the most positive impact on the relationship between CC and SC's was that of positive attitude. Forty four per cent (8/18) of the total disciplines identified this as a critical feature.

It was concluded that CC's subcontracting process could be improved by more feedback and review of SC's primarily at the pre and post contract stages. Eight of the CC disciplines mentioned this feature whilst the buyers, civil engineers, estimators, planners, site managers and surveyors all believed that feedback on SC performance should be improved throughout all stages of the project.

Other notable improvements established include: better selection and appointment of SC bids; better evaluation of bids; and allow CC site team more say in the selection of SC's.

The tick the box questions demonstrated the differences in the needs in the construction, procurement and design based disciplines. Buyers and estimators stress importance on issues relating to selection criteria of SC's bids, evaluation of SC bids and the compliance of bids. However, it was concluded that construction staff are more concerned with those issues relating to the management and the quality of work. By contrast architects and engineers were concerned with quality and timeliness of design information.

A mission statement combining the main conclusions from the research was developed. This is currently being employed by the CC's procurement departments.

8.3.4 Assessing the requirements of main contractors: the SC view.

The objective of the second level of research was to assess the requirements of main contractors from the SC's perspective. Conclusions that directly satisfied this objective and are requirements of SC's when dealing with main contractors were identified as:

not to employ adversarial practices such as pay when paid clauses and unfair contracts;

good site management;

main contractors becoming more trustworthy, especially when paying SC's;

to be involved earlier within the building process;

to undertake partnering arrangements with main contractors; and

for main contractors not to place too much importance on price to the detriment of quality.

Other conclusions developed from this research were:

Slow payment, unfair subcontracts, pay when paid procedures and main contractors retendering once the main contract has been won were all identified as having a detrimental effect on the main contractor - SC relationship. These features were evidence of adversarial practices adopted by main contractors when dealing with SC's.

Good site management by main contractors was identified as having a positive impact on the SC's ability to carry out his work. Bad site management was seen as a characteristic that detrimentally effects the main contractor - SC relationship. Moreover, it was concluded that main contractors were good at managing their own direct labour, but not so adept at managing SC labour.

Those ways in which SC's believed that relationships could be improved were by the main contractor becoming more trustworthy, especially in the context of payment. SC's also concluded that if they were involved earlier within the building process it would develop mutual understanding and utilise more fully the SC's expert knowledge.

As with the CC employees, SC's confirmed that they would be willing to undertake partnering arrangements in the future.

Two thirds of all SC's questioned stated that they gave preferential treatment to certain main contractors. However, this preferential treatment was dependent on the previous performance of the main contractor and the fairness of payment.

It was concluded that 84% of the interviewees and 90% of the questionnaire respondents considered that main contractors place too much importance on price to the detriment of quality. However, this occurrence was attributed to the current construction industry recession and main contractors wanting a full service but not wanting to pay for it.

Overall issues that were identified as being important to the SC's when trying to improve the main contractor - SC relationships were classified as: payment; communication; feedback; selection; tendering; contracts management; and contract administration.

8.3.5 Compare CCs performance to that of its competitors

The objective of the third level of research was to 'compare CCs performance to that of its competitors.' Conclusions that directly satisfied this objective and are direct comparisons were identified as:

pay when paid procedures were more prevalent in other main contractors than they were in CC;

the majority of SC's (53%) concluded that they were involved earlier on other building projects than they were with CC;

CCs tender and performance feedback was rated higher than that of other main contractors;

other main contractors 'invite' SC's to tender more frequently than CC;

CC seek further tenders / bids from SC's once they have won a main contract.

CC use of this was seen to be greater than other main contractors; and

the level of performance of CC site based disciplines was seen as superior to that of other main contractors.

CC were perceived as being timely payers with only 2 SC's stating that they experienced regular difficulties. Bad payment was attributed to personality conflicts between the SC's and the main contractors QS's.

All SC's confirmed that they should be involved earlier within the building process. This earlier involvement should take place at the precontract estimating stage. Benefits in involving SC's earlier were seen as increasing both their and others knowledge and understanding of the project.

SC's stated that more feedback from CC was required at both the tendering and post contract stage. The advantages of CC giving more feedback at precontract stage were seen to be prices quoted would be more comprehensive and accurate.

It was concluded that SC's were not invited to tender for CC work. It was identified that tenders simply arrive unannounced. The advantage in consulting SC's before enquiries are dispatched are that both the main contractor and the SC can discuss technical details and designs and identify whether the SC has the resources to undertake the project.

Seventy per cent of the SC's interviewed believed that they tendered on CC projects against non comparable companies.

8.3.6 Develop a project partnering approach.

An alternative approach to project partnering was developed utilising the research findings of chapters 2, 3, 4, 5 and 6. This approach was implemented onto a live construction project during the tendering / estimating stages. Several notable points were raised that were important:

Pricing information and project briefing were given at the same interview. This was carried out by the project team in order to save time that had been lost elsewhere in the procurement of the project; and

The original approach contained a tender clarification meeting. Although this meeting was undertaken for the steel frame subcontract the project team saw no benefit in undertaking the interview again. The decision was made on the basis that it did not assist the project team in selecting a SC. Also, time had to be saved due to time overruns in other parts of the project. It was noted during the debriefs of unsuccessful SC's that they would have welcomed the opportunity to present their bids to the project team. This presentation would enable the SC to stress the difference in their product over others.

An alternative method of a partnering workshop (project day) was developed. This method also contained a different approach to developing a partnering charter. Although the charter was not totally developed during the workshops, as suggested in the partnering literature, all partnering project objectives given by the partnering parties were taken into consideration.

An IRP was formulated by a committee after the project day. This IRP was validated against criteria identified as being important within the partnering literature. Partnering evaluation procedures were developed also taking into consideration the suggestions given within the partnering literature.

Debriefs of unsuccessful SC's raised the following points:

feedback given to the SC's during the debriefs would make future partnering bids more competitive;

SC employees who attended the first interview where pricing information and project briefing took place were seen to be not those who compiled the bid. This was seen to have the impact of diluting the partnering philosophy;

SC's stated that they were quoting approximately 10% cheaper on the Brindleyplace bids than they were on other prospective projects; and

SC's wished to have the opportunity to present their bids to the project team.

A questionnaire was employed to assess the impact this approach to partnering had on adversarial practices identified between a main contractor and its SC's. It was confirmed that all adversarial practices identified, and can be adopted by CC and SC's, were less prevalent on the project that employed the project partnering approach than that of a contract that had not employed the semi-project partnering approach.

Figure 13 depicts the main conclusions from the research that were adopted within the initial semi project partnering approach and their approximate proximity where they were implemented. Figure 13 is merely a device to show pictorially the relationships between different sections of the approach and the correlation between certain conclusions. Although figure 13 shows a sequential order to the conclusions, there was considerable overlap and interaction between the various findings and conclusions.

Features that were not included in table 8.1 because they are intangible include:

improving communication;
promoting trust, honesty and openness; and
promote team working between CC and SC's.

8.4 MAJOR HIGHLIGHTS.

Section (8.3) summarised the conclusions drawn from chapters 2 to 7 of this thesis. This section will review the major highlights and areas of consensus within the research.

8.4.1 Partnering literature.

The partnering literature established that there were two types of partnering: project partnering (short term); and strategic partnering (long term). The literature review also enabled the identification of critical elements of partnering to be identified. This identification assisted in the development of the semi-project partnering approach. The partnering literature also gave guidelines and suggestions on how and when project partnering should be undertaken. The partnering literature was also seen to have weaknesses, the most notable of which was that the majority of publications were from the USA and Australia. This weakness coupled with the fact that very few of the publications had a practical content cast a doubt on applicability of the publications to the UK construction industry.

8.4.2 Partnering.

There was confirmation throughout the surveys (chapters 4, 5 and 6) that the main contractor - SC relationships need to be improved. Both CC employees and those SC's questioned expressed a desire to undertake partnering arrangements in order to achieve this improvement. The requirements of both parties to improve trust and honesty can be seen to be critical elements of successful partnering arrangements.

Little consensus between the SC's and CC could be identified on how the subcontractor - CC relationships could be improved. More opinions were offered on possible ways of improving the procurement of SC's. This can be attributed to the fact that improvements to the relationships are primarily intangible (trust, honesty, positive attitudes, team working) whilst improvements to the procurement process are tangible (better evaluation of bids, better selection of SC's reduce occurrence of adversarial practices).

8.4.3 Improving relationships.

Little correlation was identified on how the SC's and CC believe that the relationship could be improved. As stated previously in section (8.3.3), it can be identified that improvements to the relationships are primarily intangible or softer issues.

The research identified the differences in the requirements of CC construction, procurement and design biased disciplines. It was seen that whilst buyer and estimators (procurement) stress importance on issues pertaining to selection and evaluation, construction staff are more concerned with issues relating to the management and quality of work. By contrast the design disciplines are concerned with the quality and timeliness of information. Although many of the issues are tangible (hard) there is little or no correlation between the respective needs.

8.4.4 Earlier involvement.

Another major highlight that can be identified as prevalent throughout the research is the early involvement of SC's within the building process. From the 2 research studies undertaken by questioning the SC's (chapters 5 and 6) it was seen that SC's would prefer to be involved earlier within the building process. Also, CC identified that they would prefer earlier involvement of SC's. The benefits in involving SC's earlier were seen as developing mutual understanding and utilising more fully the SC's expert knowledge. CC stated that they require SC's to respond quickly and correctly to their needs as well as performing to agreed standards and commitments. It can be concluded that by CC involving SC's earlier, the above CC requirements could be achieved.

8.4.5 Adversarial practices.

The research identified that adversarial practices employed by main contractors have a detrimental impact on the SC - main contractor relationship. Adversarial practices identified included: slow payment; pay when paid procedures; main contractors retendering once main contract has been won; and unfair contracts. The most prevalent adversarial practice identified of main contractor's was slow payment on previous contracts. However a challenge arises for the SC's in not employing similar practices on their sub-sub contractors.

8.4.6 Needs of the parties.

A major highlight of this research is the removal of the tender clarification meeting within the original semi project partnering approach (sections 7.4.4 and 7.8.1). Originally the meeting had been included so that CC and the SC could discuss the SC's tender. After undertaking the

meeting the project team concluded that there was no benefit in undertaking it again as it did not assist them in the selection of a SC. What was not borne in mind by the project team was the impact their decision would have on the SC. It was identified during the debrief of unsuccessful SC's that the SC's would have welcomed the opportunity to present their tenders so they could stress the difference in their product over others.

Although the decision was made with the best intentions, it does show a lack of vision on the behalf of the project team. The fundamentals of the partnering philosophy are team working, trust etc. The project team did not take into consideration the impact their decision would have on the SC's. The lesson to be learnt is that when project partnering is to be used, extra consideration should be given to the effect of decisions on other parties whether they be partnering or prospective partnering parties.

8.5 TESTING OF HYPOTHESIS.

The hypothesis as stated is that:

“By developing closer working relationships through project partnering there will be a reduction in the occurrence of adversarial practices commonly found between main contractors and subcontractors.”

Although the author could make a valid assessment on whether the hypothesis is to be accepted or rejected it was concluded that to obtain a true test of the hypothesis those CC employees and SC's who worked on Brindleyplace should make a judgement based on their experiences of the semi project partnering approach. (In order to test the hypothesis categorically a brief questionnaire was developed. Not only did this questionnaire enable the hypothesis to be tested but it also allowed assessments to be made on the benefits accrued on Brindleyplace compared to those that could be achieved on a project where the semi project partnering approach was not implemented. The benefits used within the questionnaire were those identified in section (2.6).

In total 30 personnel completed the brief questionnaire. Those CC personnel interviewed included: project architect, structural engineer, setting-out engineer, project manager, site manager (2), quantity surveyor, planner, buyer, estimator, contracts manager. Project managers and estimators from all 9 partnering SC's completed the questionnaire: stone cladding; steel frame; electrical services; lifts; flooring; ceilings, controls; ductwork.

The results of the hypothesis test can be seen in table 8.1.

8.5.1 Results from hypothesis testing.

It can be seen that all adversarial practices that were identified, and can be adopted by CC and the SC's, were seen to be less prevalent on Brindleyplace than they would have been on another contract where the semi project partnering approach had not been implemented. Speed of payment was seen to be better on Brindleyplace as well as the re-negotiating of subcontracts and the occurrence of pay when paid procedures. The use of unfair contracts was primarily seen as the same, however, this was attributed to the fact that CC did not use unfair contracts anyway.

The author concludes, on the basis of the research conclusions and the testing of the hypothesis set out in the foregoing, that the research hypothesis was accepted, that is:

“By developing closer working relationships through project partnering there is a reduction in the occurrence of adversarial practices commonly found between main contractors and subcontractors.”

8.5.2 Other result from hypothesis test.

Other results obtained from the hypothesis enable the conclusion to be made that the semi project partnering did achieve the partnering benefits set out in sections (2.6.4) and (2.6.6) and the improvements as detailed in section (7.3). For brevity not all improvements detailed in section (7.3) were included in the questionnaire.

It is interesting to note that the tendering costs on Brindleyplace were seen to be worse than those on a project where the semi project partnering approach had not been implemented. However, it can also be concluded that tendering costs would be lower on future CC projects.

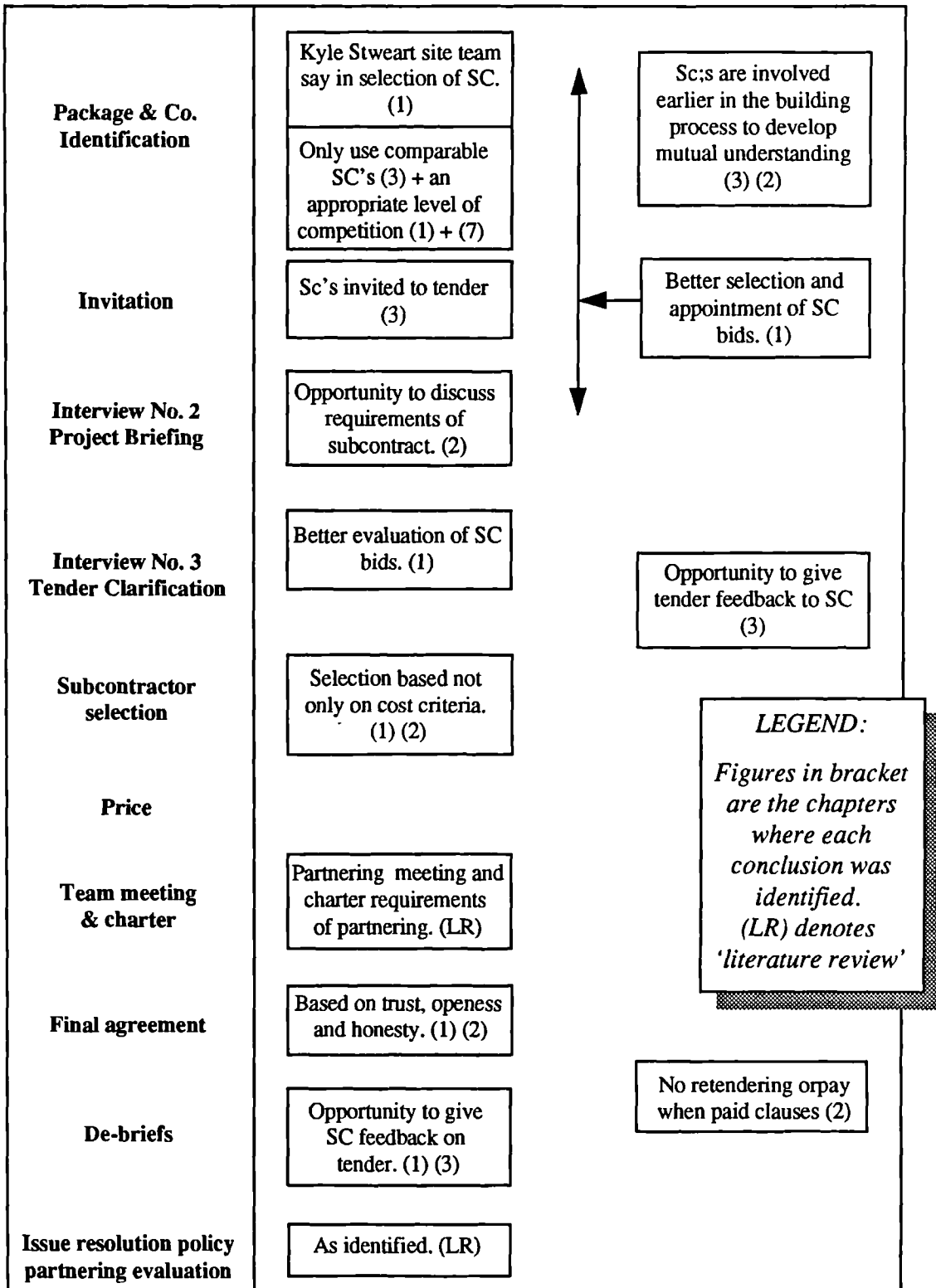


FIGURE 13 : MAIN CONCLUSIONS ADOPTED INTO SEMI PROJECT PARTNERING APPROACH.

Testing of Hypothesis:

Answer the questions within the context of comparing the benefits accrued on No. 5 Brindleyplace to those that could have been achieved on a contract where the semi project partnering approach had not been implemented.

	No. 5 Brindleyplace			Future CC		
	B	S	W	B	S	W
(B) = Better than, (S) = Same as, (W) = Worse than						
Reduced Exposure to litigation.	30					
Time and cost control over project	30					
Lower risk of cost over runs and delays	30					
Opportunity for a financially successful project.	25	5				
Team approach	30					
Level of Understanding of what is required.	30					
Repeat business opportunity	30					
Emphasis on quality over price.	30					
Open and honest relationship	30					
Speed of payment. (by CC)	27	3				
Use of unfair contracts. (by CC)	2	28				
Occurrence of Pay when paid. (by CC)	30					
Re negotiating subcontracts. (by CC)	30					
Over measurement (by SC)	30					
Compliance of bids (by SC)	30					
Quality of bids (by SC)	30					
Amount of confrontation i.e. claims	30					
Level of enjoyment	30					
Tendering costs. (both)	5	8	17	17		
Level of competition. (Less = good)	30					
Achievement of project objectives.	30					
Relationship between CC and SC's.	30					
Communication.	30					
Earlier involvement of SC's	30					
Quality of Programming.	30					

TABLE 8.1 : QUESTIONNAIRE TO TEST HYPOTHESIS.

8.6 RECOMMENDATIONS AND OBSERVATIONS.

These recommendations are based on the knowledge gained during this research and are concerned with establishing partnering relationships between SC's and main contractors. The recommendations and observations are divided into two sections. The first section contains general observations, while the second contains proposed improvements and enhancements to the semi project partnering approach.

8.6.1 General observations.

A number of points emerged from this research which are of relevance to any partnering approach.

These observations are in the areas of:

- development of partnering evaluation procedure and IRP;
- commitment;
- partnering as a marketing ploy;
- attitude of personnel; and
- validation of approach.

(i) Development of partnering evaluation procedure and IRP.

Although the partnering literature ((RCF, 1995) (CIDA, 1993) (AGC, 1991) (Cowan et al, 1992)) proposes that partnering evaluation procedures and IRP's should be developed during the initial partnering workshop the semi project partnering approach has shown that this is not so critical. Although it is agreed by the author that these procedures are best developed during the initial partnering workshop, it is concluded that as long as there is ownership and commitment between all partnering parties these procedures can be developed after the partnering workshop.

(ii) Commitment.

It has been observed during the development and implementation of the semi project partnering process that commitment to partnering is critical. The partnering literature ((Cook and Hancher, 1990) (Master Builders, 1990) (Harbuck et al, 1994) (AGC, 1991 and 1993)) states that commitment must come from top management. However, it became evident that it was

equally important that commitment to the partnering approach must also come from operational staff who work with the partnering on a daily basis.

(iii) Partnering as a marketing ploy.

The literature review identified that a prime risk / problem of partnering was organisations using it as a marketing ploy. Partnering has become a 'buzz' word of the construction industry and it is only fair that those who are efficient at using it obtain work. However, it became evident during the SC interviews and debriefs that many SC's were stating that they had experiences of partnering when clearly they had not. Where this was observed it was viewed by the project team that it was a lack of trust and openness, traits that were needed within partnering.

(iv) Attitude of personnel.

The Brindleyplace project was fortunate that the client and much of his project team had a positive attitude towards the semi project partnering approach. This had a very positive impact on the overall partnering. The partnering philosophy was facilitated by ad-hoc social events set up by CC, the client and the partnering SC's.

(v) Validation of approach.

The method of validation used within this research was based on the methodology developed by Cowley and Karim (1995). Although it was identified in section (7.4) that their methodology was restrictive in that it only considered 2 partnering publications it also had the advantage of setting out a base methodology.

By increasing the methodology to include 20 partnering publications and using a validation committee the following observations were made:

although validation is a fundamentally an academic exercise it does give a forum for grievances and suggestions to be made;
validation is the perfect time in which to discuss changes to a approach; and
by agreeing to the approach, at the validation stage, commitment and ownership are developed.

However, a limitation of the validation methodology employed is that the validation committee had no SC representation.

8.6.2 Enhancements to the semi project partnering approach.

There are several modifications / enhancements which could be made to the approach to increase its usefulness and effectiveness.

These modifications are:

- use of external partnering facilitator;
- mechanisms for carrying learning onto next project;
- more collaborative environment;
- more tangible targets; and
- implement the approach sooner.

These proposed improvements are discussed below.

(i) Use of external partnering facilitator.

Although external facilitators were employed for internal CC partnering workshops, they were not used for the Brindleyplace project partnering workshop. The facilitation on the Brindleyplace workshop was undertaken by the author and other CC research staff. As the internal CC partnering workshops happened after the Brindleyplace workshop, the benefits of external facilitation were not totally appreciated. The benefits in using external partnering facilitators were seen to be:

- to add a level of neutrality to the workshop;
- more elicitation from stakeholders of what they want from the workshop;
- assistance in the development of comfort and confidence in the partnering philosophy; and
- organising workshop agendas and providing training in conflict management, listening and communication skills.

- (ii) Mechanisms for carrying learning onto next project.

No thought was given to how the learning from Brindleyplace was to be carried forward on to other projects. Although regular partnering reviews were undertaken and reports were developed to capture the main points, no formal way was developed to use this knowledge on other partnering projects. This point can be seen to be a main weakness of the semi project partnering approach. Strategic partnering arrangements commonly have action teams (RCF, 1995) that have the aim of solving specific issues on the basis of obtaining continual improvements. It would be prudent in the future that partnering parties set up their own action teams to facilitate the learning from one project partnered project to another.

- (iii) more collaborative environment.

Collaboration between CC and its SC's could have been greater. Two levels of collaboration could have been achieved: at CC's head office; and through the adoption of information and communication technologies.

CC head office. Space could be given to partnering SC's at CC's head office to develop a more collaborative environment. This collaboration would have the most benefit for the interfacing trades and packages. This extra collaboration would promote team working and the development of mutual understanding.

Information and Communication Technologies (ICT'S). Little effort was made to adopt ICT's on No.5 Brindleyplace project during the tendering and estimating stages, in an effort to support the partnering approach. Research by Baldwin et al (1996) and Jamieson et al (1996) highlights the advantages of ICTS's and the symbiotic relationship between information exchange and partnering.

- (iv) More tangible targets.

When developing the goals for the project charter no goal was identified that was tangible and could be measured over a period of time. All the goals identified by the project partners for Brindleyplace were intangible and dealt with the 'softer' issues such as trust and honesty.

By developing and incorporating measurable tangible goals a better assessment could be made of the projects performance in the context of: cost growth; time schedule; value engineering savings; timelines of dispute resolution; and safety.

(v) Implement the approach sooner.

The semi project partnering approach was approximately implemented during the design and procurement stages of the project. It can be identified from figure 14 that if the approach

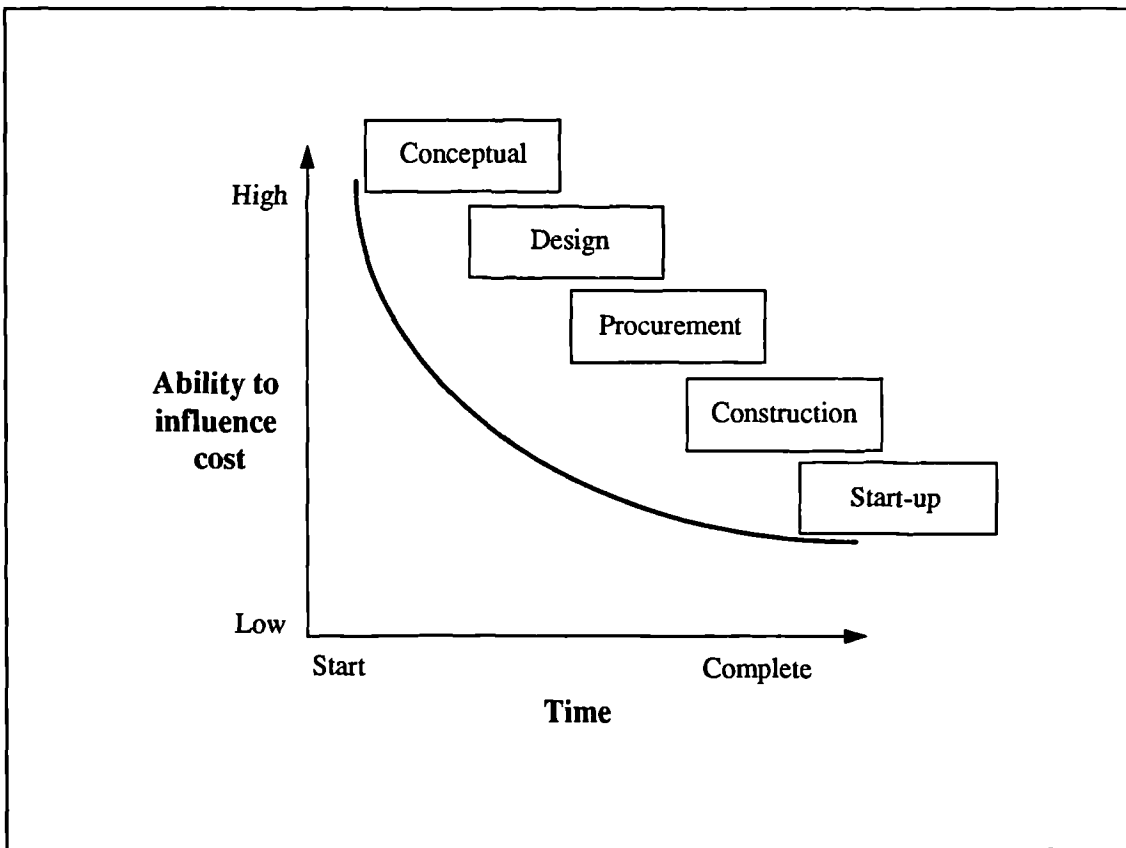


FIGURE 14 : COST INFLUENCE CURVE. SOURCE: (BAKER, 1990)

had in fact been implemented during the conceptual planning period the influence partnering would have had on the project would have been greater. Although it may not be always practical, partnering should be implemented as soon as is feasibly possible. Any delay in its implementation will detrimentally effect the overall impact of the partnering philosophy.

8.7 FUTURE RESEARCH.

8.7.1 Research into how project partnering improves relationships during construction phase.

The main emphasis of this research is that it has concentrated on the tender and estimating stages of a contract. Research could be undertaken in order to identify how the partnering relationship could be further expanded and validated over the full project cycle including the construction phase.

8.7.2 Assessment of the tender costs between those projects under partnering and those under traditional competition.

It was identified during the hypothesis testing that some parties believe tendering costs on partnering projects are greater than those on traditionally procured contracts. In the scenario that partnering is more expensive to tender for, an assessment needs to be made on whether the long-term cost benefit is positive.

8.7.3 Survey of project partnering projects.

Once partnering projects have become more prevalent in the UK construction industry an assessment should be made to compare the results obtained on a partnered project to those achieved on joint ventures and traditional procured projects. Where possible only tangible comparisons should be made.

8.7.4 Research on how IT can be adopted to improve the main contractor subcontractor relationship.

Although it was identified in chapters 3 and 4 that IT was not important either to CC or the SC's, it was noted that better communication and information was needed to improve the relationships. A way of achieving this improvement would be through the adoption of information and communication technologies. An assessment should be made of the current level of ICT's in SC organisations in order that both the main contractors and SC's can communicate more efficiently.

8.7.5 Research to identify categorically the differences between partnering, strategic alliances and partnerships.

As mentioned in the literature review (section 2.9) there is confusion on the differences between the arrangements. A study should be undertaken to categorically clarify the differences and to

give suggestions on which approach should be used where. (Also, an assessment needs to be made on whether partnering, either project or strategic, requires extra contractual enforcement.

8.7.6 Expand study.

The research could be expanded to take into consideration other contracting organisations.

REFERENCES

Abudayyeh, O. (1994) *Partnering: A Team Building Approach to Quality Construction Management*. Journal of Management in Engineering, Vol. 10, No. 6. pp 26 - 29

Al - Hammed, A. (1993) *Factors affecting the relationship between contractors and their subcontractors in Saudi Arabia*. Building Research and Information. pp 269 - 273.

Associated General Contractors of America (1993) *Partnering: Returning Common Sense to the Construction Job Site*. Constructor. March. pp 20.

Associated General Contractors of America (1991) *Partnering: A concept for success*. AGC, Washington, USA.

Baker, S. T. (1990) *Partnering: Contracting for the Future*. Cost Engineer. Vol 32, No.4, pp 7 - 12.

Baldwin, A. N., Thorpe, A., and Carter, C., (1996) *The Construction Alliance and Electronic Information Exchange: Symbiotic Relationship*. CIB-65, Strathclyde University, Glasgow, UK.

Barrie, G (1996) *Argent to award partnership deals*. Building Magazine, 23 February. pp 11

Billingham, E. (1996) *Partnering and Negotiation put Birse back into black*. Building Magazine. February 23, pp 13.

Bingham, T (1995) *Share the profits of trust - but don't trust too much*. Building Magazine. November 24th. pp 39.

Bingham, T (1995) *Profit from togetherness*. Building Magazine. December 1st. pp 30 - 31.

Birrel, G. S. (1985) *General contractors management: how subs evaluate it*. Journal of Construction Engineering and Management. Vol 111, No. 3. pp 244 - 259.

Bleeke, J., Ernest, D. E. (1993) *Collaborating to Compete*. John Wiley & Sons. New York.

Brigham, F. R. (1975) Some Quantitative Considerations in Questionnaire Design and Analysis. Applied Ergonomics, June. pp 90 - 96.

Brochner, J. (1989) *Relations between subcontractors and main contractors; Sweden versus Denmark*. CIB International Workshop. Contractual Procedures. University of Liverpool, 6th - 7th April. pp 132 - 137.

Brown, J. (1993) *Partnering on a Troubled Project*. Constructor. October. pp 45 - 46.

Building Services (1995) *Partnering: all together now*. CIBSE Building Services. November. pp 31 - 34.

Construction of Construction Specialists (1992) *Corruption of the commercial process*. CCS services Ltd.

Construction Industry Institute, (1991) *In Search of Partnering Excellence*. Special Publication 17-1, (Check Publisher with ECI)

Cook, E. L., Hancher, D. E. (1990) *Partnering: Contracting for the Future*. Journal of Management in Engineering, Vol. 6, No. 4, pp 431 - 446.

Covey, S. R. (1989) *The Seven Habits of Highly Effective People: Powerful Lessons in Personal Change*. Simon & Schuster, London.

Cowan, C., Gray, C., Larson, E. (1992) *Project Partnering*. Project Management Journal. Vol. XXII, No. 4. pp 5 - 11

Crowley, L. G., Karim, M. A. (1995) *Conceptual Model of Partnering*. Journal of Management in Engineering, Vol. 11, No. 5. Sept / Oct. pp 33 - 39.

DPIC Companies Ltd. (1995) *Partnering, Mediation Top ADR Effectiveness List*. Internet: <http://www.dpic.com/dart.htm>. pp 1 - 3

Fisk, C. J., (1977) *Contractor/sub-contractor relationships*. Site management information service. Institute of Building. No. 71.

Fleet, T. (1996) *Partnering in the Construction Industry 1 - Contractual Issues*. Construction Law Journal. January. pp 175-177

Furuska, S. (1990) *Sub-package problems of building construction*. Habitat International, Vol 14, No. 2/3, pp 245 - 253.

Gaede, A. H (1995) *Partnering: A Common Sense Approach to Preventing and Managing Claims*. International Law Review. Vol. 72, No. 12, pp 72 - 83.

Gardiner & Theobald (1995) *Cooperative Contracting: A New Approach to Procurement and Construction*. Proceedings from the Euroforum Conference 'Contracting without Conflict. 5 May 1995, Part 1.

Gardiner & Theobald (1995) *Cooperative Contracting: A New Approach to Procurement and Construction* - Appendix 1. Proceedings from the Euroforum Conference 'Contracting without Conflict. 5 May 1995, Part 2.

Goldaum, E. (1988) *New Alliances share the work and the rewards*. Chemical Week, Vol. 143, No. 23, pp 36 - 40.

Gray, C., Flanagan, F. (1989) *The Changing Role of Specialist and Trade Contractors*. The Chartered Institute of Building, Ascot, England.

Harbuck, H. F., Basham, D. L., Buhts, R. E. (1994) *Partnering Paradigm*. Journal of Management in Engineering. Jan / Feb, pp 23 - 27.

Hartnett, J. T. (1990) *Partnering*. The Military Engineer. No. 536. July. pp 14 - 16.

Hellard, R. B. (1995) *Project Partnering: Principle and Practice*. Thomas Telford, London.

Hellard, R. B. (1994) *The Partnering Concept and Construction*. TQM/Polycon Ltd. London, England.

Hoinville, J., Jowell, (1977) *Survey Research Practice*. Heinemann Education, London.

Hinze, J., Tracey, A., (1994) *The contractor - subcontractor relationship: The subcontractors view*. Journal of Construction Engineering and Management. Vol 120, No. 2, pp 254-287.

Infante, J. (1995) *The Relative Merits of Term Partnering and Project Specific Partnering*. Construction Productivity Workshop Report 18: Project Specific Partnering, Can The Benefits Be Realised. European Construction Institute. November. pp 4 - 6.

Jamieson, M. J., Thorpe, A and Tyler, A. (1996) *Refocusing Collaboration Technologies in the Construction Value System*, Proceedings of the CIB W78 Conference Construction on the Information Superhighway, Bled, Slovenia, April, pp 279 - 289

Jones, G. D. (1994) *Partnering - Commitment not contract*. Iron and Steel Engineer, February. pp 46 - 49.

Kubal, M. T. (1994) *Engineering Quality in Construction: Partnering and TQM*, McGraw - Hill, USA.

Larson, E. (1995) *Project Partnering: Results of Study of 280 Construction Projects*. Journal of Management in Engineering, Vol. 11, No. 2. March / April. pp 30 - 35.

Latham, M. (1994) *Constructing the team*. HMSO. London.

Loraine, R (1994) *Project Specific Partnering*. Engineering, Construction and Architectural Management. Vol. 1, No. 1. pp 5 - 16.

Loraine, R (1995) *The Principles of Partnering*. Construction Productivity Workshop Report 18: Project Specific Partnering, Can The Benefits Be Realised. European Construction Institute. November. pp 1 - 4

Lynn, M., (1996) *Building Decline and Fall*. Management Today, February. pp 34 - 37.

Macneil, J (1995) *Australian test team*. Building. 11 August, pp 48 - 51.

Master Builders Australia. (1993) *Partnering: A Strategy for Excellence*. Paragon Printers, Australia.

Master Builders (1992) *Partnering - A Strategy for Excellence*. Master Builders - Construction and Housing Association. Australia.

Matthews, J., Tyler, A., Thorpe A. (1996) *Pre Construction Project Partnering: Developing the Process*. Engineering Construction and Architectural Management. Vol 3, No. 1 & 2. pp 117 - 131.

Moore, C., Mosley, D., Slagle., M. (1992) *Partnering: Guidelines for Win - Win Project Management*. Project Management Journal. Vol XXIII, No. 1. pp 18 - 21.

Mosley, D., Moore, C., Slale, M., Burns, D. (1991) *Partnering in the Construction Industry: Win - Win Strategic Management in Action*. National Productivity Review, Summer. pp 319 - 325.

National Economic Development Office (1991) *Partnering: Contracting Without Conflict* NEDO, London, England.

Ndekurigi, I. E., (1988) *Subcontractor control: The key to successful construction*. The Chartered Institute of Building, Technical Information Service. No. 98.

Nobbs, H (1993) *Future Role of Construction Specialists*. The Business Round Table, London.

Oppenheim (1966) *Questionnaire Design and Attitude Measurement*. Heinmann, London.

Pakora, J., Hastings, C. (1995) *Building Partnerships: teamworking and alliances in the construction industry*. Construction Paper No. 54. Chartered Institute of Building.

Palmer, S (1995) *Facilitating Project - Specific Partnering: the North American Experience*. Proceedings to Conference: Partnering in Construction, 4 May 1995, London.

Plavsic, A. (1994) *Preventing fraud while partnering*. Buildup. December. pp 6

Porter, S. (1996) *Partnering 2 - Some Practical Matters*. Construction Law Journal. January. pp 178 - 180.

Powell, M. (1993) *The Choice Between Trust and Distrust in Building*. Construction Paper No. 25. The Chartered Institute of Building, Englemere, England.

Reading Construction Forum. (1995) *Trusting the Team: The Best Practice Guide to Partnering in Construction*. Center for Strategic Studies in Construction, Reading, England.

Ridout, G. (1995) *Talking Sheds*. Building Magazine, 11 August, pp 50 -51.

Sanders, S. R., Moore, M. M. (1992) *Perceptions of Partnering in the Public Sector*. Project Management Journal. Vol. XXII. No. 4. pp 13 - 19.

Schultzel and Unruh (1996) *Successful Partnering*. John Wiley & Sons Inc. New York.

Simister, S., (1995) *Case Study Methodology for Construction Management Research*. Proceedings of ARCOM Conference. pp 21 - 32.

Sinclair, M. A., (1975) *Questionnaire design*. Applied Ergonomics, Vol 6, No. 2. June. pp 73 - 80.

Steen, R. H. (1994) *Five Steps to Resolving Construction Disputes - Without Litigation*. Journal of Management in Engineering. July / August. pp 19 - 21.

Stevens, D. (1993) *Partnering and Value Management*. The Building Economist. September. pp 5 - 7.

Stevenson, R. J. (1996) *Project Partnering for the Design and Construction Industry*. Wiley - Interscience Publication, Chicester, England.

Syddall, S (1995) *Together we can crack it*. Building Magazine, 4 August. pp 28.

Uher, T. (1994) *Partnering in Construction*. School of Building, University of New South Wales, Australia.

Warne, T. R. (1994) *Partnering for Success*. American Society of Civil Engineers Press, Washington, USA.

Weston, D. C., Gibson, G. E. (1993) *Partnering - Project Performance in U.S. Army Corps of Engineers*. Journal of Management in Engineering, Vol. 9, No. 4. pp 410 - 425.

Wilson, R . A., Songer, A. D., Diekmann, J. (1995) *Partnering: More than a Workshop, a Catalyst for Change*. Journal of Management in Engineering, Vol. 11, No. 5. pp 40 - 45.

Woodrich, A. M. (1993) *Partnering: Providing Effective Project Control*. Journal of Management in Engineering, Vol. 9, No. 2, April, 1993. pp 136 - 141.

Wright, P., Barnard, P. (1975) *Just fill in this form - a review for designers*. Applied Ergonomics, Vol 6, No. 4. December. pp 213- 220.

Yin, R. K. (1989) *Case Study Research: Design and Methods*. London, Sage Publications Ltd.

Yoshino, M. Y., Rangan, U. S. (1995) *Strategic Alliances: An Entrepreneurial Approach to Globalisation*. Harvard Business School Press. Boston, Massachusetts.

APPENDIX ONE

CC REPORT - EXAMPLE OF SURVEY

Main Board Directors

6 Questionnaires sent. 5(83%) returned on time.
returned late

5 Questionnaires in total (83%)

V2. What do you see as your role in the management of/ Interfacing with subcontractors

- (1) Establishing continuing working relationships. x2
- (2) Endeavouring to make KS a good company for subcontractors to work for/ ensuring subcontractors are dealt with fairly by KS staff. x2

Other comments: ensuring performance; in sensitive commercial issues of mutual interest; where high level contact is necessary to gain information; involvement in marketing a form of JV; encouraging the subcontractor to present a full profile of themselves to be passed to relevant department for either examination as a potential subcontractor or to register them for future enquiries.

V3. What characteristics of a subcontract firm can have a detrimental effect on the relationship between it and KS?

- (1) Poor management of subcontractor works. x3
- (2) Lacking resources to comply with programme. x2
- (3) Submitting tenders at too low a price/ being cost driven/ not financially viable. x3
- (4) Failure/ inability to meet promises and/ or standards of performance proposed at tender stage. x2

Other comments: Unwilling or late tender responses; inadequate information, leading to lack of trust in subcontractor; undeclared non-compliances with enquiry; lack of cooperation; being claims conscious without justification; aggressive and claims orientated management; lack of trust from subcontractor; problems in securing warranties/ bonds which have a bearing on corresponding obligations to our clients.

V4. What aspect of the service provided by a subcontractor will have the most positive impact on you ability to carry out your job?

- (1) Performance/ reliability/ commitment. x3
- (2) Willingness for dialogue to find a better way. x1
- (3) Openness in tender stages. x1

Also: compliance with enquiry/ quality of information; timely submissions; pre-planning works; adequate site management; good performance resulting in fewer claims and set-off claims.

V5. What makes you like working with a particular subcontractor?

- (1) Cooperative style of management. x2
- (2) Personal knowledge of subcontractors top management. x1

Comments include: attempt by subcontractor to establish a trustworthy 'people' relationship; desire to provide a service; elimination of non-compliances and other difficulties; demonstration of good cost control systems of his own; technical support; response; price competitive.

V6. How do you feel the pre-contract/ contract/ post-contract phases of Kyle Stewarts subcontract process could change to make an improvement on the way we deal, select and communicate with subcontractors?

Pre-contract:

- (1) Stronger communication level with s/c during tender stage to foster commitment. x1
- (2) Discuss the job requirements with/ create better awareness of our requirements to the subcontractor in more detail. x2
- (3) Improve the s/c enquiry process for specialist subcontractors. x1

Contract:

- (1) Build relationships with selected/ preferred subcontractors to reduce the number of tenders sent out. x1

General:

- (1) Far closer relationships between departments.
- (2) Create more select lists of s/c's chosen on performance, price and quality, for volumes of work up to agreed limits.
- (3) Re-tendering: unavoidable, but could be improved by carrying through tenders to contract from tender stage.

V7. Explain what attributes you look for from prospective subcontractors at their design stage, including tendering.

- (1) Experience/ track record. x3
- (2) In-house resources. x2
- (3) Look beyond their own element, particularly to interfacing with other elements. x2
- (4) Cooperation/ willingness to sit down and discuss issues/ solve problems. x2

Also: help us, not just 'sell' their product; air of confidence and efficiency around what they do; accuracy; contact with persons actually employed to do the design; demonstration of commitment to meet programming needs.

V8. How do you feel that relationships with the subcontractor could be improved?

- (1) Greater personal face-to-face contact at all levels. x2
- (2) Meeting 'outside' and particular tender to discuss issues (eg company relationships). x1

Also: helping pre-planning works; being honest about site problems; having adequate value allowed for the works required; limited competition; the subcontractor having better knowledge of KS ways/ types of projects/ procedures; better sharing of cost information of specialist materials and plant; better sharing of knowledge of new materials and applications.

Comments made: relationships with key subcontractors should be on a similar vein to those between KS and clients; we cannot expect commitment if we treat subcontractors at arms length; we should build a core list of preferred subcontractors.

V9. Explain how important it is to you that the subcontractor has design capability.

- (1) Essential in design responsibility projects/ specialist areas. x2
- (2) Important, as it is necessary to understand how various elements go together, and to take specific design responsibility from the contractor and produce a better design. x2
- (3) Depends on trade. x1
- (4) Not particularly. x1

Comment: we should encourage the idea of bringing subcontractors and contractors designers under one roof for specific projects.

V10. Do you prefer subcontractors who are efficient but maybe contractual to those who are not contractual but less efficient?

- (1) Yes. x4
- (2) Efficient, we can usually cope with contractual attitudes. x1

Comment: in any event, we should only pay the subcontractor his contractual entitlement.

V11. How crucial is it for the subcontractor to have his own directly employed labour force: does this have an effect on installation performance and quality?

- (1) No particular views either way. x2
- (2) Important, as a better and more controlled product is produced. x1
- (3) Depends on the trade, although generally preferable. x1
- (4) Crucial (although this is said with limited 'coal face' experience) x1

V12. Should we encourage partnership arrangements and/ or back to back submissions with selected subcontractors?

- (1) Yes. x3
- (2) Yes, need not be widespread/ selectively to have greatest input. x2
- (3) Yes, especially on D&C or where major subcontract element is crucial to project. x1
- (4) Can prove to be less competitive unless both parties are committed to the tender. x1

V13. How would the fact that the subcontractor was a "one man band" or a nationally known organisation affect your dealings with it?

- (1) Depends on the contract. x3
- (2) Yes. x1

Comments: a subcontractors maximum turnover in any given month is known and should not be exceeded until he can demonstrate an ability to handle more work; we have to try to match the organisation with the need, and not misplace subcontractors.

Further Comments:

The following are additional comment not covered elsewhere in the questionnaire analysis.

(1) The following matters are also important: Parent Company Guarantees; Bonds; General Insurances; references from other employers; warranties; experience with JV's; discounts; fortnightly payment demands; level of attendance demanded; methods of invoicing; accuracy of invoicing.

(2) Phil Beckwith's memo to Wes Bradford, 14/4/93 - copy attached with his questionnaire, for information.

Section No. 2: Tick the Box Answers. Discipline: *Math Board*.....

	1	2	3	4	5	6
H1				4		1
H2				1	3	1
H3	1	2	3	4	5	6
H4					2	3
H5				1	3	1
H6			3	2		
H7				1	3	1
H8			1		1	5
H9				1	1	3
H10		1		1	2	1

	1	2	3	4	5	6
C1				2	3	
C2				1		4
C3			1	1	3	
C4		2	1	1		
C5			1	1	3	
C6			2		5	
C7				1	2	2
C8				2	3	
C9		2	1	2		
C10		3			1	1
C11			1	1	2	1
C12					4	1
C13		1	2	2		
C14		1	2	2		
C15			3	1	1	

	1	2	3	4	5	6
M1					4	1
M2			1	3	1	
M3				1	2	2
M4					4	1
M5			1		2	2
M6				1	2	2
M7				1	2	2
M8					3	2
M9				1	3	1
M10				1	2	2
M11			1	1	1	2
M12		1	2	2		

	1	2	3	4	5	6
P1		1			2	2
P2		2	1	1		
P3					3	2
P4				2	1	2
P5				2	2	1
P6			1		3	1
P7					4	1
P8					5	2
P9		1	2	1	1	
P10			2		2	1
P11			1	1		2
P12		1			3	1
P13			1	1	3	
P14			2		3	

Discipline: Contracts Management

16 Questionnaires sent. 5 (32%) returned on time(a).

6 Questionnaires returned late (b)

1 Interview(s) with N. Comben. (c)

Overall return rate ((a)+(b)): 11 (69%)

12 Questionnaires used in analysis ((a)+(b)+(c))

V2. What do you see as your role in the management of/interfaces with subcontractors?

- (1) Ensure the correct subcontractor is employed on fullest possible tender information and at the right price. x4
- (2) Provide accurate feedback to KSL. x3
- (3) Identify possible areas of difficulty prior to occurrence. x3
- (4) Monitor subcontractor progress prior to commencement on site. x3
- (5) Resolve difficulties of a performance and contractual nature. x2
- (6) Review subcontractor performance. x1
- (7) Provide backup for site team. x1

Answer from M.J. Rogers, Contracts Director:-

"Ensuring that my team of contracts managers and site management are getting the best possible performance from subcontractors but at the same time giving them every opportunity to perform."

Answer from P. Kane, Regional Director:-

"Ensuring management procedures are followed preventing problems with subcontractors occurring knowing the principles of the major subcontractors."

Answer from P. C. Jordan, Regional Director:-

"To ensure that they have the correct information to submit a price and subsequently carry out the work in accordance with our requirements."

V3. What characteristics of a subcontract firm can have a detrimental effect on the relationships between it and KS.

- (1) No supervision/management, resulting in KSL input, which is invariably already stretched. x7
- (2) Overly financially orientated. x5
- (3) Adverse attitude. x3
- (4) Conflict of personalities. x2
- (5) Failure to perform adequately arising from: over commitment; insufficient expertise and resources etc. x3
- (6) Perceived lack of fair and reasonable treatment. x1
- (7) Expecting attendance from KS when not agreed. x1
- (8) Poor quality of work. x2
- (9) Non adherence to programme. x2

Others comments include: not supplying of information quickly; dishonesty; size of organisation; past performance; lack of commitment and lack of communication; financially unstable; subcontractor does not understand offer.

V4. What aspect of the service given by a subcontractor will have most positive impact on your ability to carry out your job?

- (1) Good communication. x2
- (2) Correct level of management and supervision - site foreman. x2
- (3) Act quickly to KSL needs, x2
- (4) Adherence to program. x2
- (5) Co-operation and flexibility. x2

Others comments include: keep promises; increase labour to meet programme; subcontractor works as part of a team and has a regard for other subcontractors; offers a fair price; professional attitude; co-operation; good technical knowledge and good design management; brings ideas forward; keeping to promises at pre contract stage; proven experience.

V5. What makes you like working with a particular subcontractor?

- (1) Professional attitude (positive attitude). x4
- (2) Reliability. x3
- (3) Assists KSL in difficulties and understands our problems. x3
- (4) Meets KSL demands to the agreed quality. x5
- (5) Starts and completes his work to programme. x2

Others comments include: fair and reasonable attitude; commitment to common goals; honesty; flexibility; good personal relationships; good service, previous good relations and good communication; states his requirements; not contractual; low price.

V6. How do you feel the pre-contract/contract/post-contract phases of Kyle Stewarts subcontract process could change to make an improvement on the way we deal, select and communicate with subcontractors.

- (1) Where possible limit the number of tender enquiries. x3
- (2) Pre Contract Stage- Greater QS input to make certain that the bid is compliant in detail, and that likely future variations are not counter productive to KS and cause problems at the final account stage.

Other comments include: Increase the lead periods for all trades with a design element; Provide tender feedback to the subcontractors; Subcontractor to be selected by the whole project team; Involve key trades at the tender stage (especially specialist subcontractors); Greater emphasis on choice of tenders; stronger links with subcontractors we use time and again; More contact with subcontractor at a high level of management; More open relationship, allow problems to be solved and not to fester; More consistent attitude from KSL site management; need to develop a regional database of subcontractors; ensure offers are fully compliant with spec; ensure sub-contractor workload can be achieved; more feedback on each subcontractor required.

V7. Explain what attributes you look for from prospective subcontractors at their design stage, including tendering?

- (1) Design team expertise (in house). x5
- (2) Clear precise tender stating basis of offer. x4
- (3) Identify savings, give technical advice. x3
- (4) Comply with subcontract conditions. x3

Other comments include: willing to provide what client wants; established management structure; good track record; competitive tender; prepared to discuss design; co ordination with other trades; flexibility; experience; meeting enquiry date.

V8. How do you feel that relationships with the subcontractors could be improved?

- (1) Greater openness (honesty) by both parties. x3
- (2) Get to know each others management better. x2
- (3) Both sides do what they say they will do. x2

Other comments include: Give the subcontractor the opportunity to perform well; to gain maximum output; improve communication; guarantee that a subcontractor will be on the tender list; consistent approach from quantity surveyors; give more respect to major subcontractors and understand what subcontractor wants from KS; clearer understanding of subcontractors aspirations; get sub-contractors to manage and supervise their work better; to use a restricted number of sub-contractors more frequently; more internal seminars to tell them what we are looking for.

Quote:

" Providing that the subcontractors offer is fully compliant with spec, the spec is complete, contractual conditions are clear, the subcontractor is treated fairly but firmly on site and the subcontractor performs, there should not be the need to change. To avoid claims etc, regular co-ordination/progress meetings should be held to identify and agree contentious items as they occur."

V9. Do you prefer subcontractors who are efficient but maybe contractual to those who are not contractual but less efficient?

- (1) Efficient and contractual. x5
- (2) Efficient and contractual no problem if KS keep check on them. x1
- (3) Efficient and contractual - if subcontract is set up properly subcontractor will only get paid his entitlement. x1

Reasons given for efficient and contractual preference are: guaranteed ability to complete the project; creates impetus to perform other subcontractors; less involvement by KSL in organising, monitoring and pursuing the subcontractor.

V 10. How crucial is it for the subcontractor to have his own directly employed labour force: does this have an effect on performance and quality?

- (1) Not crucial but must be controlled by directly employed foreman. x4
- (2) Direct labour force is much easier to control, more loyalty, performance and quality is better. x2
- (3) Directly employed labour tends to produce better quality work. Therefore very important.

Other comments include: Important for supervision to be direct; other not so. If subcontractor sublets then KSL may go direct to others, this cuts the middle men out; better to have own labour as introducing other gangs only complicates things.

V 11. Should we encourage partnership arrangements and/or back to back submissions with selected subcontractors?

- (1) Yes, definitely. x3
- (2) Yes, but:
 - only those subcontractors with large design input.
 - KSL will have to change attitude and treat S/C as a partner.
 - only with key packages identified at the tender stage.
 - depends on financial stability of the subcontractor.
 - in the current competitive market place these arrangements may not be productive.

Quote:

"Fostering good relationships with all subcontractors is important, although constant checks on competition will be important."

V 12. Would the fact that a subcontractor was a "one man band" or a nationally known organisation affect your dealings with it, if:-

(a) Subcontractors work had a large amount of design.

- (1) Proven track record important here.
- (2) No one man bands - not able to cope, checks will need to be made.
- (3) Nationally known not always the answer, often less likely to perform orders not as important to them, need someone in between. for KS - repeat
- (4) Yes, back up, support, financial security would be important.
- (5) Only nationally known companies.

(b) Subcontractors work has a small amount of design.

- (1) View on merit, possible assistance and agreement from KSDS
- (2) Depends on package. x2
- (3) No.

(c) Others subcontractors without design input.

- (1) Depends on nature and type of subcontract - horses for courses. x4
- (2) More likely to be competitive, less overheads
- (3) One man band.

Section No. 2: Tick the Box Answers. Discipline: *Contracts Management*

	1	2	3	4	5	6
H1	1	1	1	4	2	
H2		2		6	1	
H3	/	/	/	4	2	3/2
H4			1	3	2	5
H5				1	4	4
H6	1	3	5			
H7		1		3	4	1
H8			1	3	3	2
H9			1	1	4	3
H10			1	3	3	2

	1	2	3	4	5	6
C1			1	1	5	2
C2					5	4
C3			1	1	3	1
C4	3	1	4	1		
C5					5	4
C6			1	2	2	4
C7				1	2	6
C8				2	5	2
C9			2	1	4	2
C10			4	4	1	
C11				3	4	2
C12			1	2	5	1
C13	1	2	5	1		
C14	2	3	3	1		
C15			3	4	2	

	1	2	3	4	5	6
M1				1	3	5
M2				3	5	1
M3			2		3	4
M4		1	1	2	4	1
M5			2		5	2
M6				2	5	2
M7					2	6
M8				1	3	5
M9				3	4	2
M10					2	7
M11				4	3	2
M12			3	2	4	

	1	2	3	4	5	6
P1					1	8
P2			5	2	2	
P3					1	8
P4			1	2	3	3
P5			1	3	3	2
P6					4	5
P7			1	3	2	2
P8			1	2	2	3
P9				5	1	1
P10			1	5	2	1
P11	2	3	3			1
P12				2	2	5
P13			2	1	4	2
P14			1	1	2	5

Discipline: Buying

10 Questionnaires sent: 1(11%) returned on time (a).

8 Questionnaires returned late (b)

2 Interview(s) with: R. Gorbert, B. Thomson. (c)

Overall return rate ((a)+(b)): 9 (90%)

11 Questionnaires used in Analysis ((a)+(b)+(c))

V2. What do you see as your role in the management of/interfaces with subcontractors?

- (1) Turn subcontract quote into a format that is acceptable to contracts and project management. x4
- (2) Provide best subcontract that the budget will allow. x3
- (3) Negotiating with subcontractors, find best deal for KS. X3

Other comments include: Ensure that the subcontractor is the best one for that job, liaise with site team; employing companies who want to work for KS; make subcontractor aware that KS are a professional company and we respect our subcontractors; efficient management of the procurement process.

V3. What characteristics of a subcontract firm have a detrimental effect on the relationships between it and KS?

- (1) Excessive claims. x5
- (2) Bad performance, quality and supervision. x5
- (3) Subcontractors who promise the earth but fail to deliver. x2
- (4) KS reliance on contractual obligations. x2

Other comments include: Delays in submitting tenders; un interested; unreasonable behaviour; inflexible; uncompetitive, when subcontractors use sub-subcontractors; lack of knowledge; lack of trust; lack of experience; poor quality workmanship; conflict of personalities on site.

V4. What aspect of the service given by a subcontractor will have the most positive impact on your ability to carry out your job?

- (1) Speed / quality of tender / bid (fully compliant). x9
- (2) Quick response to requests for further information and acceptance of subcontract conditions. x4
- (3) Willing to negotiate best deal. x2

Other comments include: Adherence to programme; knowledge of package; good attitude towards negotiation; want to work with KS; adherence to specification.

V5. What makes you like working with a particular subcontractor?

- (1) Mutual respect, know KS and what is important. x4
- (2) Willing to negotiate. x2
- (3) Knowing that a subcontractor will perform on site. x2
- (4) Professional attitude to tendering. x3
- (5) No claims. x2
- (6) Quick response to questions. x2
- (7) Speedy and competitive pricing. x2

Other comments include: Efficient and communicative management; offer cost savings; positive approach towards KS; good service offered; subcontractor has knowledge of package; proper execution of tender documents; develop a relationship.

V6. How do you feel the pre-contract / contract / post-contract phases of Kyle Stewarts subcontract process could be change to make an improvement on the way we deal, select and communicate with subcontractors?

- (1) Pre contract - Reduce tender list so that subcontractors feels a better chance of obtaining work from KS.
 - Only send tenders to those who we would use, not to just use as a tendering service. This would save money in contract stage. x2
 - Keep records of subcontractors who price for us regularly.
 - Identify which companies are snowed under by our enquiries and cannot price.
 - KS seem to have lost the ability to price their own work.
 - Improve relationships which will make KS more competitive.
- (2) Contract - Review subcontractor performance throughout contract period.
- (3) Post Contract - Improve the feedback on subcontractors performance. x5

V7. Explain the attributes you look for from prospective subcontractors at their design stage, including tendering?

- (1) Standard of in house design services. x5
- (2) Compliance with specification and KS design team. x3
- (3) Innovative thinking and cost savings. x3
- (4) Proven track record / reputation. x2
- (5) Cooperation. x1
- (6) Capability. x1

V8. How do you feel that relationships with the subcontractor could be improved?

- (1) Reduce tender list so that subcontractor feels a better chance of obtaining work. x1
- (2) Make sure that subcontractor gets paid on time. x1
- (3) Improve communication. x1
- (4) Each understand the other and adopt a new philosophy. x1
- (5) Use forms of contract that reflect "working together." x1
- (6) KS should take some risk and not pass it all down to the subcontractors. x1
- (7) Clear definition of roles. x1
- (8) Joint ownership of work. x1
- (9) Use JV's to mutual benefit. x1
- (10) Reward subcontractors, financially or otherwise, for improved design changes. This saves KS money with client. x1
- (11) Accurate pricing of B of Q and quote against spec. x1
- (12) Vendor alliances. x1

Quote 1:

"Change in KS attitude is needed. We need to work with them (subcontractors) rather than treating them as our enemy."

Quote 2:

"Difficult to see any obvious improvement over and above the honest, professional approach we already have. Most dissatisfaction comes from a subcontractor who misses out on work but we can only place one subcontract and 4 or 5 subcontractors may have priced it."

Quote 3:

"Treat all sub-contractors fairly, do not abuse tendering service provided by sub-contractors, place orders with the most competitive sub-contractor not just the company favourite."

V9. Do you prefer subcontractors who are efficient but maybe contractual to those who are not contractual but less efficient?

- (1) Contractual and efficient. x6
- (2) *Efficient and non contractual. x3*
- (3) We are a contractual company. If the contractual problem are resolved at an early stage, we then have an efficient subcontractor working for us.

V10. How crucial is it for the subcontractors to have his own directly employed labour force: does this have an effect on performance and quality?

- (1) Very important. Non directly employed staff have bad performance and inconsistent quality.
- (2) Yes
 - to traditional trades.
 - with specialist trades.
 - better for KS if everyone has direct labour but this is unrealistic.
 - important to improve quality.
- (3) No
 - no problem either way if there is good supervision on site. x2
- (4) Important but not crucial.
- (5) Not crucial. Quality of supervision is much more important.

V11. Should we encourage partnership arrangements and/or back to back submissions with selected subcontractors?

- (1) Yes to both, but only with selected subcontractors.
- (2) Yes. x4
- (3) Yes, we do.
- (4) Yes. Lead to more competitive bids / tender prices. KS has to be careful not to be over reliant on one selected subcontractor.
- (5) Yes, only on major packages.
- (6) Yes, if the price would be right.
- (7) Yes, provided that prices remain competitive, service is enhanced and claims are reduced.

V12. Would the fact that a subcontractor was a "one man band" or a nationally known organisation affect your dealings with it, if:-

(a) Subcontractors work had a large amount of design,

- (1) Yes. x4
- (2) *Yes. If subcontractor has proven that design is no problem, then this should make no difference.*
- (3) **Yes. One man band could not offer the service KS want.**
- (4) **Sub-contractor would have to show that he was capable of carrying out this type of work.**

(b) Subcontractors work had a small amount of design,

- (1) Yes. x2
- (2) One man band may not be able to offer KS the service that they want.
- (3) **No. x2**
- (4) **As above (4)**

(c) Other subcontractors without a design input.

- (1) No. x4
- (2) Each subcontractor is chosen / selected for each job. Horses for courses.
- (3) As above (4)

Further Comment:

Quote 1:

"It is vital that we (KS) shift our culture from a "contractual" one to a "working with" TRUST based relationship, with all our suppliers, subcontractors, management and ultimately our customers."

Quote 2:

"Employ more direct labour."

Quote 3:

"From the buying point of view, no matter how well we cultivate and nurture our relationships we can always be let down by inefficient site management and over zealous quantity surveying resulting in a loss of an otherwise good subcontractor to KS or worse still to force into receivership."

Section No. 2: Tick the Box Answers. Discipline: *Boxing*.....

	1	2	3	4	5	6
H1	1			6	2	2
H2	1		1	2	5	2
H3	1	1	1	2 1/2	4	5/4
H4	1		1	1	4	4
H5				1	6	4
H6	2	1	4	2	1	1
H7	1		1	2	3	4
H8		1			5	5
H9			1	1	5	4
H10			1	5	2	3

	1	2	3	4	5	6
C1			3	1	6	1
C2				1	5	5
C3	1	1	3	2	2	2
C4	2	2	4	1	2	
C5				3	5	3
C6			2	2	5	2
C7				2	6	3
C8			1		7	3
C9	2	2	3	2	1	1
C10	3	2	5	2	1	
C11			3		5	3
C12				3	3	5
C13		2	6	3		
C14		4	4	3		
C15	1	1	3	4	1	1

	1	2	3	4	5	6
M1			2	2	5	2
M2			2	3	4	2
M3			1	2	6	2
M4		1		3	4	3
M5			1	2	4	4
M6				1	6	4
M7				1	4	6
M8			1	1	5	4
M9	2	1	1	1	5	1
M10					3	8
M11	2	1	1	1	5	1
M12	2	1	2	3	3	

	1	2	3	4	5	6
P1		1	1	2	5	4
P2		2	2	7	1	
P3		2		1	3	5
P4		1	1	2	4	3
P5		2	1	1	4	3
P6		1	2		3	5
P7			1		2	8
P8					3	8
P9	2		2	3	2	2
P10			1	1	4	5
P11		1	3	4	2	1
P12		1	1	1	5	3
P13	1	2	1		5	2
P14	2	2	1	1	3	2

Appendix IV:

Company Wide Analysis - Open Ended Questions.

5.1 Open Ended Analysis

The following is a summary of the results obtained. This has been drawn up by collating the most frequently occurring responses from all departments. Although individual departments may differ from this overall company wide perspective, the points noted below are representative of the general consensus.

What characteristics of a subcontract firm have a detrimental effect on the relationships between it and KS?

- (1) Poor management and supervision. Two thirds of all respondents mentioned poor management and supervision when answering this question. Typical answers included:
 - (a) Bad / lack of site supervision and management.
 - (b) Lack of subcontractor supervision and foremanship.

- (2) Too contractual.
 - (a) Too claims conscious.
 - (b) Overly financially orientated.
 - (c) Spurious applications for claims.

- (3) Quoting and Pricing procedure.
 - (a) *Subcontractors who promise the earth and fail to deliver.*
 - (b) Unrealistic competitive pricing to obtain subcontract.
 - (c) *Non competitive quotes.*

- (4) Attitude.
 - (a) Uncooperative personnel.
 - (b) Personality conflicts.
 - (c) Lack of team spirit between all parties.
 - (d) Lack of trust.

- (5) Quality
 - (a) Quality of work.
 - (b) Lack of good workmanship.
 - (c) Not carrying out work as per specification.

What aspect of the service given by a subcontractor will have the most positive impact on your ability to carry out your job?

- (1) Attitude.
 - (a) Cooperation and team spirit.
 - (b) Subcontractor contribution to solving problems.

- (2) Program.
 - (a) Comply with subcontract programme.
 - (b) Cooperation, to agree, resource and execute subcontract as required to meet the programme.
 - (c) Start and complete subcontract on the agreed dates.
- (3) Tendering and Estimating.
 - (a) Providing quotations and information at short notice.
 - (b) Accurate and consistent quotes.
- (4) Supervision and Management.
 - (a) Good site supervision.
 - (b) Efficient capable foreman.
 - (c) Correct level of supervision and management.

What makes you like working with a particular subcontractor?

- (1) Attitude, cooperation, relationships and trust.
 - (a) Willing / proactive management.
 - (b) Good working relationships.
 - (c) Positive attitude towards joint positive aims.
- (2) Supervision and management.
 - (a) Adequate supervision on site.
 - (b) Efficient and communicative management on site.
 - (c) Provides a good site foreman.
- (3) Professionalism.
 - (a) Professional attitude.
 - (b) Efficient professional approach towards contract.

How do you feel the pre-contract / contract / post-contract phases of Kyle Stewarts subcontract process could be change to make an improvement on the way we deal, select and communicate with subcontractors?

- (1) Feedback and Review. Mainly post contract. Certain instances during contract period.
 - (a) Obtain more feedback on subcontractor performance throughout all stages.
 - (b) Contract period, use written performance assessments and make subcontractor aware of them.
- (2) Selection and appointment.
 - (a) Better evaluation of bids.
 - (b) Only send tenders to those who we would actually use. Do not use subcontractors as a tendering service.
 - (c) Allow site team more say in the selection of subcontractors.
- (3) Price.
 - (a) Reduce cost criteria for the selection of subcontractors.
 - (b) Do not go for the lowest bid.

Explain the attributes you look for from prospective subcontractors at their design stage, including tendering?

- (1) Understanding of subcontract
 - (a) Understands subcontract requirements.
 - (b) Interpretation and appreciation of brief and drawings.
 - (c) Good understanding (technically & time).
- (2) Track record.
 - (a) Proven track record and reputation.
 - (b) Good track record with other companies.
 - (c) Previous KS experience.
- (3) In house design capability.
 - (a) Good and informative drawings and literature.
 - (b) In house design team.
 - (c) Compliance with design programme.
 - (d) Design team expertise.
- (4) Compliance with tender and programme.
 - (a) Compliance with design programme.
 - (b) Compliance with subcontract conditions.
 - (c) Compliance with KS design team
 - (d) Compliance with enquiry.
 - (e) Compliance with all tender documents.

Explain how important it is to you that the subcontractor has design capability.

- (1) *Very important. Significant majority of the questions were answered this way.*
- (2) Dependent on type of work.

How do you feel that relationships with the subcontractor could be improved?

- (1) Improve communication.
 - (a) Regular face to face meetings.
 - (b) Organise joint seminars and events.
 - (c) Dialogue rather than writing.
- (2) Improve relationships and team work.
 - (a) Earlier involvement of subcontractor, make him feel part of the team.
 - (b) Use forms of contracts that reflect working together.
 - (c) Trusting each other.
 - (d) Treat subcontractor as part of the team.

Do you prefer subcontractors who are efficient but maybe contractual to those who are not contractual but less efficient?

- (1) Efficient and contractual, majority of answers .
- (2) Efficient and non contractual very low majority.

Frequently the comment was made that efficiency was most important and KS should be able to manage / handle contractual subcontractors.

How crucial is it for the subcontractors to have his own directly employed labour force: does this have an effect on performance and quality?

- (1) Majority said yes it was important, but:
 - (a) it was more important that supervision is directly employed.
 - (b) subcontractor has more control over direct labour.

Should we encourage partnership arrangements and/or back to back submissions with selected subcontractors?

- (1) Yes, majority of respondents.
- (2) Yes, but: select only major packages.
 - (a) do not tie KS exclusively to this approach.

Would the fact that a subcontractor was a "one man band" or a nationally known organisation affect your dealings with it.

- (1) General opinion is that one man band could not handle the work with a large amount of design work. However, for those subcontractors who can checks should be made.
- (2) For subcontract work with a small amount of design work the respondents were split between 'yes' it would matter and 'no' it would not.
- (3) Majority opinion that it would not matter if a subcontractor was a 'one man band' or a nationally known organisation to undertake works without design input.

APPENDIX TWO

CC QUESTIONNAIRE - LIST OF CLOSED ENDED QUESTIONS

Appendix VII: Tick the Box Questions

Section a) Professional Profile

- H1. The subcontractor has worked previously with Kyle Stewart.
- H2. The subcontractor is familiar with Kyle Stewart procedures.
- H3. The subcontractor has a history of successfully completed KS contracts. (Technical/ Commercial)
- H4. The subcontractor has a record of claims.
- H5. The subcontractor has a history of good dealings and working relationships with Kyle Stewart's staff.
- H6. The subcontractor has not previously worked with Kyle Stewart.
- H7. The subcontractor maintains confidentiality when dealing with Kyle Stewart.
- H8. The subcontractor displays loyalty when working with Kyle Stewart.
- H9. The importance the subcontractor gives to Kyle Stewart's subcontracts.
- H10. We are important to them (financially or otherwise).

Section b) Organisation Characteristics'

- C1. The size of the firm relative to the size of the order.
- C2. The subcontractor is financially stable.
- C3. Geographic location of subcontractor firm for a specific project.
- C4. Ability of the subcontractor to national coverage of work.
- C5. The members of the subcontract firm display high standards of technical skills / knowledge as required.
- C6. The subcontractor's office backup is of a sufficient standard.
- C7. Good communication exists between the subcontractors head office and his site team.
- C8. The subcontractor has the ability to produce innovative ideas when required
- C9. The subcontractor is a member of trade professional associations.
- C10. The subcontractor is registered to BS5750.
- C11. The perception of bad quality and/ or inefficiency surrounding the subcontractors name.
- C12. The subcontractor can give technical and market knowledge which provides KS with commercial advantages/opportunities
- C13. The subcontractor's investment in information technology.
- C14. The subcontractor's investment in research and development.
- C15. The subcontractor's investment in new plant and equipment

Section c) Supervision and Management

- M1. Members of the subcontract team have the appropriate managerial and interpersonal skills.
- M2. The management structure of the firm relative to the job.
- M3. The subcontractor utilises the time allocated to him efficiently.
- M4. The subcontractor has sufficient contractual awareness.
- M5. The relationship with people providing the supervision.
- M6. Key decision makers within subcontractor have the relevant experience.
- M7. Ability to respond quickly and correctly to Kyle Stewart's needs.
- M8. The necessary information is provided by the subcontractor to the agreed detail.
- M9. The subcontractor provides timely valuations and cost information.
- M10. The subcontractor performs to agreed standards and commitments.
- M11. The subcontractor responds well to the production of variation estimates
- M12. The subcontractor is of a specialist nature.

Section d) Practices and Processes

- P1. Standard of finished work is acceptable.
- P2. The subcontractor works to a documented quality plan/ QA procedures.
- P3. The subcontractor works to a high standard of safety procedures.
- P4. The standard of subcontractor design work.
- P5. The standard of technical supervision provided.
- P6. The level of supervision provided.
- P7. Ability to submit a consistently reliable tender price.
- P8. Ability to submit a comprehensive and competitive bid.
- P9. The subcontractor submits the lowest price.
- P10. The subcontractor is prepared to negotiate on his bids.
- P11. The subcontractor has a claims procedure.
- P12. The subcontractor monitors the standard of his work.
- P13. The subcontractor has the ability to produce a high standard of record documentation.
- P14. The subcontractor has good site control practices (attendance records/ drawing records etc.)

APPENDIX THREE

CC QUESTIONNAIRE

Questionnaire

What Kyle Stewart Employees want from their Subcontractors

PLEASE ELABORATE/ COMMENT ON YOUR ANSWERS WHERE NECESSARY

Your name

Your discipline

Please indicate which of the following apply to you (tick more than one box if appropriate):

<input type="checkbox"/>	Building Services Related
<input type="checkbox"/>	Building Related
<input type="checkbox"/>	Management

<input type="checkbox"/>	Design
<input type="checkbox"/>	Site Based
<input type="checkbox"/>	Office Based (not design)

SECTION 1: PERSONAL VIEWS

V1. How often do you deal with subcontractors? (tick most appropriate)

	more than once a day	once a day	once a week	once a month

V2. What do you see as your role in the management of/interfacing with subcontractors?

V3. What characteristics of a subcontract firm can have a detrimental effect on the relationships between it and KS?

V4. What aspect of the service given by a subcontractor will have the most positive impact on your ability to carry out your job?

V5. What makes you like working with a particular subcontractor?

V6. How do you feel the pre-contract/ contract/ post-contract phases of Kyle Stewarts subcontract process could change to make an improvement on the way we deal, select and communicate with subcontractors?

V7. Explain what attributes you look for from prospective subcontractors at their design stage, including tendering.

V8. How do you feel that relationships with the subcontractor could be improved?

V9. Do you prefer subcontractors who are efficient but maybe contractual to those who are not contractual but less efficient?

V10. How crucial is it for the subcontractor to have his own directly employed labour force: does this have an effect on performance and quality?

V11. Should we encourage partnership arrangements and/or back to back submissions with selected subcontractors?

V12. Would the fact that a subcontractor was a "one-man band" or a nationally known organisation affect your dealings with it, if:-

(a) Subcontractors work had a large amount of design,

(b) Subcontractors work had a small amount of design,

(c) Other Subcontractors without design input.

SECTION 2: IMPORTANCE

Within the context of your dealings with subcontractors please indicate how important the following are to you.

- (1) is equivalent to NO importance
(6) is equivalent to VERY HIGH importance

Section a) Professional Profile

H1. The subcontractor has worked previously with Kyle Stewart.

1 2 3 4 5 6

H2. The subcontractor is familiar with Kyle Stewart procedures.

1 2 3 4 5 6

H3. The subcontractor has a history of successfully completed KS contracts.

technical success 1 2 3 4 5 6

commercial success 1 2 3 4 5 6

H4. The subcontractor has a record of claims.

1 2 3 4 5 6

H5. The subcontractor has a history of good dealings and working relationships with Kyle Stewart's staff.

1 2 3 4 5 6

H6. The subcontractor has not previously worked with Kyle Stewart.

1 2 3 4 5 6

H7. The subcontractor maintains confidentiality when dealing with Kyle Stewart.

1 2 3 4 5 6

H8. The subcontractor displays loyalty when working with Kyle Stewart.

1 2 3 4 5 6

H9. The importance the subcontractor gives to Kyle Stewart's subcontracts.

1 2 3 4 5 6

H10. We are important to them (financially or otherwise).

1 2 3 4 5 6

Within the context of your dealings with subcontractors please indicate how important the following are to you.

Section b) Organisation Characteristics'

- | | | | | | | |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| C1. The size of the firm relative to the size of the order. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C2. The subcontractor is financially stable. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C3. Geographic location of subcontractor firm for a specific project. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C4. Ability of the subcontractor to offer national coverage of work. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C5. The members of the subcontract firm display high standards of technical skills / knowledge as required. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C6. The subcontractor's office backup is of a sufficient standard. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C7. Good communication exists between the subcontractors head office and his site team. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C8. The subcontractor has the ability to produce innovative ideas when required | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C9 . The subcontractor is a member of trade or professional associations. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C10. The subcontractor is registered to BS5750. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C11. The perception of bad quality and/ or inefficiency surrounding the subcontractors name. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| C12. The subcontractor can give technical and market knowledge which provides KS with commercial advantages/opportunities | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |

C13. The subcontractor's investment in information technology.

C14. The subcontractor's investment in research and development.

C15. The subcontractor's investment in new plant and equipment

Within the context of your dealings with subcontractors please indicate how important the following are to you.

Section c) Supervision and Management

M1. Members of the subcontract team have the appropriate managerial and interpersonal skills.

1 2 3 4 5 6

M2. The management structure of the firm relative to the job.

1 2 3 4 5 6

M3. The subcontractor utilises the time allocated to him efficiently.

1 2 3 4 5 6

M4. The subcontractor has sufficient contractual awareness.

1 2 3 4 5 6

M5. The relationship with people providing the supervision.

1 2 3 4 5 6

M6. Key decision makers within subcontractor have the relevant experience.

1 2 3 4 5 6

M7. Ability to respond quickly and correctly to Kyle Stewart's needs.

1 2 3 4 5 6

M8. The necessary information is provided by the subcontractor to the agreed detail.

1 2 3 4 5 6

M9. The subcontractor provides timely valuations and cost information.

1 2 3 4 5 6

M10. The subcontractor performs to agreed standards and commitments.

1 2 3 4 5 6

M11. The subcontractor responds well to the production of variation estimates

1 2 3 4 5 6

M12. The subcontractor is of a specialist nature.

1 2 3 4 5 6

Within the context of your dealings with subcontractors please indicate how important the following are to you.

Section d) Practices and Processes

- | | | | | | | |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| P1. Standard of finished work is acceptable. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P2. The subcontractor works to a documented quality plan/ QA procedures. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P3. The subcontractor works to a high standard of safety procedures. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P4. The standard of subcontractor design work. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P5. The standard of technical supervision provided. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P6. The level of supervision provided. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P7. Ability to submit a consistently reliable tender price. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P8. Ability to submit a comprehensive and competitive bid. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P9. The subcontractor submits the lowest price. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P10. The subcontractor is prepared to negotiate on his bids. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P11. The subcontractor has a claims procedure. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P12. The subcontractor monitors the standard of his work. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |
| P13. The subcontractor has the ability to produce a high standard of record documentation. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 |

P14. The subcontractor 1 2 3 4 5 6
has good site control
practices (attendance
records/ drawing records etc.)

SECTION 3: FURTHER COMMENTS

Please write below any further comments you wish to make about the questionnaire and subcontracting.

THANK YOU FOR YOUR COOPERATION

APPENDIX FOUR

COPY OF SUBCONTRACTOR QUESTIONNAIRE

Organisational Profile.

Within the context of your dealings with main contractors, please indicate how important the following are to you.

(1) is equivalent to **NO** importance
(6) is equivalent to **VERY HIGH** importance

- | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|
| 1. That the main contractor has a good name for high standards and efficiency? | [1] | [2] | [3] | [4] | [5] | [6] |
| 2. The main contractor has a history of fair dealings and good working relations with his subcontractors? | [1] | [2] | [3] | [4] | [5] | [6] |
| 3. You have not previously worked with the main contractor? | [1] | [2] | [3] | [4] | [5] | [6] |
| 4. The perceived profile of the main contractor within the market place? | [1] | [2] | [3] | [4] | [5] | [6] |
| 5. The main contractor has a history of successfully completed contracts (Technical)? | [1] | [2] | [3] | [4] | [5] | [6] |
| 6. The main contractor applies the contract fairly? (non adversarial) | [1] | [2] | [3] | [4] | [5] | [6] |
| 7. The main contractor has a reputation for completing works on time and to the agreed standard? | [1] | [2] | [3] | [4] | [5] | [6] |
| 8. The ease in which you are able to get in contact with the correct person? | [1] | [2] | [3] | [4] | [5] | [6] |
| 9. The personnel of the main contractor have the appropriate managerial and interpersonal skills? | [1] | [2] | [3] | [4] | [5] | [6] |
| 10. The management structure of the main contractor is relevant to the job? | [1] | [2] | [3] | [4] | [5] | [6] |

-
- | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|
| 11. The main contractor is registered to BS5750/ ISO9001? | [1] | [2] | [3] | [4] | [5] | [6] |
| 12. The main contractor works to a documented quality procedure? | [1] | [2] | [3] | [4] | [5] | [6] |
| 13. The main contractor is familiar with your organisation and procedures? | [1] | [2] | [3] | [4] | [5] | [6] |
| 14. The main contractor appreciates the range of your activities and the extent of your responsibilities? | [1] | [2] | [3] | [4] | [5] | [6] |
| 15. The main contractor is forward thinking and invests money in R & D and technology? | [1] | [2] | [3] | [4] | [5] | [6] |
| 16. The main contractor is honest, trustworthy and fair dealing? | [1] | [2] | [3] | [4] | [5] | [6] |
| 17. The main contractor displays loyalty and fairness in representing your needs to the client? | [1] | [2] | [3] | [4] | [5] | [6] |
| 18. The main contractor responds quickly and correctly to your needs? | [1] | [2] | [3] | [4] | [5] | [6] |
| 19. The main contractor regards safety as a primary issue which is reflected in all working places and methods employed? | [1] | [2] | [3] | [4] | [5] | [6] |
| 20. That the main contractor has financial strength and stability? | [1] | [2] | [3] | [4] | [5] | [6] |
| 21. That the main contractor offers repeat business opportunities and continuity of work? | [1] | [2] | [3] | [4] | [5] | [6] |
| 22. That the main contractor is client focused? | [1] | [2] | [3] | [4] | [5] | [6] |
| 23. That the main contractor will market your success as part of the marketing strategy? | [1] | [2] | [3] | [4] | [5] | [6] |

Please fully explain the answers you give to the following questions (Yes/ No answers have a limited use):

1. What characteristics of a main contractor can have a detrimental effect on your relationships?

2. What aspects of the service given by a main contractor will have the most positive impact on your ability to carry out your job?

3. How do you feel relationships with a main contractor could be improved?

4. Do you prefer main contractors who are efficient but maybe contractual to those who are not contractual but less efficient? Why?

5. What do you understand by the term "partnerships"?

- a) Have you undertaken a partnership arrangement before?

b) Would you be willing to consider partnership arrangements with a main contractor in the future?

c) If 'yes', with whom and under what circumstances?

d) If 'no', why not?

Main Contractors' Head Office Practices and Processes

Within the context of your dealings with main contractors, please indicate how important the following are to you.

(1) is equivalent to **NO** importance
(6) is equivalent to **VERY HIGH** importance

1. The tender documents are comprehensive and clearly define responsibilities?	[1]	[2]	[3]	[4]	[5]	[6]
2. How important is the programme to your price?	[1]	[2]	[3]	[4]	[5]	[6]
3. The tender documents are short and simple?	[1]	[2]	[3]	[4]	[5]	[6]
4. Tender lists contain a limited number of subcontractors?	[1]	[2]	[3]	[4]	[5]	[6]
5. That the main contractor will as a matter of course retender if he wins the contract?	[1]	[2]	[3]	[4]	[5]	[6]
6. That having submitted a tender you are allowed the opportunity to negotiate?	[1]	[2]	[3]	[4]	[5]	[6]
7. The main contractor always gives feedback with regards to your tender?	[1]	[2]	[3]	[4]	[5]	[6]
8. That the main contractor will seek to impose further liability onto you by increasing your risk under the terms of the contract?	[1]	[2]	[3]	[4]	[5]	[6]

Subcontractor Questionnaire

Kyle Stewart/ Loughborough University

- | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|
| 9. That the necessary contract information is provided by the main contractor to enable you to carry out your obligations? | [1] | [2] | [3] | [4] | [5] | [6] |
| 10. The main contractor acknowledges, discusses, and addresses your subcontracting problems? | [1] | [2] | [3] | [4] | [5] | [6] |
| 11. That the main contractor is purely price driven? | [1] | [2] | [3] | [4] | [5] | [6] |
| 12. That you receive a formal order / subcontract? | [1] | [2] | [3] | [4] | [5] | [6] |
| 13. That the contract between you and the main contractor is an unamended standard form? | [1] | [2] | [3] | [4] | [5] | [6] |
| 14. That you get feedback on your performance from a main contractor? | [1] | [2] | [3] | [4] | [5] | [6] |
| 15. That you can give feedback freely to the main contractor? | [1] | [2] | [3] | [4] | [5] | [6] |
| 16. That the main contractor will accept the lowest bid? | [1] | [2] | [3] | [4] | [5] | [6] |

Please fully explain the answers you give to the following questions (Yes/ No answers have a limited use):

1. When you receive enquiries/ tenders for the same contract from different main contractors, does the price that you give differ for each contractor?

a) what is the extent of the difference?

b) would any preference be given to a particular main contractor?

c) If 'yes', against what criteria?

2. Do timely payers receive a tangible benefit in your tender price to them?

a) If 'yes', by how much?

3. Do you consider main contractors place too much importance on price to the detriment of quality?

4. What number of subcontractors do you consider make a reasonable tender list for a main contractor to get a competitive response for a particular trade?

Main Contractors' Site Practices and Processes.

Within the context of your dealings with main contractors, please indicate how important the following are to you.

(1) is equivalent to **NO** importance

(6) is equivalent to **VERY HIGH** importance.

1. The level and amount of supervision provided by the main contractor?

[1] [2] [3] [4] [5] [6]

2. The main contractor provides professional high calibre staff?

[1] [2] [3] [4] [5] [6]

3. How important to your tender price is your perception of the main contractors site management capabilities?

[1] [2] [3] [4] [5] [6]

4. The main contractor expects the subcontractor to provide all site supervision?

[1] [2] [3] [4] [5] [6]

5. The main contractors' site team has an input into subcontractor selection?

[1] [2] [3] [4] [5] [6]

6. The main contractor coordinates your activities with other subcontractors?

[1] [2] [3] [4] [5] [6]

7. Adequate and suitably located storage facilities are provided on site for your plant and materials?	[1]	[2]	[3]	[4]	[5]	[6]
8. The main contractor works to high standards of safety procedures?	[1]	[2]	[3]	[4]	[5]	[6]
9. The main contractor has good site control practices?	[1]	[2]	[3]	[4]	[5]	[6]
10. The main contractor calls regular site meetings?	[1]	[2]	[3]	[4]	[5]	[6]
11. That you get ongoing feedback on your performance throughout the contract?	[1]	[2]	[3]	[4]	[5]	[6]
12. The main contractor suggests ways by which you can work more productively?	[1]	[2]	[3]	[4]	[5]	[6]
13. That you can give feedback to the main contractor throughout the contract?	[1]	[2]	[3]	[4]	[5]	[6]
14. The main contractor monitors the standard of your work?	[1]	[2]	[3]	[4]	[5]	[6]
15. Cash flow in relation to your ability to perform?	[1]	[2]	[3]	[4]	[5]	[6]
16. That the main contractor pays variations promptly?	[1]	[2]	[3]	[4]	[5]	[6]
17. The main contractor site staff have cooperative attitudes?	[1]	[2]	[3]	[4]	[5]	[6]
18. The relationship between the main contractors' supervisory staff and the subcontractors site team?	[1]	[2]	[3]	[4]	[5]	[6]
19. The main contractor complies with the overall programme?	[1]	[2]	[3]	[4]	[5]	[6]
20. The main contractor provides timely certification followed by prompt payment?	[1]	[2]	[3]	[4]	[5]	[6]
21. The main contractor properly notifies you of variations?	[1]	[2]	[3]	[4]	[5]	[6]
22. The main contractor makes an effort to be fair and prompt when agreeing a final account?	[1]	[2]	[3]	[4]	[5]	[6]

23. The main contractor maintains the same site staff for the duration of the contract?

[1] [2] [3] [4] [5] [6]

24. The Building Services Manager is present on site for the duration of your subcontract (if appropriate to your trade)?

[1] [2] [3] [4] [5] [6]

25. Good communication exists between the main contractor and subcontractors' site teams?

[1] [2] [3] [4] [5] [6]

26. Good communication exists between the main contractors site team and his head office?

[1] [2] [3] [4] [5] [6]

27. Good communication exists between all members of the main contractors site team?

[1] [2] [3] [4] [5] [6]

Please fully explain the answers you give to the following questions (Yes/ No answers have a limited use):

1. When main contractors are slow in paying valuations, would this affect the level of service you give?

2. Where main contractors operate a "pay when paid" procedure in their dealings with subcontractors, would this affect your relationship with respect to:

a) pricing?

b) service?

3. Does the quality of the main contractors site team have a significant effect on the time it takes for you to undertake your subcontract?

4. How do you feel your quality of work is affected by your own subcontractors?

5. Has any other main contractor ever approached you before to ascertain your perception of his performance and to invite objective assessments of areas for improvement?

In your opinion, which of the following aspects are of most importance to Kyle Stewart.

- | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|
| (a) The subcontractors has a history of good dealings and working relationships with KS. | [1] | [2] | [3] | [4] | [5] | [6] |
| (b) The subcontractor submits the lowest price. | [1] | [2] | [3] | [4] | [5] | [6] |
| (c) The subcontractor is of a specialist nature. | [1] | [2] | [3] | [4] | [5] | [6] |
| (d) The subcontractor performs to agreed standards and commitments. | [1] | [2] | [3] | [4] | [5] | [6] |
| (e) The subcontractor has a claims procedure. | [1] | [2] | [3] | [4] | [5] | [6] |
| (f) Good communication exists between the subcontractors head office and his site team. | [1] | [2] | [3] | [4] | [5] | [6] |
| (g) The subcontractor is financially stable. | [1] | [2] | [3] | [4] | [5] | [6] |
| (h) The subcontractor has not previously worked with Kyle Stewart. | [1] | [2] | [3] | [4] | [5] | [6] |
| (i) The ability to perform quickly and correctly to KS needs. | [1] | [2] | [3] | [4] | [5] | [6] |
| (J) The ability of the subcontractor to offer national coverage of work. | [1] | [2] | [3] | [4] | [5] | [6] |

Further Comments :

APPENDIX FIVE

**COPY OF SUBCONTRACTOR REPORT DISTRIBUTED TO CC
STAFF**

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Do you prefer main contractors who are efficient but maybe contractual to those who are not contractual but less efficient?	4
Have you undertaken a partnership arrangement before?	5
Would you be willing to consider partnership arrangements in the future?	5
When you receive enquiries/ tenders for the same contract from different main contractors, does the price that you give differ for each contractor?	5
What is the extent of the difference?	5
Would any preference be given to a particular main contractor?	6
If "yes", against what criteria?	6
Do timely payers receive tangible benefit in your tender price to them?	6
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Open Ended Questions:

What Characteristics of a Main Contractor can have a Detrimental Effect on your Relationships?

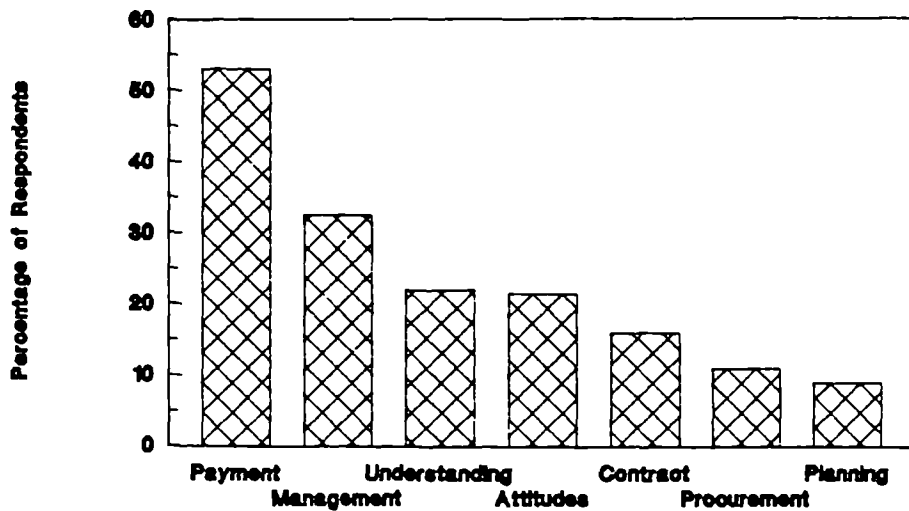
Building

56% of respondents stated that lack of or bad payment was the main feature between m/c and s/c that could detrimentally affect their relationship. Poor or bad management was seen to be the second most important feature, identified by 44% of respondents, followed by bad procurement (22%), lack of understanding (19%) and unfair or biased contracts (14%).

Services

Again payment issued were identified as the most detrimental characteristic, 50% of respondents stating it. Adversarial attitudes were seen by 43% to be detrimental, followed by lack of understanding, particularly of services, (25%), poor management (21%), unfair contract conditions (18%) and poor organisation or planning (18%).

Overall



Subcontractor Questionnaire: Summary of Results

What aspects of the service given by a main contractor will have the most positive impact on your ability to carry out your job?

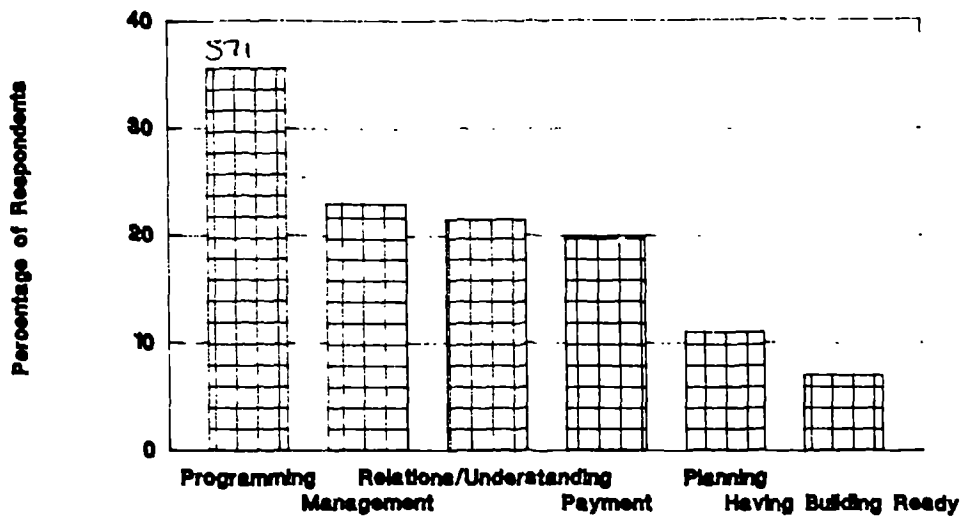
Building

Site management, with a prevalence of 32%, was seen by the building subcontractors as having the most positive impact on their ability to carry out their job. Good relations can be seen as the second most important feature, with a 25% occurrence. This is followed by adequate planning and programming (22%) and timely/ prompt payment (22%)

Services

71% of respondents cited programming and coordination issues such as pre-planning, team promoted programming and cooperative coordination, as having the most positive impact. This was followed by understanding, timely payment and having the building ready for the subcontractor to start work, all with 18% occurrence, and also management issues (14%)

Overall



Subcontractor Questionnaire: Summary of Results

How do you feel that relationships with subcontractors could be improved?

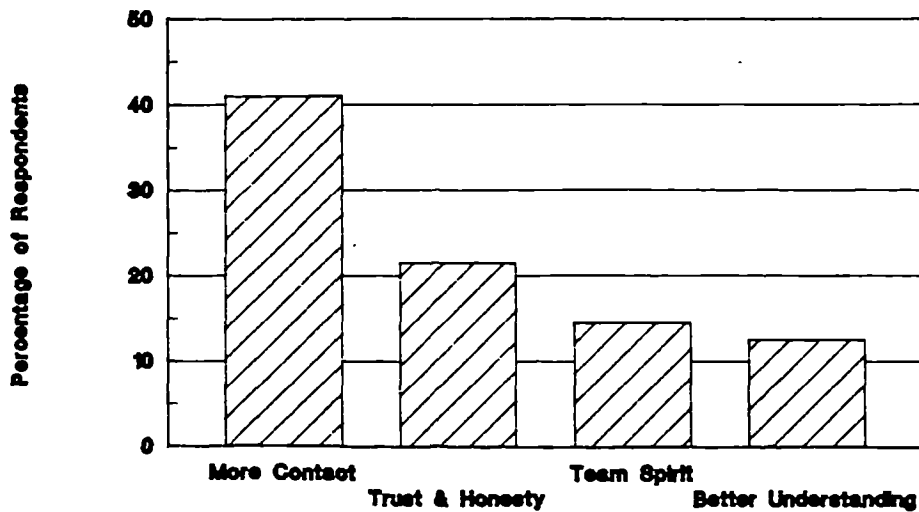
Building

Building subcontractors believe that relationships can be improved by firstly having more contact and better dialogue (39%), and secondly by having a positive attitude and more trust (25%).

Services

Services subcontractors perceive that changing attitudes and having better contact would improve relationships (43%). It is also felt that team spirit (29%), a better understanding (25%), more honesty (18%) and better communication (14%) are all important.

Overall



Do you prefer main contractors who are efficient but maybe contractual to those who are not contractual but less efficient?

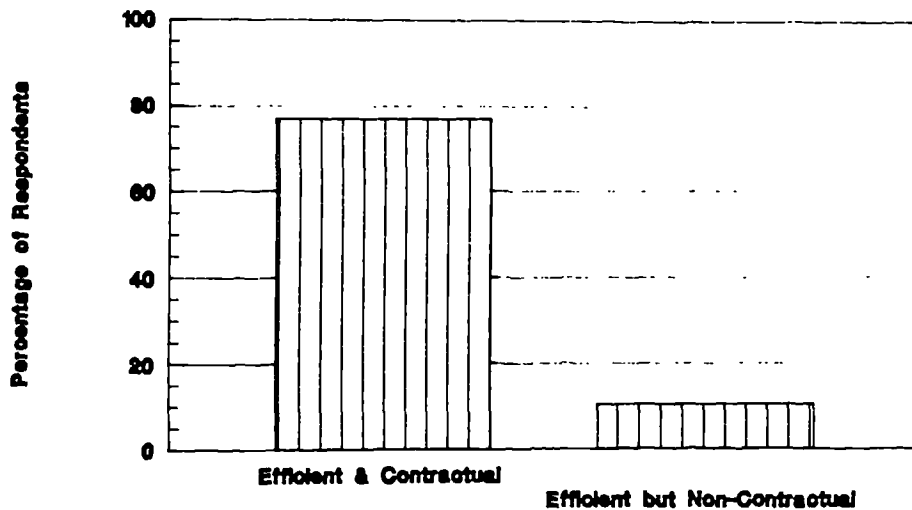
Building

Overall, 68% of the respondents stated that they preferred efficient and contractual main contractors. 25% stated that when working with a main contractor, efficiency was paramount. The subcontractors further stated that they also preferred efficient and contractual main contractors because they, the subcontractors, knew where they stood. Only 1 of the 72 respondents stated that they preferred non-contractual main contractors. 10% of respondents stated that they did not prefer either type given in the question.

Services

86% of services subcontractors interviewed stated a preference for efficient but contractual main contractors, for the same reasons given by the building subcontractors, and also because if the main contractor is inefficient, the subcontractor is likely to lose money. 11% preferred efficient and non-contractual main contractors, being wary of the contractual side.

Overall



Have you undertaken a partnership arrangement before?

Building

42% of building subcontractors believed that they had undertaken a partnership type arrangement before. 58% believed they had not.

Services

79% of services subcontractors had undertaken some sort of partnership type arrangement before, 21% had not.

Would you be willing to consider partnership arrangements in the future?

Building

Overall, 90% of the building subcontractors stated that they would be willing to consider partnership arrangements in the future. 2 respondents stated that they would not consider partnerships.

Services

79% of services subcontractors indicated a willingness to undertake such arrangements, with a further 14% open to discussion. No respondents said they would not consider such arrangements.

When you receive enquiries/ tenders for the same contract from different main contractors, does the price that you give differ for each contractor?

Building

40% stated "yes"
50% stated "no"

Services

35% stated "yes"
46% stated "no"

What is the extent of the difference?

Building

Of the 29 respondents who answered 'yes' to a price differential, 38% stated that the difference was 0 - 10%, whilst 24% stated a difference of 10 - 20%.

Services

Most respondents stated that any difference was dependant on a number of factors, most prevalent being differing payment terms etc. Where a difference was quoted, it was less than 5%. One respondent stated that the difference could be significant.

Would any preference be given to a particular main contractor?

Building

62% said that certain main contractors would get preferential treatment, whilst 25% said 'no'.

Services

61% of respondents said 'yes', but 36% said that no preference would be shown. 21% stated that they would do the opposite, or decline to tender for a main contractor they didn't want to work for.

If "yes", against what criteria?

Building

Of the 45 respondents who stated that there would be a preference, the two main criteria are: 1) the subcontractor has worked with the main contractor before and there has been good performance (42%), and 2) fairness in payment and contract (27%).

Services

Preference would be given depending on previous experiences with the main contractor (25%), prospects of continuing relationships (18%), and on commitment from the main contractor (11%).

Do timely payers receive tangible benefit in your tender price to them?

Building

49% stated that yes, timely payers would receive a tangible benefit in the tender price. The discount offered by these subcontractors was generally up to 10%. 50% of the respondents stated that there would be no tangible benefit.

Services

47% of respondents said they would give a tangible benefit to timely payers, and this would be in the order of around 2%. 50% stated that there would be no benefit.

Do you consider that main contractors place too much importance on price to the detriment of quality?

Building

87% of respondents thought that main contractors do place too much emphasis on price to the detriment of quality. It was stated that this was most likely to be due to one of the following factors:-

- 1) Current economic climate
- 2) main contractor wanting a full service but not willing to pay the full price for it
- 3) main contractors tendering process making it like that.

7% did not think that quality was being affected by main contractors concentrating on price.

Services

93% of those interviewed felt that the statement was true, and similar reasons to those stated above were given.

What number of subcontractors do you consider make a reasonable tender list for a main contractor to get a competitive response for a particular trade?

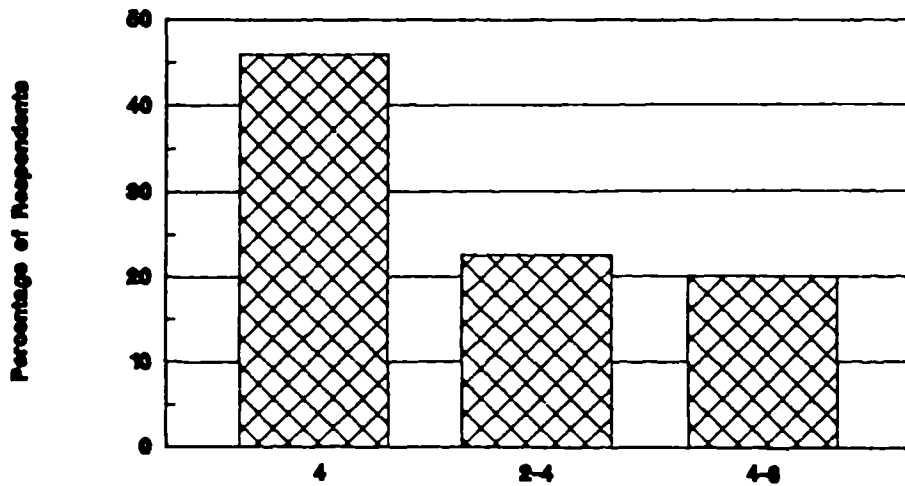
Building

35% believed that the list should contain 4 subcontractors, 31% believed it should be restricted to 2-4 subcontractors, 26% stated that the list should contain 4-6 subcontractors.

Services

57% believed that the list should contain 4 subcontractors, 14% believed it should be restricted to 2-4 subcontractors, 14% stated that the list should contain 4-6 subcontractors.

Overall



When main contractors are slow in paying valuations, would this affect the level of service you give?

Building

65% of respondents stated yes, slow payment would affect the level of service they gave. 35% said that it would not, but qualified the statement by saying that it would either affect their service in the future, or would affect the working relationship.

Services

64% indicated that the level of service given would be affected by slow payment. 36% stated that it would not. 43% indicated that persistent slow payment would definitely affect their future willingness to tender for that particular contractor, or would affect future relationships.

Where main contractors operate a "pay when paid" procedure in their dealings with subcontractors, would this affect your relationship with respect to:

Pricing?

Building

61% of respondents stated that pay when paid would affect the price of a subcontract. 22% stated that pay when paid would not affect the price, and 17% stated that they would not accept pay when paid clauses.

Services

21% of respondents stated that pay when paid would affect the price of their tender, and a further 21% said that the price may be affected, depending on a number of factors. 32% indicated that there would be no affect to the price, and 26% stated that they would not accept pay when paid clauses.

Service?

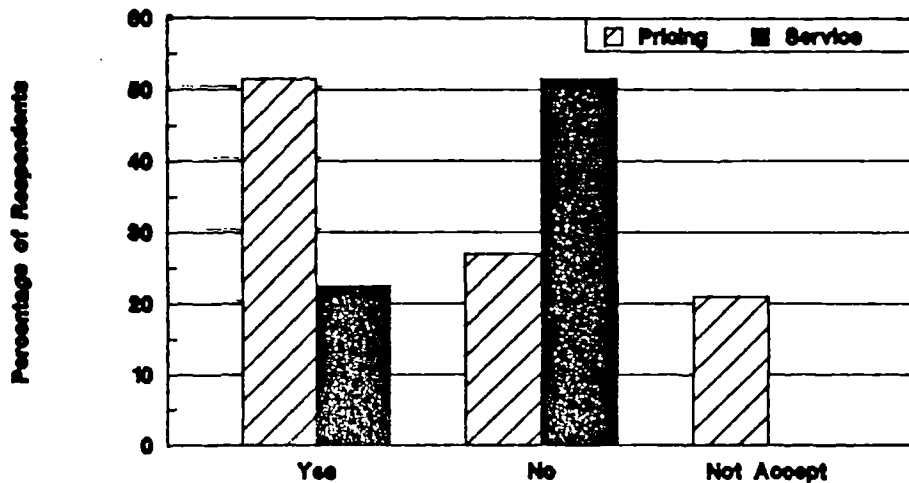
Building

31% of the subcontractors said that service would be affected. However, 53% stated that pay when paid would not affect the service, as they would work to the previously agreed standards.

Services

14% of respondents indicated that service would be affected, but 50% stated that there would be no affect to the service they gave as they are contractually bound to perform.

Overall



Does the quality of the main contractors site team have a significant effect on the time it takes you to undertake your subcontract?

Building

96% of the subcontractors responded by saying yes, whilst only 3 subcontractors said that it does not affect the time it takes for them to undertake their subcontract.

Services

93% responded 'yes', both in negative and positive ways, and 7% responded 'no'.

How do you feel that your quality of work is affected by your own subcontractors?

Building

21% stated that their quality of work was affected by their own subcontractors, and 33% said that it was not. 40% of respondents did not use their own subcontractors.

Services

Most respondents who answered stated that their own QA procedures ensured that quality standards were maintained. Only 1 respondent answered that they did not use subcontractors.

A further question was asked of the Services contractors, relating to the control of named/novated subcontractors and suppliers. 100% of those asked responded that control of these was often far more difficult than if the subcontractor had chosen the sub-subcontractor or supplier himself.

Has any other main contractor ever approached you before to ascertain your perception of his performance and to invite objective assessments of areas for improvement?

Building

32% of respondents had previously been approached by a main contractor in this way, and 68% had not.

Services

Only 25% of respondents indicated that they had been approached in such a way before, while 75% stated that they had not.

Tick-box Responses:

Questions found to be Most & Least Important by Subcontractors

Section A Organisational Profile		Section B M/c's Head Office Practices and Processes		Section C M/c's Site Practices and Processes	
Importance Most	Least*	Importance Most	Least*	Importance Most	Least*
16(95%)				22(97%)	
6(91%)	11(-36%)	10(87%)		20(93%)	
17(91%)			11(-21%)	16(91%)	24(-3%)
2(88%)	3(-17%)	9(86%)		17(90%)	
20(88%)			16(12%)	18(89%)	4(20)
18(83%)	15(-2%)	1(84%)		21(87%)	
19(82%)				6(86%)	

* = least important within the context of that section. This does not mean that the question was not of importance.

The following are the questions relating to the numbers listed above

Section A: Organisational Profile

Most Important

- 16: The main contractor is honest, trustworthy and fair dealing.
- 6: The main contractor applies the contract fairly (non adversarial).
- 17: The main contractor displays loyalty and fairness when representing your needs to the client.
- 2: The main contractor has a history of fair dealings and working relationships with his subcontractors.
- 20: The main contractor has financial strength and stability.
- 18: The main contractor responds quickly and correctly to your needs.
- 19: The main contractor is (extremely) safety conscious.

Least Important

- 11: The main contractor is registered to BS5750/ ISO9001.
- 3: You have not previously worked with the main contractor.
- 15: The main contractor invests in new technology.

Section B: Main Contractors' Head Office Practices and Processes

Most Important:

- 10: The main contractor acknowledges, discusses and addresses t=your subcontracting problems.
- 9: That the necessary contract information is provided by the main contractor to enable you to carry out your obligations.
- 1: The tender documents are comprehensive and clearly define responsibilities.

Least Important:

- 11: That the main contractor is purely price driven.
- 16: That the main contractor will accept the lowest bid

Section C: Main Contractors' Site Practices and Processes

Most Important:

- 22: The main contractor makes an effort to be fair and prompt when agreeing a final account.
- 20: The main contractor provides timely certification.
- 16: That the main contractor pays variations promptly.
- 17: The main contractors site staff have cooperative attitudes.
- 18: The relationship between the main contractors supervisory staff and the subcontractors site team.
- 21: The main contractor properly notifies you of variations.
- 6: The main contractor coordinated your activities with other subcontractors.

Least Important:

- 24: The Building Services Manager is present on site for the duration of your subcontract (if appropriate to your trade).
- 4: The main contractor expects the subcontractor to provide all site supervision.

Further Comments:

KS Site & Head Office Management

1. KS staff have only visited my premises 3 times in 5 years. On each occasion it was to do with a technical issue, not to check on us or our procedures. On no occasion has KS assessed our suitability. Bovis do and did.
2. My experience with KS is that they are very good especially on D & B contracts.
3. Problem with KS D & B is that enquiries come in vastly over specified. It seems that they come up on a computer without any thought. Should try and use a Value Engineering process, at spec meeting, to reduce the overall cost of the design.
4. We have worked with KS for 10 years and it would be a real achievement for us to work with them for the next 10 years.
5. KS are well aware of the grievances between MC's and SC's.
6. KS site staff have co-operative attitudes. They try to get over problems jointly rather than competitively.
7. KS's proforma is not adequate, and in some cases is not completed properly at the pre order meeting. It is already filled in.
8. Since KS joined HBG there image and professionalism has improved. Previously they were known as a good 'family' building company who did a good job. However, they would not worry about things such as site hoarding (In company colours) or site accommodation facilities. It seems that since HBG took over someone (dutch) has come along and told KS to put a coat a paint on everything to try and improve their image.
9. KS planning department has improved since HBG took over.
10. It seems that KS is full of builders with a culture that people are only concerned with their own particular function and frown upon something that offers change or is non core to the company. This is wrong and should be changed. KS survival may depend on it.
11. MCs do not appreciate the range/extent of a SC's activities/responsibilities. Those MCs who do will survive and WIN.
12. KS are good at Tesco jobs, not too complicated!
13. "...KS support and condone what is wrong with the industry."
14. MCs do not generally give programmes to SC at tender stage because they do not want to be tied down to it. Unfortunately KS are going this way. It is better for all concerned to have a programme at tender stage. Better information rather than more information.
15. Generally speaking KS staff were better than Taylor Woodrows.
16. KS need to talk and listen more.

Subcontractor Questionnaire: Summary of Results

17. You have a good unspecified policy in KS that the site team question the buyers decisions.
18. I have only had very good experiences with working with KS.
19. As for honest/ trustworthy/ fair dealing KS are one of the better MC's. However, opinions differ.
20. KS should be more honest in requesting information from MCs. All too often KS ask for information as per programme knowing fully that things are not up to programmed times.
21. Some MC's are efficient in applying the contract but are not contractual. However, KS are not contractually efficient. All too often KS's Site Manager will ask a SC's operatives to do things (informal partnership) and do not issue a site instruction. When it comes to payment KS will not pay.
22. There needs to be role models within KS who others should base themselves on.
23. KS is one of the better clients I have worked with. Your project managers are the best I have worked with.
24. KS project managers have the correct philosophy. The first question they ask is can the SC do the job, then they ask about price.
25. We are trying to have closer links with '10' MC's of which KS is one.
26. "...Our limited experience with KS is that they have hands on Directors and good Project Managers. Project Managers of the traditional type who know how to build rather than push paper around. A can do attitude.
27. KS have good senior level contact with s/c's, eg John Bradford turning up at site meetings. This is good.
28. KS is one of the better m/c's because of KSDS - gives a better appreciation of the s/c's needs. This has a lot of advantages, particularly in design and build.
29. They have always honoured their commitments which is most important....."

KS Procurement

1. KS should be looking beyond the SC. When a SC quotes/tenders, his bid is approximately taken up by 70% materials and 30% management. KS should be talking to the SC suppliers to try and reduce the 70%.
2. I would hope that the stability and efficiency of my company would make us a SC KS would want to work with. If I were a preferred SC and given a better opportunity to win a subcontract, there would be a price differential that I would be willing to negotiate on.
3. When 6 MC send enquiries the same job, the amount of information sent can vary dramatically, consequently tender prices change.
4. At present all MC are price driven. In a different climate MC attitude will change to 'can you deliver on time' and quality.
5. As a SC we get both solicited and unsolicited bids. However, because we have only got limited amount of estimating resources we do not tender for all enquiries. In that situation we are worried that because we have not tendered we will not be asked in the future. It would be nice to know what enquiries may be coming in the future so that we can have resources waiting. I believe that in a partnership this type of approach would have to happen.
6. There needs to be more feedback at tender stage from MC's. All too often, SC just left hanging. People do not return phone calls meaning that the SC has to chase up MC making a nuisance of himself. Buyers and estimators, including those at KS, do not phone back.
7. Would be very advantageous to know when KS enquiries are coming.
8. KS are a large company with regional offices so if KS have an 'appointed' SC, then enquiries will come from all three regions. We may not have the resources to complete all the enquiries.
9. Way forward is to have a 3 month review where by KS tell the SC what tenders are going to come so SC could have resources available and thereby guaranteeing to the MC that he would have a returned completed tender.
10. Problem with KS at present is that nobody is listening to what I am saying. On many occasions I have tries to give KS (Buyer & Estimator) information which would help them out, but nobody has taken any notice. Very often buying do not even return your calls.
11. Stevenage contract we made £250k from KS because they chose the wrong company and specifications. This could have changed to both of our benefits if KS had looked beyond the bottom line price.
12. In landscaping you are able to reduce cost and not reduce quality. By utilising value engineering at the estimating stage (especially on D & C contracts) we could save KS £K's.
13. If KS could notify us earlier of what they want we could plan our supply better, reducing KS tenders by £k's.
14. Those MC's who worked closer with us we would spend time on their bid and not just put a cover price. Previously if KS sent us a tender we would rip it open immediately and see what it was all about. However, nowadays we deal with KS with the others (no preferential treatment.).

Subcontractor Questionnaire: Summary of Results

15. It seems that KS estimators do not go through prelims to identify what bits are needed. Just put it in a brown envelope. KS could save money and time by stopping this practice.
16. Within specialist trades SC's know each other so if KS send out 10 enquiries (probably all the specialists within a particular trade)people will be on the phone to each other seeing who got an enquiry and determining if they want to reply. If you only used 4 companies you would probably get all the tenders back completed.
17. KS special works operate a de facto Pay when Paid clause.
18. To improve long term relationships KS need to get consistency in approach. KS QS's say to us that we are no good at paperwork. However, on many times I have had information where I could issue a non compliance under BS5750.
19. KS payment policy has changed in the past 15 years. KSSW issue money when clients cheques has been received.
20. Would not mind helping out KS at tender stage by going in with KS and help them price a package with the understanding that the rates that are agreed are final.
21. KS send too much information at the tender stage without anybody examining what is needed. Needs someone to read specification/prelims and identify what will be required. That information that is not needed will be bided.
22. KS should give those companies who tender a better chance to win the work.
23. List of those contracts KS will tender for would help. This would enable us to have resources available so that we would not have to return tenders.
24. KS design drawings included in tender are often pretty poor - KS should therefore be fair and reasonable about anything omitted by s/c. Not everything is highlighted at tender interviews.
25. KS are often not as competitive in price as others (eg Laings).
26. Lack of trust on the s/c's behalf often gained from outside knowledge that KS buyers are running with the 'hares and the hounds' at the same time. All main contractors play a similar game. Buyers can lead subbies down the line to the point where you think you have an order. At the final death, an unsolicited one arrives @ 5% (allegedly) below you. Has it arrived - or is it a spoof!?! "Truth?" Is this just another ploy to force you to swallow even more - just because you are now possibly going to lose the order at the last gasp?
27. The whole process falls apart after KS wins the job. KS re-tender - always. Why not hand pick the s/c's you want to work with on certain jobs? (eg Kingston)
28. Are estimators really 'cute' enough to check tenders and notice discrepancies? Are they comparing like with like? Underqualified estimators are really just accountants. Why don't they price their own any more? Are they just trying to keep their jobs?
29. KS enquiries are quite good - have a neat and tidy first page!
30. I no longer have faith in KS buyers - they have screwed me and lied to me too much in the past. No honesty from them.

Subcontractor Questionnaire: Summary of Results

31. Over the years we have noted that KS's buying department has become very price sensitive for the typical project. i.e. impersonal.

KS QS's (Payment)

1. I believe that KS have an unwritten rule that the QS's door on site remains locked. I believe that KS think that doing this that the QS's will not be sympathetic when dealing with subcontractors. When it comes down to the crunch no relationship exists, so there are no problems for KS's QS to say NO.
2. KS are not adequate at paying valuations.
3. KS QS's were a little over the top.
4. Since KS have become a part of HBG payment times have slipped. However, within market place still above average.
5. If KS could guarantee regular payment as pre HBG, we could give extra discount.
6. As for payment, KS are no better than the rest.
7. "...KS are currently the best payers we work with. They are head and shoulders above the rest.."
8. Contra charges - it is a big problem when s/c is hit with them at the end of the job by the m/c. Unfair that final account can't/won't be agreed in isolation of such contra charges. (this is noticeable with KS too).

KS Contracts

1. KS are efficient and overly contractual which is a detrimental to relationships.
2. KS proforma for landscaping (D & C) needs to be utilised earlier.
3. Pre order meeting should be held earlier. Proforma used should be re written. There should be 1 for each particular trade, delete un-relevant parts. Present proforma is too one sided. If KS want long term relationships / partnerships then this will have to be changed.
4."KS conditions of contract are over the top. I should not really say this but, I know that certain SC's see your conditions of contract and consequently put your tender in the bin. This is OK for my company but bad for KS."
5. KS aren't "hard", ie over-contractual like Wimpey, but rather they seem to need to have good relationships with their s/c's.

KS Reputation & Name

1. KS have a good reputation within the market place. They are financially stable and are one of the top MC with the D & B field.
2. KS shows no interest in coming to SC premises.

Non-KS Site & Head Office Management

1. Quote from completed questionnaire:

"Success in all aspects of business requires a good level of communication between the parties and recognise that short lines of management control enhance communication.

Profit is not an evil word, must understand the principle of 'fair' profit for all.

Avoid 'subservient' practices by all sides. Bring back into the MC's management team a 'builder' with a hands on style if management (with a fair mix of trades background) plus graduate management.

MC's to avoid making specialist contractors guinea pigs for the training of junior managers."

2. We had a policy in HK of having meetings to address one problem at a time. We would have 1 meeting per week to do this. Over a 3 year contract you could solve many important issues.
3. Tarmacs site staff are confrontational and generally have bad attitudes.
4. Generally speaking the standards of employees with the industry is going down.
5. MC are away from the 'coal face' action. Redundancies caused all the good middle management out of the industry.
6. Too many people within construction are office bound. All they do is react to paper work which they believe is the be all and end all.
7. We like working with the likes of Bovis and Wates because they use our expert knowledge to help them get the job done. The reason why this happens is because the very senior management of all companies involved know each other personally and help each other out from time to time.
8. The whole of the construction industry is subcontractor based. There is a misguided belief by MC's that if they let all the packages the job will get built.
9. "...we no longer have to be experts in carrying the work out, but also in paperwork....."
10. Other MC's (not KS) have weaknesses and employ SC's to overcome their inabilities.
11. We have worked for Olympia & York on Canary Wharf. They held a post contract review meeting which told us what we needed to tighten up on. This enabled us to focus attention on our perceived weaknesses and build up our strengths.

Subcontractor Questionnaire: Summary of Results

12. We like working with Trafalgar House. They know the way we work and visa versa. This enables us to reduce our risk.
13."I prefer companies (MC's) who are honest with me. If someone phones me up and says I'm in the shit, can you do this, then I'll do my best to help (bend over backwards). This is where open communication is advantageous. Those people who bull shit, I will not be flexible with, just do as per the letter of the contract."
14. Wimpey Management are the worst company I have ever worked with. They have no idea of who should be doing what and their site was always in chaos.
15. Main contractors should invest in R & D to bring us into the 19th Century. We can think about the 20th once we are there.
16. Too much work has been lumped onto the SC. Method statements, safety, QA, COSHH etc have all been passed down to the SC. If a MCs want to help out perhaps they could give us a hand in doing these.
17. More management training is required to get the best out of people - m/c's managed direct labour OK, but now can't cope with s/c's.
18. Failure of the professional team on projects is a problem - has a knock-on effect down the line.
19. Paperwork; some systems are good, eg IRS, but sometimes are over the top, eg not being able/allowed to ask questions without an IRS.
20. Professional and cooperative site management is needed.
21. It would be prudent for a m/c to use someone on site who is 'hot' on wastage. Even if this cost 5% more, this extra cost would be more than recovered in non-wastage. Especially apparent with brickies throwing bricks out - why??
22. If the main contractor doesn't have an experienced engineer on site, it is very easy for the s/c to pull the wool over his eyes, and get monies for things they haven't done, or haven't done to spec. M/c's need to become more educated
23. Why do main contractors allow brickies to run rings around them, demanding more money etc?? Why doesn't the m/c make sure that that brickworker doesn't work for him again?? Would teach a lesson to the others too.

Non-KS Procurement

1. Subcontractors are under three stages of pressure to try and to reduce their bid.
2. When IBM select a SC the contractor (IBM) will physically walk around all of the business speaking to people and looking at the conditions people are working under. I carry out this approach and it enables me to find out if:-
 - a) I want to work with these people.
 - b) Whether management appreciates there work force.
 - c) The amount of technology (new or old) being used.
 - d) Culture of the organisation,

MC do not do this when selecting SC's

3. Unfamiliarity between people and cultures make over seas partnerships try harder. Much more of a team effort.
4. In Saudi I worked for a French/ Saudi MC. The whole cultural approach was different than that you would get from a UK MC. There were no 9am to 5pm relationships. A lot of time, and money, was spent by all parties to try and build a team.
5. In partnerships/ long term relationships, MC's should not see SC as subservient to their management, we have to get away from master servant relationships. Within all forms of contract there is a culture set by the MC that we employ the SC, THIS IS NOT NECESSARILY SO. (Here the interviewee was inferring that there was a consortium that selected who went for what tenders)
6. Welcomes the opportunity to work in a partnership. However main challenge will be to get the concept down to the ranks.
7. Within a partnership I see communication as being a key issue. This happens to be the main difference between the manufacturing industry and the construction industry; manufacturing has much better communication.
8. IBM have a policy of not allowing/ using a SC who sells more than 20% of its total turnover to IBM.
9. The more pre contract information the better. We have the staff who can decide what they do and don't want.
10. Laing Management had a select list who they called in (we were one) to talk. They said that where they had work within our specialist trade they would give us the better opportunity to win the contract. We never got a job, because soon after the recession appeared and all they were interested in was the bottom line price.
11. There seems to be a paranoia with purchasing departments. On one hand they send too much information with little or no thought given to what is actually needed and on the other MC's sometimes do not send any contractual information which is vital to get a precise as possible estimate.
12. It is essential for the future success of MC's to use SC knowledge. Their survival may depend on it.

Subcontractor Questionnaire: Summary of Results

13. Value Engineering could become a valuable pretender/contract process to enable MC to reduce overall contract cost and overhead.
14. Mowlems, Crystal Palace.
"There was approximately a £4 million cladding package on this tender. Mowlems asked us to come in with them at the design stage, so they could use our knowledge. We carried out most of the cladding design for them and also used a value engineering approach to get maximum cost benefit. Once we had completed our part of the estimation, Mowlems went promptly to another SC who quoted £10k cheaper. This amount does not even account for the time we spent on the design etc. I will not work with Mowlems again"
15. Do not mind competition, I understand that there has to be some, but it has to be on a level 'playing field'. Compare like with like.
16. At present too much emphasis is given to cost by MC's. Difficult to have a partnership until this is overcome.
17. Buyers and estimators send too much paperwork through the post without any thought given to what a specific SC will and will not use.
18. Give some form of notification to those SC who have tendered of where their bid was compared to the others. This can act as a spur to be even more competitive because you know where you stand within a given range.
19. Generally speaking procurement departments within building companies are full of amateur, under qualified crap people.
20. Procurement departments do not have staff who are qualified enough to understand technical bids like piling. All they look at is the bottom line. They do not/cannot understand a bid to see if they are comparing the same things. Some SC's miss things out to make their bid look more competitive.
21. Buyers are generally clerks who left school at 16, who use their experience and not their academic skills. You can always get experience, not everybody can get a degree and then experience.
22. We have consultants in at the moment who are trying to change the culture of this organisation (Trafalgar House). They see the procurement route as fundamental part of building companies that must change. Changes within these areas will significantly improve an organisation to become more closely resembling those of the petrochemical industry.
23. Laings fulfil 9 out of the 10 requirements I want. However, after negotiation I would have to check if I still had my arms and legs left. (Here he was inferring that Laings are dishonest.)
24. We tender to do the work, competition tenders to secure the work.
25. Should rid the industry of SC's and MC's who work to Pay when Paid.
26. It seems that little or no thought is given to what information is required at tender stage. If more thought was given the amount of phone calls/letters would be reduced.
27. We never get enough tender feedback from MC's. It would be nice to know so we could try and become more competitive.

Subcontractor Questionnaire: Summary of Results

28. KS have had contracts within our region and we have not been given the chance to tender. We do not know what we have done wrong, all we want is an opportunity.
29."I believe re tendering will become less common in the future because at present prices are stabilising so there will not be a dividend as there was when prices were falling in the past."
30. I will not price Bovis/Laings/Amec tenders. They go straight in the bin.
31. What I really do not like is when I've tendered for a job, I am then phoned up by a buyer or estimator and he tells me that my tender is wrong because it is too expensive. Eventually somebody else gets the job, messes it up, and we eventually finish the job. (This goes for KS as well)
32. Improve feedback on tenders. It would be nice to know how well our tender did compared to the competition.
33. Estimators and buyers should understand the differences between respective tenders. Not just look at the bottom line price.
34. One of the biggest problems at the moment is the dreadful waste of resource in tendering. More often than not, the cost of tendering multiplied by the number of firms submitting bids is more than the successful firm could hope to make in profit. This is a net loss to the industry.
35. Pre-qualification - repetitive and galling, especially for a large s/c. Why not have, eg, a 'certificate of competence' or something similar?
36. Adversarial attitudes are inbred at tender stage - if an unabridged form ever came in now, subcontractors would wonder what the catch was!
37. Bonds (& Parent Company Guarantees) are a waste of funds, indicate mistrust, and should not be required. They put a huge financial burden on subcontractor companies.
38. Subcontractors previous experience should be taken into account in pre-qualification. Why do m/c's keep asking for the same stuff??
39. We should all be looking for a good lead-in time - information must be available so that this time is not wasted.
40. A big problem in comparing prices is when the s/c's pricing are not comparable, ie a larger established firm vs. one man and his dog. The difference in overheads leads to different prices, also different 'quality' and ability at administration. One man bands are not willing or even unable to "spend a penny to make a pound"
41. M/c's could really grill s/c's that are or appear lower than the s/c the m/c would have ideally chosen to work with, and then pass any anticipated extra costs back up to the client, thereby justifying not taking the lowest price.

Subcontractor Questionnaire: Summary of Results

Non-KS QS's (Payment)

1. Already give some MC more competitive bids as well as further reductions for paying on time.
2. Problem with new style QS's is that they all say no, no, no. Unwilling to negotiate unlike the old school.
3. QS's always get a load of stick because it is the nature of the beast.
4. KS QS's are OK. However, Laings are crap.
5. If MC could guarantee 30 day payment instead of 60 day we would give big discounts. A extra 2-3% over and above.
6. No MC'S ever adhere to their quoted payment procedures for variations.
7. If MC did pay on time they could receive and extra 2 - 3% discount.
8. S/c's must keep valuations up to date with respect to variations, & also tighten up on their s/c's.
9. Variations should be agreed and paid separately to the contract value.
10. Retention should be released at end of warranty period, as per terms of contract, not dragged on and on.
11. M/c's never say how much contra charges are until the end of the job. One way communication: s/c must declare any extra charges incurred, but evidently not the m/c.
12. Particular attention should be paid to the attitudes and professionalism of all QS's.

Non-KS Contracts

1. Pay when Paid are a 100% fact of life. Not to have them in a commercial environment is not viable.
2. I have never meet a MC who applies the contract fairly yet.
3. No set of contract documents will build a project.
4. "...contract documents used to beat SC around the head!"
5. Onerous subcontract conditions indicate a main contractor who doesn't believe he can perform.

APPENDIX SIX

TICK THE BOX TABLES - SUBCONTRACTOR QUESTIONNAIRE

Ref:	Question:	Percentage
16	The main contractor is honest, trustworthy and fair dealing?	95
6	The main contractor applies the contract fairly (non adversarial)?	88
20	The main contractor has financial strength and stability	86
17	The main contractor displays loyalty and fairness in representing your needs to the client?	85
2	The main contractor has a history of fair dealings and good working with his subcontractors?	81
12	The main contractor works to a documented quality procedure	6
3	You have not previously worked with the main contractor	-4
4	The perceived profile of the main contractor within the market place	-8
15	The main contractor is forward thinking and invests money in R & D and technology?	-12
11	The main contractor is registered to BS5750 / ISO9001?	-44

TABLE 8.2 : INTERVIEWS, ORGANISATIONAL PROFILE TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Ref:	Question:	Percentage
9	The necessary contract information is provided by the main contractor to enable you to carryout your obligations?	85
10	The main contractor acknowledges, discusses, and addresses your subcontracting problems?	81
1	The tender documents are comprehensive and clearly define responsibilities?	80
7	The main contractor always gives feedback with regards to your tender?	66
4	Tender lists contain a limited number of subcontractors?	65
3	The tender documents are short and simple?	40
15	That you can give feedback freely to the main contractor	40
16	The main contractor will accept the lowest bid?	26
5	That the main contractor will as a matter of course retender if he wins the contract?	4
11	That the main contractor is purely price driven?	-40

TABLE 8.3 : INTERVIEWS, HEAD OFFICE PRACTICES AND PROCESSES TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Ref	Question:	Percentage
22	The main contractor makes an effort to be fair and prompt when agreeing a final account?	98
20	The main contractor provides timely certification followed by prompt payment?	94
16	The main contractor pays variations promptly?	91
15	Cash flow in relation to your ability to perform?	89
17	The main contractors site staff have co-operative attitudes?	89
3	How important to your tender price is your perception of the main contractors site management capabilities?	25
12	The main contractor suggests ways by which you can work more productively?	22
14	The main contractor monitors the standard of your work?	17
4	The main contractor expects the subcontractor to provide all site supervision?	8
24	The building services manager is present on site for the duration of your subcontract	-8

TABLE 8.4 : INTERVIEWS, SITE PRACTICES AND PROCESSES TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Ref:	Question:	Percentage
16	The main contractor is honest, trustworthy and fair dealing.	97
17	The main contractor displays loyalty and fairness in representing your needs to the client.	96
2	The main contractor has a history of fair dealings and good working relations with his subcontractors.	95
6	The main contractor applies the contract fairly (non adversarial).	94
20	The main contractor has financial strength and stability.	92
4	The perceived profile of the main contractor within the market place.	11
15	The main contractor is forward thinking and invests money in R & D and technology?	5
12	The main contractor works to a documented quality procedure.	-6
3	You have not previously worked with the main contractor.	-17
11	The main contractor is registered to BS5750 / ISO9001.	-33

TABLE 8.5 : QUESTIONNAIRE SURVEY, ORGANISATIONAL PROFILE TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Ref:	Question:	Percentage
7	The main contractor always gives feedback with regards to your tender.	88
10	The main contractor acknowledges, discusses, and addresses your subcontracting problems.	87
1	The tender documents are comprehensive and clearly define responsibility.	86
9	The necessary contract information is provided by the main contractor to enable you to carry out your obligations.	81
12	That you receive a formal order / subcontract.	68
3	The tender documents are short and simple.	52
8	That the main contractor will seek to impose further liability onto you by increasing you risk under the terms of the contract.	35
16	That the main contractor will accept the lowest bid.	-14
5	That the main contractor will as a matter of course retender if he wins the contract.	-17
11	That the main contractor is purely price driven.	-36

TABLE 8.6 : QUESTIONNAIRE SURVEY, MAIN CONTRACTORS HEAD OFFICE PRACTICES AND PROCESSES TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Ref:	Question:	Percentage
22	The main contractor makes an effort to be fair and prompt when agreeing the final account.	98
20	The main contractor provides timely certification followed by prompt payment.	94
16	The main contractor pays variations promptly.	94
21	The main contractor properly notifies you of variations.	90
15	Cash flow in relation to your ability to perform.	90
6	The main contractor co-ordinates your activities with other subcontractors.	90
1	The level and amount of supervision provided by the main contractor	42
3	How important to your tender price is your perception of the main contractors site management capabilities.	38
4	The main contractor expects the subcontractor to provide all site supervision.	26
24	The building services manager is present on site for the duration of your subcontract.	-15

TABLE 8.7 : QUESTIONNAIRE SURVEY, MAIN CONTRACTORS SITE PRACTICES AND PROCESSES TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Section A Organisational Profile				Section B Main Contractors Head Office Practices & Processes.				Section C Main Contractors Site Practices & Processes.			
Importance				Importance				Importance			
Most		Least		Most		Least		Most		Least	
16	96%	11	-38%	10	83%	11	-36%	22	97%	24	-9%
6	89%	3	-11%	1	83%	16	-18%	16	94%	4	13%
20	89%	12	-1%	9	82%	5	-7%	20	94%	3	32%
17	88%	4	3%	7	74%	8	41%	15	90%	12	36%
2	88%	15	3%	4	63%	3	45%	17	89%	14	38%

TABLE 8.8 : OVERALL TICK THE BOX IMPORTANT AND LEAST IMPORTANT RESULTS.

Ref:	Question:	Percentage
A	The subcontractor has a history of good dealings and working relationships with KS.	52
B	The subcontractor submits the lowest price.	31
C	The subcontractor is of a specialist nature.	41
D	The subcontractor performs to agreed standards and commitments.	82
E	The subcontractor has a claims procedure.	-12
F	Good communication exists between the subcontractors head office and his site team.	65
G	The subcontractor is financially stable.	67
H	The subcontractor has not previously worked with KS.	-22
I	The ability to respond quickly and correctly to Kyle Stewart needs.	74
J	The ability of the subcontractor to offer national coverage of work.	-11

TABLE 8.9 : KYLE STEWART IMPORTANT AND LEAST IMPORTANT, RESULTS FROM INTERVIEWS.

Ref:	Question:	Percentage
A	The subcontractor has a history of good dealings and working relationships with Kyle Stewart staff.	52
B	The subcontractor submits the lowest price.	17
C	The subcontractor is of a specialist nature.	68
D	The subcontractor performs to agreed standards and commitments.	80
E	The subcontractor has a claims procedure.	-4
F	Good communication exists between the subcontractors head office and his site team.	72
G	The subcontractor is financially stable.	60
H	The subcontractor has not previously worked with KS.	-1
I	The ability to respond quickly and correctly to Kyle Stewart needs.	79
J	The ability of the subcontractor to offer national coverage of work.	10

TABLE 8.10 : KYLE STEWART IMPORTANT AND LEAST IMPORTANT, RESULTS FROM QUESTIONNAIRE SURVEY.

APPENDIX SEVEN

COPY OF COMPARISON QUESTIONNAIRE

Payment Issues

1. From your dealings with Kyle Stewart, do you believe that they are timely payers?

[Y] Go to Q.3
[N] Go to Q.2

2. Please explain (mitigating circumstances).
(Rem 59 & 60 day issue)

3. Do you experience any regular difficulties when being paid by KS?

[Y] Go to Q.4
[N] Go to Q.8

4. Can you give specific examples?

5. How often does this happen?

[Every contract] [Every other contract]
[Less frequently]
[When project is behind programme]
[When project is losing money]
[Only when a certain KS individual is on site]
[other] _____

6. Do those issues highlighted in Q1, 2 & 3 affect the price given by you when tendering?

[Y] Go to Q.7
[N] Go to Q.8

Subcontractor Assessment of Kyle Stewart

7. If so, by how much (%)? _____

8. Are pay when paid procedures more prevalent in KS or in other main competitors?

[KS] Go to Q9
[others] Go to Q10

9. Why do you think this is?

10. How do you believe that KS payment procedures could be improved within the terms of the contract?

11. Generally speaking do you get paid quicker when working with KS or other main contractors.

[KS]
[Others]

Communication

1. Do you believe that KS subcontractors should be involved earlier in the building process to develop mutual understanding of the project and to utilise your experience.

[Y] Go to Q2
[N] Go to Q3

2. At what time do you feel this should happen?

- a. Pre contract estimating.
- b. Once contract has been won by KS.
- c. Just before subcontract works are to commence.
- d. Once construction has started
- e. Other

[a]
[b]
[c]
[d]
[e]

Subcontractor Assessment of Kyle Stewart

3. Are you invited to become more involved in the project earlier with other main contractors?

[Y] Go to Q4.
[N] Go to Q6

4. In what way?

5. What advantages do you perceive in doing this?

6. Do you believe that by improving communication, KS could improve their relationships with subcontractors?

[Y] Go to Q7
[N] Go to Q8

7. If Yes, how?

8. Do other Main contractors communicate better with their subcontractors.

[Y] Go to Q9
[N] Go to 'Feedback' Q1

9. How is this done?

Feedback

1. Do you feel that you get adequate feedback from KS at present? (general)

[Y] Go to Q3
[N] Go to Q2

2. What type of feedback do you require, when would you require it and how often would you want it?

Subcontractor Assessment of Kyle Stewart

3. How do you rate the feedback you get from KS on your ^{tender} ~~enquiry~~ in comparison to other main contractors?

	KS	Others
(1) Excellent	<input type="checkbox"/>	<input type="checkbox"/>
(2) Good	<input type="checkbox"/>	<input type="checkbox"/>
(3) Adequate	<input type="checkbox"/>	<input type="checkbox"/>
(4) Poor	<input type="checkbox"/>	<input type="checkbox"/>
(5) Very Poor	<input type="checkbox"/>	<input type="checkbox"/>

4. Do you receive more feedback at pre-contract stage (competitiveness of tender etc) from other main contractors?

- [Y] Go to Q5
 [N] Go to Q6

- (a) _____

 b) _____

 c) _____

5. If KS were to give you more feedback at pre-contract stage, how would this affect your:
 a. tender price,
 b. accuracy of estimate,
 c. overall performance.

6. How do you rate the performance feedback you get from KS and from other main contractors?

	KS	Other
(1) Excellent.	<input type="checkbox"/>	<input type="checkbox"/>
(2) Good	<input type="checkbox"/>	<input type="checkbox"/>
(3) Adequate & Acceptable.	<input type="checkbox"/>	<input type="checkbox"/>
(4) Not adequate/acceptable.	<input type="checkbox"/>	<input type="checkbox"/>
(5) Very poor.	<input type="checkbox"/>	<input type="checkbox"/>

7. Do you receive more performance feedback from other main contractors?

- [Y] Go to Q.8
 [N] Go to Q.9

8. What form is this feedback in?

9. How do you rate the overall feedback you get from KS compared to the industry as a whole?

	KS	Other
(1) Excellent	<input type="checkbox"/>	<input type="checkbox"/>
(2) Good	<input type="checkbox"/>	<input type="checkbox"/>
(3) Adequate & Acceptable	<input type="checkbox"/>	<input type="checkbox"/>
(4) Not adequate/acceptable	<input type="checkbox"/>	<input type="checkbox"/>
(5) Very poor	<input type="checkbox"/>	<input type="checkbox"/>

Selection

1. Do you frequently get enquiries from main contractors who you do not wish to work for? [Y]
[N]
2. Do you get invited to tender by KS or does the enquiry simply arrive on your desk unannounced? [Invited]
[Unannounced]
3. Does this happen with other main contractors? [Y]
[N]
4. Would it be beneficial to both parties that you are consulted before enquiries are sent out, and what would such benefits be? Why?

5. How many enquiries do you perceive KS send out for your particular trade for any one job?

6. On average how many enquiries do you believe other main contractors send out for the same trade?

7. If a limited number of subcontractors, say 4, were used in tendering, how would this affect the competitiveness of your bid? (with the assurance of getting the work) Why?

8. If only you (one subcontractor) were used in the tendering process, how would this affect the competitiveness of your bid? (with the assurance of getting the work) Why?

Subcontractor Assessment of Kyle Stewart

9. Do you find that you are being asked to tender on KS projects against 'non-comparable' companies, eg those who do not have the resources or ability to give KS a comparable service?

- [always]
- [sometimes]
- [never]
- [don't know]

10. Is this more prevalent with other main contractors?

- [Y]
- [N]

11. To get a true reflection on your abilities, who (discipline) within KS would you like to have an input into subcontractor selection? Why?

Tendering

1. Do you give preferential treatment to certain main contractors at tender stage? (timely, accurate, competitive)

- [Y] Go to Q.2
- [N] Go to Q.3

2. Do Kyle Stewart benefit in any of these ways? Explain and Justify.

3. The following characteristics of a main contractor have been identified as having detrimental effects on a subcontractors tendering/ estimating service. Which, if any, occur most frequently?

	KS	Other
(a) Slow payment by MC on previous contracts.	[]	[]
(b) Unfair contracts.	[]	[]
(c) Pay when paid clauses.	[]	[]
(d) MC re-tendering once contract has been won.	[]	[]

Rank the statements from 1 (most frequent) to 4 (least frequent)

Subcontractor Assessment of Kyle Stewart

4. How do you regard the information that KS provide at tender stage? Please explain.

- too much information.
 - not enough information.
 - the right amount of information.
 - irrelevant information.
-
-
-

5. How does this compare with other main contractors?

- better than
- same as
- worse than

6. How often do you feel that MC's use you as a 'check' price?

- Others/ Industry 'norm'
- (a) Always.
 - (b) Sometimes.
 - (c) Rarely.
 - (d) Never.

7. Do KS employ this approach?

- KS
- (a) Always.
 - (b) Sometimes.
 - (c) Rarely.
 - (d) Never.

8. Have you had experience of back to back arrangements or Joint Ventures?

- Go to Q.9
- Go to Contracts Management

9. Who do you feel benefits most from such arrangements?

10. Under what circumstances are benefits most likely to arise?

11. How can Kyle Stewart be sure of the best price when using b-t-b/ JV?

Contract Management

1. It has been noted from previous interviews that there is a perception that whilst main contractors are good at managing their own direct labour, they are not so adept at managing subcontractors. How do you feel Kyle Stewart compare to other main contractors?

- better than
- worse than
- about the same

2. How would you rate the performance of the following disciplines both within KS and other main contracting organisations?

Discipline:	KS	Others
Site Manager	<input type="checkbox"/>	<input type="checkbox"/>
Contracts Manager	<input type="checkbox"/>	<input type="checkbox"/>
Project Manager	<input type="checkbox"/>	<input type="checkbox"/>
Project QS	<input type="checkbox"/>	<input type="checkbox"/>
Site Engineer	<input type="checkbox"/>	<input type="checkbox"/>
Building Services Mgr	<input type="checkbox"/>	<input type="checkbox"/>

Rank: (1) Excellent, (2) Good, (3) Adequate,(4)Poor, (5) Very poor.

3. How would you rate the interface between yourself and KS site management compared to other main contractors? (interface = communication, management, supervision, general contact...)

	KS	Others
(1) Excellent	<input type="checkbox"/>	<input type="checkbox"/>
(2) Good	<input type="checkbox"/>	<input type="checkbox"/>
(3) Adequate	<input type="checkbox"/>	<input type="checkbox"/>
(4) Poor	<input type="checkbox"/>	<input type="checkbox"/>
(5) Very Poor	<input type="checkbox"/>	<input type="checkbox"/>

Contract Administration

1. How would you rate the following in the context of KS and the industry "norm"?

	KS	Other
(a) Attitude.	<input type="checkbox"/>	<input type="checkbox"/>
(b) Fairness of payment.	<input type="checkbox"/>	<input type="checkbox"/>
(c) Trust.	<input type="checkbox"/>	<input type="checkbox"/>
(d) Fair dealing.	<input type="checkbox"/>	<input type="checkbox"/>

Rank (1) Excellent, (2) Good, (3) Adequate,(4)Poor, (5) Very poor

Subcontractor Assessment of Kyle Stewart

2. How would you rate the performance of the following disciplines, both within KS and within other main contractors?

Discipline:	KS	Others
Estimating.	[]	[]
Buying.	[]	[]
PDM	[]	[]
Architects	[]	[]
Design Engineers		[] []

Rank: (1) Excellent, (2) Good, (3) Adequate, (4) Poor, (5) Very poor.

3. KS pride themselves on having a good name for being fair and reasonable to subcontractors. What are your views on this statement? How does this compare with other main contractors?

- [] better than
- [] worse than
- [] about the same

4. Do you believe there would be any benefit in KS developing a non contractual agreement which would promote fairness and trust between KS and its subcontractors.

General Questions

1. What attraction does KS have that makes you want to work with them rather than one of their competitors?

2. What activities would have to be performed by Kyle Stewart to get the best out of you at tender stage?

Subcontractor Assessment of Kyle Stewart

3. Ideally Kyle Stewart try to provide you with uninterrupted access to your part of the works. This is not always possible, but do you find that it poses problems when other subcontractors have been unnecessarily scheduled into the same part of the works as you? What sort of problems?

[Y]

[N]

4. Are Kyle Stewart willing to consult you about different solutions to (their) problems? Are you willing to help them choose the most appropriate resolution?

5. It was concluded from the first subcontractor questionnaire that main contractors place too much importance on price to the detriment of quality. Can this statement be said of KS? If so, what do you attribute the problem to?

[Y] (see classification below)

[N]

- [a] Current economic climate.
- [b] Wanting a full service but not wanting to pay for it.
- [c] Tendering process makes it like this.
- [d] Poor site management.
- [e] Other (specify)

6. How does the quality of other main contractors documentation compare to KS's?

[] Better than.

[] Worse than.

[] About the same.

7. How does the amount of other main contractors documentation compare to KS's?

[] More than.

[] Less than.

[] About the same.

APPENDIX EIGHT

**KEY TRADES + SUBCONTRACTOR NAMES FOR No.5
BRINDLEYPLACE**

Package No.	Element	Subcontract Package:	Brindley Place: Proposed Subcontractors.
1			
2		Frame: Structural Steel	Rowens, Dyer (reserve), Thircon, Ward,
		Frame: Pre cast Concrete	Composite Structures, (European Assistance from HBG)
3		Brickwork	Flahive, Kyle Stewart Operation, (Investigate, Client help), No.1 Brindley Place,
4		Windows	Glamorgan (Ali), Lag, Nelson Tectonics, Schmidlin, Birmingham Gould.
5		Mechanical	Crown House, Hadens, How, Andrews Weatherfoil, (Kyle Stewart Operation)
6		Electrical	Colston Electrical, William Stewart, How, NG Bailey, (Kyle Stewart Operation)
7		Public Health	Briggs & Forester, (Investigate local)
8		Ceilings	Star Ceilings, Roskel, Sherwood, Astec, SAS Northern, Carlton, (Investigate local)
9		Floors	Thorsman, Tate (?), Access Flooring Systems, Hewitson,
10		Partitions	Partition Craft, Edwards & Martin, Select Supplier,
11 11a		Excavation (+ FRC)	OK Groundworks (?), Costelloe, Kearns, (Investigate Local)
12		Stone Cladding	Trent, Sterling Services,
13		Roof (finishes)	Slate: Weingarh, Rock Asphalte, Coverite, Asphaltic, Investigate Local
14		Atrium Glazing	English Arch Glazing, Nelson Tectonics, Fisher Glass, GIG, Pilkington, (With windows Investigate)

Package No.	Element	Subcontract Package:	Brindley Place: Proposed Subcontractors.
15		Window Cleaning System	Cradle Runways Ltd, Kobi, Atrium Gantries, Portel, Solaglass, (Investigate)
16		Lift	Otis, Express, Kone , Thyssen, Schindler , (Client Spec)
17		Floor Finish	A1 Carpets,
18		Fire Insulation	HAT
P1		Scaffold	
19		Carpentry	(Kyle Stewart Operation)
20		Toilet Partitions	Amwell Laminates,
21			
22		Concrete Stairs	Cornish Stair,
23		Sheet Metal Roofer	
24		Blinds (Solar Controlled)	
25		Curtain Walling	
26		Secondary Steel + Metal Work	
27		Doors Metal	
28		Plaster / Screed	
29		Tiler (ceramic)	

Package No.	Element	Subcontract Package:	Brindley Place: Proposed Subcontractors.
30		Paint & Dec	
31		GRG / Fibrous Plaster	

APPENDIX NINE

1ST SUBCONTRACTOR INTERVIEW AGENDA

1st Stage Interview.

The structure of the interview is divided into three stages. These are:

- (1) Introduction to project. (15 mins)
- (2) Technical / design details. (15 mins)
- (3) Questions and answers where the SC takes the lead. (10 mins)

Duration of interviews range from 40 mins to 60 mins.

Personnel Present:

Clients representative (PQS), Project Manager, Building Services Managers, Estimator, Buyer, Project Leader, Architect and Engineer.

Structure of Interview:

8:30 to 9:30am Team meet to discuss strategy and details of package.

9:30 to 10:30am SC No.1

10:30 to 11:30am SC No.2

11:30 to 12:30am SC No.3

12:30 to 13:30 Lunch and general discussion.

13:30 to 14:30 SC No.4

SC evaluation sheet is completed by each member of the team. Sheets kept by project buyer for future assistance.

Agenda of Interview:

■ Introduction to project:

- Location. (Birmingham, land surrounding the site, waters edge development)
- Introduction to client. (Purchase of site)

- Tenant. (British Telecom)
- No.1 Brindleyplace.
- Urban Square.
- Other developments on site.
- Slice of action.

■ Kyle Stewart:

- Tendered for No.1 Brindleyplace came second.
- Negotiated D & C through presentation.
- Flip Charts.
 - ⇒ Concerns
 - ⇒ Clients needs
 - ⇒ How Kyle Stewart addressed needs and concerns.
- What Kyle Stewart want from SC's. (Come back with presentation document)
- Go away and think about job
 - ⇒ Achieve cost efficiency.
 - ⇒ Correct design.

■ Technical / Design Details (given by Project Manager or Building Services Manager)

(Content of this section of the presentation is dependent on the SC package in question.)

- Technical details.
- Who will supply what.
- What Kyle Stewart need from SC. (Cost efficient price with input into design)
- Use SC knowledge / experience.
- Go through information that Kyle Stewart will give to price from:
 - ⇒ Drawings
 - ⇒ Specifications
 - ⇒ Details
 - ⇒ Form of subcontract
 - ⇒ Prelims and Preambles
- What SC can use in terms of plant
- Performance details of system.

APPENDIX TEN

**INDIVIDUAL SUBCONTRACTOR PARTNERING
CHARTERS**

PRK/SL/0317

NO. 5. BRINDLEY PLACE

PARTNERSHIP AIMS

1. Closer relationship with the Design Team and Contractor develops a Team Spirit.
2. Early design input will reduce builders' work costs and minimise drawing revisions.
3. Involvement from the start allows more time for planning and programming, which means a smooth running, problem free, on time installation.
4. Open and honest showing of concerns. Avoid surprises and unplanned costs.
5. The desire to develop the Partnership will mean a greater effort to help other trades and eliminate selfish attitudes.
6. Greater pride in the finished Project which can be celebrated throughout the Building Industry and Property World.

TONY GIDDINGS
SIX CHOSEN OBJECTIVES FOR FIVE BRINDLEYPLACE PARTNERING CHARTER

- Achieve an attractive, efficient office building within the allocated budget
- ✓ • Complete the design and construction of the building to the target programme
- Provide a benchmark for procurement that can be used as the basis for the construction of all office buildings at Brindleyplace
- Secure a working relationship between all parties which is efficient, open, trustworthy and enjoyable
- Achieve an early and appropriate response to all issues
- NO BULLSHIT - NO SURPRISES!

5bp/AJG.kb
11th May 1995

48891/mge
22 May 1995

5 Brindleyplace

The Most Important Objectives of the Project

(from my personal viewpoint)

- The project must be technically sound - a total quality project.
- The engineering work must be integrated with the work of all others.
- The working relationships must be humane and friendly.
- There must be honourable dealings between all parties.
- This must be a project that we can look back on with a clear conscience with regard to society and the environment.
- This must be a project where we make a reasonable profit.

Michael Edwards

ROGER MADELIN

**SIX CHOSEN OBJECTIVES FOR
FIVE BRINDLEYPLACE PARTNERING CHARTER**

1. To fulfil our obligations as set out in the Agreement for Lease within our defined cost parameters.
2. To enhance the reputation of Brindleyplace and Argent.
3. For all parties involved in the process to believe that their input into the process has been worthwhile and enjoyable.
4. To provide a product that is well thought through, of the highest quality and is a step forward from a traditional sealed box solution.
5. To build relationships and knowledge to help us move forward in other areas of our business more efficiently in the future.
6. To show our industry that there is a better way to design and construct buildings.

PARTNERING

5 BRINDLEYPLACE

Suggested Objectives

1. Each partner to recognise that other team members have skills they themselves do not possess.
2. Each to try to understand problems from the perspective of the others.
3. Each to communicate their aims so that other partners can help these aims be realised.
4. Each to work to achieve clear lines of communication.
5. Each to give credit where credit is due to other team members.
6. Each to do that little bit more to make the project enjoyable.

Techrete

Objectives for No. 5 Brindleyplace.

- To establish early involvement with the design process (and to be paid for this element of the work), thus avoiding costly remedial work and also to introduce economies where possible.
- To establish an on-going relationship with the client, Kyle Stewart and the professional team.
- To secure good cash-flow.
- Reasonable profit level!
- To do a good job and enhance the reputation of the product and the industry.
- Total openness with regard to 'problems arising'.
- To avoid confrontation.

5, BRINDLEY PLACE BIRMINGHAM

PRE CONSTRUCTION OBJECTIVES:

- a) Collate Technical Information to enable production of Working Drawings and Specification.
- b) Co-ordinate suspended ceiling works with Mechanical and Electrical Packages together with all interface subcontractors.
- c) Prepare Bills of Quantities based on working specifications and Drawings assuring as far as possible accurate budgetary control.
- d) Compile Site Supervisors Contact Documentation ensuring that at all times current information is always accurate.
- e) Ensure Contract Documents are prepared and signed prior to contract commencement, forestalling problems with payments.
- f) Produce accurate Cash Flow forecasts enabling the Management Contractor to produce payment schedules in order that the client can programme his financial control.

CONSTRUCTION OBJECTIVES:

- a) Provide capable Site Management to ensure co-ordination of our work package with all interface subcontractors.
- b) Update on a regular basis all contract information prepared, at pre-construction stage to ensure the works are erected once and once only.
- c) Programme labour and materials to site as per programme ensuring cost effective use of both resources, and minimising double handling of materials.
- d) Ensure the workplace is maintained to a high standard minimising the accidents to our own work force and all those working in the areas.

Continued from previous page....

- e) Ensure compliance with current C.O.S.S.H.. regulations and advise all interface' contractors of systems falling outside the above regulations.
- f) Attend on a regular basis Technical and Progress Meetings to ensure information is available to comply with item as above, maximising profit at all levels. Complete Quality Assurance System monitoring standards of work.
- h) Construct Project to time and quality.

COMMERCIAL OBJECTIVES:

- a) Ensure accurate up to date cost control information.
- b) Prepare and submit on time interim valuations enabling Cash Flow Forecasts to be monitored.
- c) Progress Final Account at an earlier stage to ensure the client is aware of building costs.

POST CONTRACT OBJECTIVES:

Whilst all construction procedures detailed prior to and during construction, are maintained snags inevitably do arise. They will be attended to in an efficient and working like manner, always observing the clients requirements for cleanliness and security.



SYSTEM FLOORS

System Floors partnering charter for the No 5 Brindley Place project

Mission Statement

To provide No 5 Brindley Place, the highest quality raised access floor installation, on time and to budget, achieving the aims and the objectives of the partnering approach.

Objectives

- * By installing a common understanding throughout our organisation, ensure this new and exciting "partnering" approach achieves the aims and goals of the Brindley Place philosophy.
- * Ensure all employees are aware of its aims and are individually committed to the success of this approach.
- * Build an open and honest relationship with all other members of the team based on mutual trust, co-operation and respect.
- * By being aware and striving to assist with the needs and concerns of other partners, provide effective and constructive management, avoiding adversarial or contractual situations.
- * Ensure all issues are rapidly resolved through open and honest communication/collaboration. All issues to be resolved in a timely manner allowing sufficient time to carefully co-ordinate changes.
- * Make our early involvement benefit the whole team by bringing our wealth of experience to the design and co-ordination process.
- * Provide quality, efficient and value engineered designs to the agreed standard.
- * Plan and co-ordinate our works effectively and with flexibility to ensure our common goals are achieved. This should result in a smooth, free flowing installation, free from interruptions and delays.
- * Monitor our performance and continually re-examine the "partnering" objectives throughout this project, to ensure we are maintaining and are focused on what we and the team set out.
- * To achieve profit from project, based upon efficient implementation of the contract and understanding from partners.
- * Overall, ensure client and customer satisfaction, facilitating the successful completion of No 5 Brindley Place, whilst building a long term relationship, carrying the "partnering" philosophy onto future projects.

SYSTEM FLOORS LIMITED

PRIORY WORKS PRIORY ROAD KENILWORTH WARWICKSHIRE CV8 1QX TEL 01926 59231 FAX 01926 50359



A MEMBER OF THE SYSTEM OFFICES GROUP OF COMPANIES

REGISTERED IN ENGLAND No 1211798



Certificate No FS14168

URGENT

13 Fitzroy Street
London W1P 6BQ
Telephone 0171 636 1531

Direct Dialling
Telephone 0171 465 -2008
Facsimile 0171 465 3675

Fax to KYLE STEWART.

Date 25.5.95

Fax no 0181-200-3997
Attention JASON MATTHEWS

Job number/Reference
48891

cc -

File reference

From RICHARD HENLEY.

Total number of pages
(including this page) 1.

Subject 5 BRINDLEYPLACE. PARTNERING.

If you have not received all the pages listed please phone the sender

THE FACER/HENLEY OBJECTIVES.

- EXCELLENT VALUE COMMERCIAL BUILDING.
- DELIVER A BUILDING OTHERS WANT TO COPY.
- EFFICIENCY & PROFIT.
- CLOSE BUT NOT COSY RELATIONSHIPS.
- TRUST, LOYALTY, MUTUAL SUPPORT & UNDERSTANDING.
- HONEST & HONOURABLE DEALINGS.
- COMMUNICATE SO EVERYONE IS WELL BRIEFED.
- BETTER UNDERSTANDING OF WHAT IS EXPECTED OF US.
- CREATIVE ENERGY DIRECTED AWAY FROM THE POLITICAL TOWARDS REAL PROBLEM SOLVING.
- TIME FOR COMMUNICATION.
- BENEFIT FROM EACH OTHERS EXPERIENCES AND CAPABILITIES.

NOTE HOW WE TEST THE TOLERANCE LEVEL BY
SENDING YOU THESE 24hrs BEFORE WE ALL
TALK ABOUT THEM.

REGARDS,
Richard Henley

KYLE STEWART LIMITED		
Quality Management		
[REDACTED]		
25 MAY 1995		
ACTION	REPLY	DATE

NO.5 BRINDLEY PLACE

ELECTRICAL SERVICES

N.G.BAILEY & CO LTD OBJECTIVES

1. **Client Satisfaction** - We would like future work with Argent, British Telecom, Kyle Stewart, Ove Arup and Silk & Frazier. It is therefore important that we completely satisfy all the above Clients in every respect.
2. **Good Teamwork** - Clearly defined and with understood roles.
 - Non-adversarial approach
 - Quick and early resolution of problems.
 - Trusting and honest relationships.
3. **Improved Communication** - Clear channels of communication with the minimisation of unnecessary meetings and paperwork.
 - Open and honest dialogue at all levels.
4. **Early Involvement in Design** - Enable us to put forward our ideas which add value or reduce cost for all concerned.
 - Ensure practicality of designs and use of materials which are readily available and easy to install and maintain.
5. **Pre-Planning** - Input at early programming stage to ensure that we are given opportunity to work efficiently and productively, i.e. enough time and in the right sequence.
 - Flexibility built into programmes.
6. **A Safe Site** - A comprehensive and practical approach to site safety.
7. **A Fair Price** - Early agreement of prices for main works and any subsequent variations.
 - No contra charges or unknown charges.
8. **Timley Payment** - Prompt agreement of valuations and prompt payments on due dates.

17.May, 1995

ROWEN

J. N. ROWEN LTD

Fulwood Road South, Sutton in Ashfield, Notts. NG17 2JW

Tel: (0623) 558558 Fax: (0623) 559725

**Re: No. 5 Brindley Place
Partnering**

Objectives

Our objectives on any project irrespective of the method of procurement are the same, i.e.:

- ◆ Provide a Quality Service to the Client
- ◆ Keep cost under tight control and hence maximise contribution

If the above criteria are achieved then both we and the Client will want to work together on future projects.

The logic of our simplistic view is confounded when competitive tendering is adopted as the procurement route whether it be open or selective. The probability is that the Client knows who he would like to undertake the work but on a 'first past the post' basis he cannot guarantee who his ultimate sub-contractor will be, and it is of little comfort to either party when at some point in the future the immortal works 'I wish you had done that job rather than' are uttered.

It is a rare opportunity that presents itself to us on Brindley Place in as much that both Argent and Kyle Stewart have given us the chance to satisfy the fundamental criteria set out above, but in choosing us as partners we are able to influence the environment in which we are to operate.

Our objectives have been and will remain as follows:

- ◆ Influence the buildability and ease of fabrication of our works by early design involvement, utilising preferred details and techniques
- ◆ Avoid costly and time consuming revision to details by early interface with other partners, e.g., Cladding, M & E, etc.
- ◆ An open book approach to all matters will remove mistrust and self interest from the relationship and avoid energy being expended on 'Claims' and other contractual diversions
- ◆ Develop and maintain close relationships with other partnering contractors and consultants to avoid programme, craneage and resource conflicts.

If the foregoing objectives are secured then we will provide the Client with a better Quality Service and we will maximise our contribution by being able to plan, design, detail and construct our works in the manner best suited to our techniques whilst satisfying all other functional and contract criteria.

APPENDIX ELEVEN

PARTNERING EVALUATION FORM

Explanation of Partnering Evaluation Forms

Introduction

Partnering evaluation has been successfully used on partnering projects in the United States and Australia over the past eight years. The objective of partnering evaluation is to provide a means of monitoring the progress of partnering on any given construction site. In order to capture your opinion of partnering on No 5 Brindleyplace a partnering evaluation form has been specifically developed. The form will periodically capture your opinion of the successes or failures of the partnering concept on our project.

Experimentation

This is the first time that many of you will have seen a partnering evaluation form. It is to some extent an experiment which will indicate how we go about capturing useful information in the future. For example in its current format it should be completed once a month. This may prove to be too frequent and we will alter its format accordingly. These things we will find out as time goes by.

What does it monitor?

The form monitors the performance of the 'project team' i.e all personnel working with the partnering concept on the project. The criteria listed on the form are extracted from the original partnering charter and represent the original objectives of the project. It is a global analysis of the success of the partnering and will hopefully, give us some useful feedback. However, it will only work if it is completed honestly and returned properly each month. This feedback will provide us, not only useful information for the rest of No 5 Brindleyplace but, feedback that can be positively used to improve the way we do business in the future.

What to do!

The form should be filled in on approximately the last day of every month. How to fill the form in is described on the form. Most of the questions can be completed by simply ticking a box. This enables the questionnaire to be completed simply and quickly. There are areas designated for comment and these are provided in case further explanation by yourself is necessary. The form is anonymous and gives you an opportunity to express what you truly think. The forms work better if the answers are candid.

Not all of the questions will necessarily apply to you. Just answer what you can.

No 5 Brindleyplace



BRINDLEYPLACE



Partnering Evaluation Form

April

Dispute resolution

1 2 3 4

[] [] [] []

.....

Open ended questions:

[1] Are your partnering expectations being met by other team members? please tick Yes [] No [] please comment

.....
.....

[2] Have you any suggestions for improving partnering on No 5 Brindleyplace?

.....
.....

Further Comments:

.....
.....
.....
.....
.....
.....
.....

Thank you for your time and effort.

Please return to M.Barber, Kyle Stewart Ltd, No 5 Brindleyplace, off Sheepcote St, Birmingham.



No 5 Brindleyplace



BRINDLEYPLACE

Partnering Evaluation Form

April

Introduction to form:

Below are listed a number of criteria drawn from the objectives set out in the original charter. Please evaluate the 'project teams' performance in relation to the criteria by ticking in the boxes [] adjacent the criteria. Points are scored as follows: 1=very poor performance, 2=poor performance, 3=good performance and 4= excellent performance. If you score any criteria below 2 please give reasons within the comment section.

Criteria

Comments

Trust, honesty & integrity	1 2 3 4 [] [] [] []
Maximising the effectiveness of design and construct	1 2 3 4 [] [] [] []
Communication	1 2 3 4 [] [] [] []
Level of teamworking	1 2 3 4 [] [] [] []
Reduction in interruptions and delays	1 2 3 4 [] [] [] []
Time, cost and specification control	1 2 3 4 [] [] [] []
Effective safety	1 2 3 4 [] [] [] []



APPENDIX TWELVE

FEEDBACK REPORT

Feedback from Un-successful 'Curtain Walling' Subcontractors.

Date of Meeting: 17 May 1995

Those Present: Paul Durden
Jason Matthews
Mark Barber

Subcontractors: Nelson Techtonics: Mr M Collinge
Capital Ali UK: Mr R Stephenson

Background to Package:

The package had been incorporated in the cost plan, however there was still pressure to make cost savings. Due to this, there was a large emphasis put upon 'cost' in the selection process. The subcontractors were asked at their initial introductory interviews to go away and prepare a submission which would in essence give the Brindley Place team a 'shopping list' of alternative ideas. They were given 10 days to submit proposals.

Key Points:

- Subcontractors believed that it was better to have a 'two stage' interview process. This process would enable the subcontractor to sell the advantages of his/her system and also increase KS's technical knowledge of the product both for Brindley Place and future projects.
- In hindsight, during the analysis of the bids, there was nobody present who could give technical consideration.
- During the feedback meeting both technical and financial aspects of the packages were discussed. In future it would be beneficial for both the Construction Manager and the Estimator to be present.
- Subcontractors stated that the tender period of 1 week was far too short for them to put in a comprehensive bid. In future they would prefer at least two weeks and a chance to present their proposal.
- Both subcontractors were surprised that a second interview was not used during selection.
- Generally speaking all submissions were of a high standard. This standard would not have been achieved using the traditional competitive approach.
- One subcontractor stated that under a 'traditional D & C route his bid would have been approximately 10% higher.
- Subcontractor complained that although a 'set' time period was stated for submissions to be returned, late submissions were used. The time difference, a weekend, was believed to make all the difference to the submissions.
- It seems that the subcontractors were happy to lose a job on price, but not so happy to lose it on the quality of their presentation document.
- General agreement that the level of information provided by KS was adequate.
- Subcontractors commented on the new Wimpey approach to subcontracting. They felt that Wimpey were in essence only giving partnering 'lip service'. A traditional competitive approach was still used in their partnering arrangements.
- Subcontractors stated that specialist subcontractors in general had new tendering strategies. They were now seeking specific projects from particular main contractors.

- Nelson Techtonics had submitted a very competitive bid for the Schuco elements of the package. i.e. curtain walling and roof glazing. In hindsight closer technical evaluation of Nelson's bid should have been carried out with all appropriate design specialists present.

APPENDIX THIRTEEN

FACILITATORS NOTES FROM PARTNERING WORK SHOP

& SYNOPSIS OF DAY

No 5 Brindleyplace



BRINDLEYPLACE

Partnering Evaluation Workshop

facilitator's notes

19 April 1996

8.55 Arrange registration and check room

9.00 - 9.30 Registration and Coffee.

MB,MJJ,JM

- Distribute partnering evaluation forms
- Make up a list of attendees

9.30 - 9.45 Introduction to the day

PD

- Introduction to the day including aims/objectives and brief description of activities.

MB

- During Introduction mention monthly evaluation form.

MB

- Explanation of evaluation forms.

9.45 - 11.25 Drawing exercise

MB,MJJ,JM,JDP

- Split attendees into groups of approx 8
- Re-arrange desks

MJJ

- Introduce and explain purpose of game
 - 'what is it like to work on a traditional project'
 - 'what is it like to work on a typical partnering project'

JDP

- Each group to have a representative to explain drawings
- During review of drawings prepare list of ideal characteristics of partnering project.

11.25 - 11.30 Coffee Break

11.30 - 12.30 Evaluation

JDP

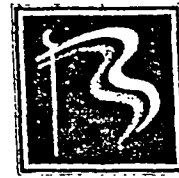
- Show list of characteristics of partnering project. Compare to original charter

MB,MJJ,JM

- Create discipline groups
- Establish point scoring system [4 point scale 1=very poor 4=excellent]
- Compare/Measure NO 5 Brindleyplace team performance against list established from drawing exercise.
- Group representative to detail scores and accompanying comments.
- Review and note down high and low scores for later exercise.

JDP

No 5 Brindleyplace



BRINDLEYPLACE

Partnering Evaluation Workshop

facilitator's notes

19 April 1996

- 12.30** **Group photograph**
- 12.30 - 1.15** **Lunch**
- 1.15 - 2.45** **RED/BLUE Game**
- MB,MJJ,JM** Split attendees into groups
 Rearrange desks
MB Explain rules of game
MB Tell teams to create score sheets
MB,MJJ,JM Facilitate Game
JDP Keep Scores on Flip Chart
MB Review
- 2.45 - 2.50** **Coffee Break**
- 2.50 - 3.30** **Improvements for the future**
- JDP** Review list from late morning session
 Create mixed groups
 Groups write down suggestions for improvement
 Representatives from each group to explain possible improvements
- 3.30 - 4.00** **Wrap up session**
- JDP** Identify commonality between suggestions
 Get team to agree on common improvements
MB Produce list of improvements to take away.
- PD** Final Note - thank you for attending etc
- 4.00** **Close**

Partnering Evaluation Workshop

Synopsis of Day

Objective of document

This document is intended to capture the salient points from the No 5 Brindleyplace Partnering Evaluation Workshop held at Burleigh Court, Loughborough on April 19 1996. The points should act as a constant reminder of the issues that the project team felt important on the day.

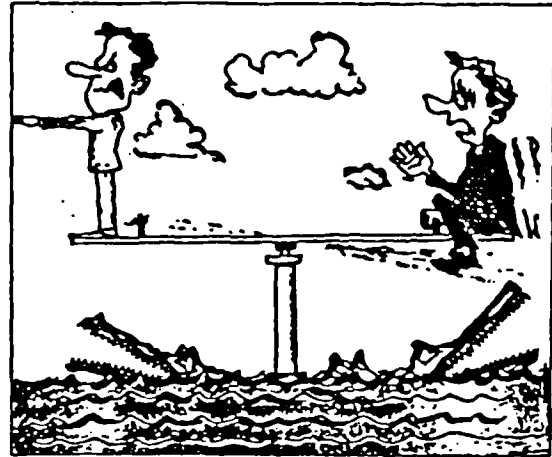
Introduction

The purpose of the workshop was threefold:

- To re-emphasise the partnering concept including the charter to the original participants who had attended the charter formation workshop at Teweskbury.
- To inform new subcontractors joining the project about partnering and demonstrate team working on the project.
- In a fun way reinforce the sense of teamworking and make explicit the feeling towards the partnering concept at this stage.

The objectives were realised in a number of group sessions based on the following themes:

- Drawing out typical feelings & relationships on a traditional project and also on a partnering project to identify the differences.
- using the characteristics of the utopian partnering project as a basis for evaluating performance on No 5 Brindleyplace.
- The generation of ideas for improvement for areas given low grades during the evaluation.



Preserving the Relationship

Findings

What follows is the summary of the points made by the participants throughout the day.

Traits of Traditional & Partnering projects.

Traditional...

Back stabbing
Anger
Confrontation
'Architect wanted a palace'
Variations unresolved
Project going backwards
Argumentative
Lack of communication
Planning problems
Cost greater than price
No winners-except lawyers
Claims, suspicion etc
Lack of involvement
Incomplete building
Unhappy client
Dinosaur
Dark Ages



Partnering Evaluation Workshop

Synopsis of Day

Partnering...

Teamwork from project to project
Continuous improvement
Team in on day one
Quicker, easier
Freedom of expression
Experience counts
On time, in budget
Right price for the job
Everybody listens
Everybody shares the pot of gold
Cost and budget match

- The levels of **commitment & involvement** to the concept of partnering have still to reach the operatives

- Some subcontractors have not been **involved** at an **early** enough stage in the **design process** or their involvement has not been **continuous**.

- More thought must be given to **freezing** the **design** at a stage that enables the subcontractor to make an **effective** contribution during the **detailed** design.

- **KS performance** as the **central** source of **communication/information** can be **improved**.

Main points from the above exercise were:

- **Teamwork**
 - involvement
 - enjoyment
 - shared goals
 - honesty
 - belief/sustained philosophy
 - right ingredients
- **Communication**
 - continuous
 - listen to each other
 - central point of communication
- **Continuous Improvement**
 - knowledge gained & lessons learnt must be passed on.
- **Issue Resolution**
 - occurs before we get on site
- **Commitment**
 - maintaining beliefs
 - sustaining philosophy
 - must come from top
 - management through support & involvement

- Ideas generated for improvement

The levels of commitment & involvement to the concept of partnering have still to reach the operatives:

- operatives should be made aware that partnering has advantages for them including continuity of work, good welfare and canteen facilities.

- during client inspection of site, discussion to go on with operatives including compliments where appropriate.

Some subcontractors have not been involved at an early enough stage in the design process or their involvement has not been continuous:

- Interface control can be improved by incorporating subcontractor expertise at the outset.

- discussions between subcontractors in the early design stages should be encouraged.

- Continuity of subcontractors is an advantage to all parties.

Statements for Improvement

The following statements were felt to sum up where improvement was needed.



Partnering Evaluation Workshop

Synopsis of Day

More thought must be given to freezing the design at a stage which enables the subcontractor to make an effective contribution during the detailed design:

- A structured process for design development may ease the problem.
- Essential (freezing design) but must be tied to a sensitive cost plan.
- use IT including E mail and video conferencing to free up time to allow greater input into design earlier on.
- involve M&E sufficiently early to enable core and structure design freeze.
- Set target dates for design freeze.

KS performance as the central source of communication/information can be improved:

- resolve confusion over contact point. Merit house or site.
- Set realistic target dates and stick to them
- introduce single point of communication at the various stages of the project. Single point during design stage and single point during construction stage. The responsibility for communication should transfer to site when construction begins.
- all parties to have E mail facilities. Advance the usage of telephone/video conferencing.

Conclusions

I hope these points acted as a reminder of the day. The importance of getting together and understanding others' needs cannot be over emphasised. It is up to us individually and collectively to tackle the improvements outlined in this document. Having identified improvements can be made, we should still be proud of the work done so far.

Thank you for attending the workshop.



APPENDIX FOURTEEN

FURTHER STATISTICAL TESTING

Chapters 4, 5 and 6 investigate certain characteristics of the main contractor - sub contractor relationship. In some instances 2 sets of data are compared to identify any trends and similarities.

The researcher is aware of the 'fuzzy' nature of some of the results reported within the thesis. Within chapter 6 certain results are compared by employing a simple method described in section (6.4). However, as a check of the significance of the data an ANOVA test (analysis of variance) was conducted using a small sample of the data.

By inputting data into a statistical package called 'Stats-Works' a one-way ANOVA test can be calculated quickly.

The data presented within 3 tables was tested: 6.3; 6.8 and 6.10. The following are the ANOVA tables produced.

Formulae taken from Chatfield (1983).

Table 6.2

Source	Sum of Squares	Deg of freedom	Mean Squares	F-Ratio
Table 6.2				
Model	8.892	1	8.892	1.314
Error	20.308	3	6.769	
Total	29.200	4		

Level of significance (0.01) Specified by researcher as appropriate.

$(V1 = 1) (V2 = 3) = 34.12$ (Upper percentage points taken from Chatfield (1983) pp 338

$1.314 < 34.12 =$ The significance between the two sets of data is acceptable. There is little variability between the 2 opinions expressed by 'CC' and 'Others.'

Table 6.8.

Source Table 6.8	Sum of Squares	Deg of freedom	Mean Squares	F-Ratio
Model	0.663	1	0.663	4.959
Error	0.267	2	0.134	
Total	0.930	3		

Level of significance (0.01)

(V1 = 1) (V2 = 2) = 98.50 (Taken from tables)

$4.959 < 98.50 =$ The significance between the two sets of data is acceptable. There is little variability between the 2 opinions expressed by 'CC' and 'Others.'

Table 6.10

Source Table 6.10	Sum of Squares	Deg of freedom	Mean Squares	F-Ratio
Model	0.007	1	0.007	1.091
Error	0.013	2	0.006	
Total	0.020	3		

Level of significance (0.01)

(V1 = 1) (V2 = 2) = 98.50 Taken from tables

$1.091 < 98.50 =$ The significance between the two sets of data is acceptable. There is little variability between the 2 opinions expressed by 'CC' and 'Others.'

Statistical References.

Chatfield, C. (1983) *Statistics for Technology: A Course in Applied Statistics*. Chapman Hall. New York.

Grimm, L. G., (1993) *Statistical Applications for Behavioural Sciences*. John Wiley & Sons. United Kingdom.

Howell, D. C., (1992) *Statistical Methods for Psychology*. Duxbury Press. Kent England.