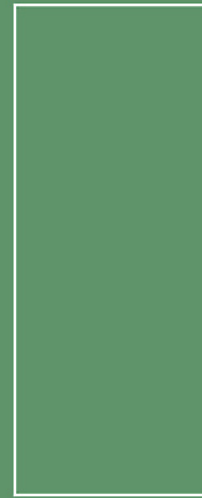


**PROFITABLE
PARTNERING
IN
CONSTRUCTION
PROCUREMENT**



EDITED BY

STEPHEN O. OGUNLANA



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Profitable Partnering in Construction Procurement

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**CIB W92 (Procurement Systems) and CIB TG 23 (Culture
in Construction) Joint Symposium**

Edited by

Dr. Stephen O.Ogunlana
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FOREWORD

Working Commission 92 (W92) of the Conseil International du Bâtiment was established in 1989 W92's aims and objectives were established as follows:

- “to research into the **social, economic and legal** aspects of contractual arrangements that are deployed in the procurement of construction projects;
- to establish the practical aims and objectives of **contractual arrangements** within the context of procurement;
- to report on and to evaluate areas of commonality and difference;
- to formulate recommendations for the **selection and effective implementation** of project procurement systems;
- to recommend standard conventions.”

These aims and objectives still hold today although it was recognised from the outset that some of this subject matter had been included in the broader remits of other Working Groups, in particular W65 (Organisation and Management of Construction) and W55 (Building Economics). However, it was argued that there was a need for a working group which would serve the needs of the international research community in times of great change. In addition to long-standing concerns of international comparability and standardisation of contracts and contract procedures, the 1980's had brought significant changes in the legal, economic, and social structures of states in both Developing and Developed Countries. Private finance initiatives had been effected not only in Europe and North America, but also in eastern Europe (through the transitions from socialist to capitalist systems), in Africa (through Structural Adjustment Programs) and Asia.

The contributions to W92 Symposia have been made from very different theoretical and cultural perspectives; the contributors have come from all continents, and from different economic, legal, and political systems. This is one of the main strengths of the working commission. The significant strategic issues prevalent in the work of the commission have been identified as follows:—competition, privatisation, development, culture, trust and institutions all within the context of procurement strategies, contractual arrangements and forms of contract. Emergent themes in W92's work—those which have begun to emerge in recent years and are expected to grow significantly have been identified as— organisational learning, culture, developmentally orientated procurement systems, and sustainable procurement.

The volume and quality of the published work of the commission has grown throughout the decade and it is pleasing to note that this book and “Procurement Systems: A guide to best practice in construction” are both being published in 1999 by E & FN Spon as the output from the commission.

The theme of this symposium is harmony and profit. This theme aims to reflect not only the cultural values of Asia, where the symposium takes place, but also the cultural changes taking place in the construction industry where the concepts of partnering, collaboration and mutual benefit are coming to the fore. This new direction is a positive response to the past when disputes and dispute avoidance were key issues in procurement systems.

The theme of the symposium has been chosen on the basis that W92 has had a rolling programme of symposia which have dealt in recent years with the transfer of knowledge and experience between regions, such as East meets West in Hong Kong in 1994 and North meets South in South Africa in 1996. This attitude of learning and of organisational change was taken up in Montreal in 1997 where the theme was Procurement systems: A key to innovation.

W92 has been one of the most active of the CIB working commissions over the past five years and the activity is underpinned through strong links to other task groups such as those working on the topics of culture, TG23, and dispute resolution, TG15. There are also strong links with W65, organisation and management, and W55, construction economics.

There are over 65 papers presented in these proceedings and the range of topics relating to procurement systems and having a theme relating to harmony and profit is remarkable. Also, what makes these proceedings important is the fact that the contributors come from around the world and an ideal opportunity is thus provided for knowledge transfer. TG23 was established to facilitate this, as the issue of culture is becoming increasingly significant, especially where multi-national organisations are involved in the procurement process.

Hence the following terms of reference were established for the Task Group:

- To identify and define concepts of culture in the international construction industry and to carry out research into their manifestations and effects.
- To discuss and develop appropriate methodologies for the study of culture in construction.
- To examine and, where appropriate, adopt methodologies used in other disciplines, with special reference to the Social Sciences, for researching culture in the construction industry worldwide.

These aims are being met through this joint symposium and the publication of this book.

Finally we would like to thank AIT most sincerely for making this publication and symposium possible through its generosity and enthusiasm. We would also like to thank the scientific committee and especially Dr. Stephen Ogunlana for all their endeavours in making all this happen.

CIB W92 Coordinators: Professor David Jagger and Dr. Steve Rowlinson

CIB TG23 Coordinators: Dr. Richard Fellows and Dr. David Seymour

PREFACE

Profitable Partnering in Construction Procurement contains papers concerned with nine themes:

- Partnering
- Harmonious relations
- Contracts and contractual relations
- Procurement systems and strategies
- Designing and building
- Private finance projects
- Culture
- Information and decision systems
- Change, technology and value management

Papers dealing with relationships and how they are managed have been grouped under the three themes: partnering; harmonious relations; and contracts and contractual relationships. The three themes 'procurement systems and strategies'; 'private finance projects'; and 'designing and building' contain papers dealing with traditional and emerging forms of relationships in the construction industry. Culture is the focus of CIB's Task Group 23. As such, papers specific to culture have been grouped into one theme. The rest of the papers in the book address systems and technologies used for relationship management. They have been grouped under the two themes: information systems and technologies; and change, technology and value management.

Maintaining standards

There is growing interest in the work of CIB W92 and TG23. In line with the growing maturity of our discipline, the papers contained in this book have been subjected to very high standards of refereeing. Of the 96 abstracts received, 85 were selected for development into full papers. All of the full papers were then refereed internationally and authors invited to incorporate the referee's comments into their papers. At the time of going to press, 67 papers had been accepted. The papers presented in this book are of very high quality.

Acknowledgements

I would like to record my special thanks to members of the organising committee, the international scientific committee. Particular thanks are due to Dr. Akintola Akintoye, Dr. Steve Rowlinson, Dr. Richard Fellows and Professor David Jagger for working extremely hard to bring the symposium to the attention of the contributors. I would also like to thank Mr. Tim Robinson and Mr. Michael Doggwiler of E & FN Spon for the support given in publishing this book. Finally, I would like to thank Mr. Thomas Aduloju, Mr. Arun Bajracharya, and Mr. Abdul Samad Kazi for putting together all the papers presented at the CIB W92 and TG23 Joint Symposium (Harmony and Profit) in Chiang Mai, Thailand.

Stephen O.Ogunlana

Pathum Thani, Thailand. November, 1998

1.

Partnering

PARTNERING: THE PROPAGANDA OF CORPORATISM?

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Abstract

A critical perspective on partnering is developed with reference to current concerns regarding the increasingly corporatist nature of global capitalism. Partnering is advocated by many leading clients as a means of improving customer responsiveness and ensuring continuous improvement. The seductive rhetoric of partnering too often serves only to disguise the crude exercise of buying power. In the UK, the four largest supermarket chains are all leading advocates of partnering. Ironically, all are currently under investigation by the Office of Fair Trading for failing to pass on savings to their customers. It is suggested that the doctrine of customer responsiveness ultimately owes more to corporatist propaganda than to a coherent management policy. The buying power of the industry's major clients continually discourages dissent to the partnering ideal. Construction companies which do not appear similarly committed risk being denied access to a substantial proportion of the UK market. The increasing influence of industry on the construction research agenda also discourages academics from challenging the legitimacy of partnering discourse. There is an urgent need for research which is independent of commercial vested interests.

Keywords: Continuous improvement, corporatism, critical theory, customer responsiveness, partnering, technocratic totalitarianism.

Introduction

In common with many other countries, partnering has received widespread endorsement in the UK construction industry (DETR, 1998; Bennett and Jayes, 1995; Bennett and Jayes, 1998; Construction Industry Board, 1997). The adoption of partnering supposedly improves customer-responsiveness and ensures continuous improvement. To date, there has been an almost total absence of any counter-argument. The purpose of this paper is to overcome this deficiency by developing a critical perspective on partnering. The discussion draws from the tradition of critical theory to challenge the legitimacy of commonly accepted practices as advocated and imposed by powerful vested interests. The intention is to encourage critical debate within the international academic community and to demonstrate the need for research which is independent of commercial vested interests.

The broad context is provided by current concerns that modern society is increasingly characterised by the ideology of 'corporatism'. In the knowledge that such concerns may be perceived as overly political, it is important initially to assert the author's commitment to a market-based economy subject to appropriate regulation. Given that the adopted political position is so moderate, the arguments presented should not be dismissed on the basis of being 'radical'. Indeed, it will be contended that it is the propaganda of partnering that has become dangerously radical by replacing the central tenets of a regulated market economy with an ideology uncomfortably close to naked corporatism. Also of concern is the way in which the assumptions of partnering are potentially in conflict with long-established notions of pluralism and the associated commitment to the principles of humanism.

Corporatism

The ideology of corporatism is often linked with the fascism of Mussolini's Italy. It is based on the belief that business and labour share the same interests (Heywood, 1992). Different interest groups are therefore seen to be bound together by duty and mutual obligations. In essence, a corporatist society is one where interest groups triumph over individuals. Examples of such interest groups include not only corporations, but also owners' associations, trade unions and professional associations. The logic of corporatism dictates that such groups are not in conflict with each other, but seek non-confrontational relationships. Whilst usually associated with past dictators such as Mussolini, Peron and Salazar, corporatism is also evident

in the industrial West in the form of neo-corporatism. This describes the tendency of governments to govern in consultation with economic interests such as business and trade unions (Heywood, 1992). Such neo-corporatist tendencies are even more observable in heavily institutionalised Asian economies such as Japan, Korea and Singapore.

Any advance of corporatism is inevitably at the expense of democracy, in that the interests of groups are given preference over the interests of individuals. Whilst today's neo-corporatists do not like to be confused with the unpleasant dictators of the past, there is a convincing argument that humanism is increasingly in retreat in the face of corporate vested interests (Saul, 1997). With the collapse of communism there is now a danger that capitalism runs unchecked. Unfortunately, for those who adhere to the humanist tradition, there is no historical evidence that capitalism automatically results in democracy (Wood, 1995). The various checks and balances against unbridled capitalism achieved since the Industrial Revolution were hard fought for gains which were only attained as a result of prolonged political and social protest. The current concern is that these gains are being lost as Western society becomes increasingly corporatist. The trend is accentuated by the global nature of modern business. Many corporations play-off one government against another, re-deploying their production facilities to best commercial advantage (Greider, 1996). The economic muscle of such corporations often outweighs that of democratically elected governments. Many important checks and balances against the excesses of capitalism are currently being dismantled in the cause of 'de-regulation'. This interpretation of current economic trends is in direct conflict with the propaganda of the free marketplace and the assumption that commerce inevitably leads to democracy. It also provides a radically different starting point for a critique of partnering in construction.

Partnering: defining characteristics

There are numerous definitions of partnering which are currently in circulation. One of the most comprehensive is that offered by the Construction Industry Institute (1989):

"A long term commitment between two or more organisations for the purposes 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 on an understanding of each others individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovations, and the continuous improvements of quality products and services."

From this point of view, partnering is primarily concerned with 'maximising effectiveness', thereby reflecting the purpose of countless other management improvement techniques. Emphasis is also given to 'culture' and the need to base relationships on trust and understanding. The influence of the rhetoric of Total Quality Management (TQM) is readily apparent in the reference to 'continuous improvement'. The tone of the definition offered by Bennett and Jayes (1995) reflects similar themes:

"Partnering is a management approach used by two or more organisations to achieve specific business objectives by maximising the effectiveness of each participant's resources. The approach is based on mutual objectives, an agreed method of problem resolution, and an active search for continuous measurable improvements."

It is notable that improvements must not only be continuous, they must also be 'measurable'. The definition recently offered by the recent 'Egan Report' provides a similar emphasis on continuous, measurable improvement:

"Partnering involves two or more organisations working together to improve performance through agreeing mutual objectives, devising a way for resolving disputes and committing themselves to continuous improvement, measuring progress and sharing the gains." (DETR, 1998)

The DETR further consider partnering to be a 'tool to tackle fragmentation' which is increasingly used by the best firms in place of traditional contract-based procurement and project management. According to the Construction Industry Board (1997), partnering has three essential components:

- establishment of agreed and understood mutual objectives;
- methodology for quick and co-operative problem resolution;
- culture of continuous, measured improvement.

The achievement of the appropriate 'culture' is almost universally held to be of vital importance to the success of partnering. The Construction Industry Board emphasises that the first step towards partnering is to ensure that the culture of the company

is conducive to a 'whole-team co-operative approach'. It is further recommended that a champion should be appointed to promote the partnering concept and that senior management must act as exemplars of the required culture.

Whilst partnering is often equated with long-term relationships, the two terms are not synonymous. Several sources make a distinction between 'project specific' partnering and 'strategic' partnering, where the partners work together on several projects. (Construction Industry Board, 1997). Strategic partnering supposedly allows the benefits of improved understanding to be carried forward to subsequent projects. The philosophy of continuous, measured improvement however demands that each project exceeds the performance of the previous one. Despite the seductive discourse on 'empowerment', 'working together' and 'relationships', the ultimate measure of success seems to hinge on cost improvement.

Underlying influences

McGeorge and Palmer (1997) suggest that formal partnering as a construction management concept dates from the mid-1980s. Several early partnering arrangements were apparently established in the process engineering sector. Specific examples include Union Carbide with Bechtel and Du Pont with Fluor Daniel. Notwithstanding these early American examples, it would seem that the currently advocated philosophy of partnering is heavily influenced by the collaborative practices of Japanese supply-chain management. Indeed, it is difficult to separate partnering from the principles of TQM, from where the emphasis on continuous improvement has been borrowed. Within the UK, the cause of partnering has been championed by a number of powerful clients who have become dissatisfied with the supposed under-performance of the construction industry. The large UK supermarkets have numbered amongst the most enthusiastic advocates of partnering. As regular clients of construction, they understandably wish to extend the control that they exert over the grocery supply-chain to the construction sector. It is by no coincidence that Bennett and Jayes (1998) include exemplar case studies of Sainsbury's and Asda. The Egan Report (DETR, 1998) also cites the case of Tesco, who have apparently:

"...reduced the capital cost of their stores by 40% since 1991 and by 20% in the last two years, through partnering with a smaller supply base with whom they have established long term relationships. Tesco is now aiming for a further 20% reduction in costs in the next two years and a farther reduction in project time".

If true, the benefits achieved by Tesco through partnering are indeed significant. Strangely, the Egan Report says nothing about the corresponding increase in profitability achieved by Tesco's partners. Other large clients who are strong advocates of partnering include BAA and Whitbread, both of whom were also members of the Egan Construction Task Force. Other notable top-twenty UK clients who claim to be committed to partnering include Rover Cars and John Lewis Partnership.

Buying power and the rhetoric of seduction

Given the collective buying power of the aforementioned clients, it is unsurprising to find that many leading contractors also claim to be committed to partnering. To do otherwise would be to risk attracting the label of 'adversarial', thereby denying themselves access to a significant part of the UK market. This exercise of buying power is made especially clear by the Construction Clients' Forum (1998), who collectively account for some 80% of the construction market. The CCF document commits its members to promoting relationships based on teamwork and trust, and to working jointly with their partners to reduce costs. They also promise not to unfairly exploit their buying power, but to look to form lasting relationships with the supply side. The overall tone is one of barely-disguised seduction. However, they then issue a unveiled threat to those who may still be unconvinced:

"The message from the Construction Client's Forum is clear. If this Pact is concluded, clients represented on the CCF will seek to place their £40bn of business with companies that are seen to follow the approach described in this document..."

The message is indeed clear. The CCF is saying to the construction industry that in order to qualify for £40bn worth of work then their ideas must be accepted. Dissent will not be tolerated. An adherence to the language of partnering is an essential pre-requisite of doing business. This is made equally clear by the Construction Industry Board (1997):

"If it becomes clear that anyone at the workshop is unable to adopt the spirit of partnering, that person should be replaced in the team."

It would therefore seem that lurking behind the rhetoric of seduction is an 'iron fist'. The same implied threat lies behind the 'Egan Report' (DETR, 1998). Little wonder that dissenters to partnering are so few and far between.

Living up to the rhetoric

The contrast between the rhetoric of seduction and the enforcing iron fist raises the question of whether large clients live up to their own rhetoric. The influence of the big supermarkets on the propagation of partnering in construction has already been noted, as has their understandable desire to exercise increased control over the construction supply chain. Given this influence, it is interesting to read *The Daily Telegraph's* report on 31st July 1998 that Sainsbury's, Asda, Tesco and Safeway, are all currently under investigation by the Office of Fair Trading (OFT) after complaints from farmers and growers that consumers were not benefiting from low farm prices. The investigation will apparently decide whether supermarkets are unfairly wielding monopoly power in the grocery trade. It will also investigate pricing policies for cleaning products, toiletries and household goods. Sainsbury's and others are very fond of preaching 'customer-responsiveness' to the construction industry. The suggestion that their innovations in supply-chain management are directed towards earning super-normal profits, rather than serving the interests of their customers, is therefore interesting. Collectively, the four above named supermarkets account for 47% of all grocery sales in the UK. According to the report in *The Sunday Times* on 23rd August 1998, Sainsbury's has increased its annual profits to £728m from £279m ten years ago. In the circumstances, it does not seem unreasonable to question their motives in seeking to introduce partnering into the construction supply chain.

Shaping the research agenda

Of further concern is the control that clients such as Sainsbury's exert over the UK's construction research agenda. Throughout the 1990s, a number of powerful industrialists have exercised an increasing influence over the allocation of public funds to construction research (Lansley, 1997). Such powerful industrialists act as spokespersons for commercial interest groups and therefore provide a further example of corporatism in operation. Their legitimacy to talk on behalf of the public good is apparently taken for granted. In the case of partnering, it is especially ironic that the industry task forces behind the two partnering reports published in conjunction with the Reading Construction Forum (Bennett and Jayes, 1995; Bennett and Jayes, 1998) were both chaired by Charles Johnston of Sainsbury's. Given the profits realised by Sainsbury's through partnering in the grocery supply chain, the overwhelmingly positive tone of these two reports is hardly surprising. Not only does the buying power of the supermarkets seemingly deter any critical comment from their supposed 'partners' in the supply chain, it also appears to enable them to influence research outputs. It is surely time that academics developed a construction management research agenda which is independent of commercial vested interests.

Success requires faith and commitment

A critical reading of the existing literature on partnering serves to reinforce the suspicion that it is primarily driven by the propaganda of corporatism. Of particular note is the way in which success is continually linked to 'faith' and 'commitment'. For example, Bennett and Jayes (1995) attach considerable importance to the commitment of top management. This is further reinforced by the Construction Industry Board (1997), who also see commitment to be an essential element of partnering:

"to succeed requires fundamental belief, faith and stamina. The commitment must start at the top and it must be shared by the senior management."

The emphasis of the above quotation is interesting. The plea for 'fundamental belief, faith and stamina' echoes the language of previous manifestations of corporatism. The repeated use of the word 'must' is especially notable. The manager *must* have 'fundamental belief. The inference is that the manager must not question. The manager must not think. 'True knowledge' is seemingly held by a small technocratic elite, and the rest of the construction industry is required to act on faith. Dissenters are marginalised as deviants. According to the Construction Industry Board (1997), 'cynicism and lack of commitment by the few will destroy the efforts of many'. Such a script could easily have been used to justify the Spanish Inquisition, or Mussolini's Italy, or any other rendition of corporatism. The overwhelming tone of the partnering literature is that of technocratic totalitarianism. Partnering is a regime which is to be *imposed* on the construction industry. The 'partners' involved are ostensibly limited to commercial entities. There is no role for independent trade unions or for any individual 'deviants' whose objectives do not accord with those of 'top management'. Pluralist models of organisation are sacrificed in favour of crude corporatism.

The associated propaganda is provided by the 'management-speak' of partnering and customer-responsiveness. The ultimate argument rests with mystical appeals to the 'customer' and the imperatives of the global market. What is frightening is that this propaganda is also continually advocated by universities and business schools which are increasingly dependent upon the business sector for funding (Saul, 1997). It would seem that education and research have already been recruited to

the cause of corporatism. The doctrines of customer-responsiveness and continuous improvement must seemingly be accepted on faith rather than on rational argument. It is almost as if the Enlightenment had never happened.

Customer responsiveness

It is only when the shackles of corporatist propaganda are removed that customer-responsiveness and continuous improvement become susceptible to critique. Of course, the rhetoric of customer-responsiveness is by no means unique to partnering. It currently pervades the whole range of management improvement techniques from TQM through to process re-engineering and 'lean thinking'. The following quote from the 'Egan Report' is by no means untypical:

"...in the best companies, the customer drives everything. These companies provide precisely what the end customer needs, "when the customer needs it and at a price that reflects the product's value to the customer." (DETR, 1998)

Given Tesco's representation on Egan's Construction Task Force, it is difficult to take this advice seriously. However, final judgement must be suspended until the results of the current OFT investigation become known. The results of the investigation will not of course be influenced by the fact that Tesco, Salisbury's and Safeways are listed amongst the ruling Labour party's biggest financial donors. Also of note is the recent appointment of the unelected Lord Sainsbury as an industry minister. The trends towards an increasingly corporatist society could hardly be more conspicuous. It is further notable that Egan's BAA (formerly the British Airports Authority) operates as a privatised quasi-monopoly which is by no means subject to the same competitive pressures which face the majority of firms in the construction industry. Other participants in Egan's Task Force included Nissan UK, British Steel, Whitbread and the Housing Corporation. Perhaps the legitimacy of the Egan Report owes more to buying power than to rational argument.

The rhetoric of customer-responsiveness creates a cosy image of producers striving honestly to meet 'customer needs'. The assumption is that such needs exist 'out there' waiting to be identified. The possibility that needs are socially ascribed and negotiated by means of corporate marketing is not considered (Alvesson and Willmott, 1996). An extreme example is provided by the tobacco companies, who are arguably as justified as anyone in claiming to be customer-responsive. Leiss (1983) illustrates the way in which corporate advertising relies on the use of symbolism to encourage individuals to purchase particular goods. Many such purchases serve only to satisfy a customer's needs for status, identity confirmation and self-esteem, all of which are socially constructed by a complex process in which marketing is directly implicated. It should also be remembered that the origins of such techniques of mass persuasion lie within the propaganda machines developed in Germany and Italy during the 1930s and 1940s (Saul, 1997).

It is not necessary to take this last point completely seriously to accept that the doctrine of 'customer-responsiveness' owes more to propaganda than to a coherent management policy. It has long been recognised that organisations must satisfy a wide range of stakeholders if they are to be successful (Kast and Rosenzweig, 1985). Such stakeholders include not only customers, but also shareholders, employees, trade associations, unions, suppliers, and public interest groups. Unfortunately, corporatism does not recognise pluralistic models which require management to maintain a *balance* between potentially conflicting interests. It is also tempting to suggest that the stronger a company's propaganda of customer-responsiveness, the greater is the actual emphasis given to the interests of shareholders. Of course, the linkage between managerial salaries and the interests of shareholders is much more direct than that between managerial salaries and the interests of customers.

Further insights into customer-responsiveness can be gained from the burgeoning critical literature relating to the various 'quality' initiatives. The main argument in support of TQM is that it encourages employees to identify themselves as parts of a supply chain which comprises a sequence of relationships between suppliers and customers (Tuckman, 1995). Kerfoot and Knight (1995) suggest that this provides employees with a sense of self-esteem from serving the next person in the chain, rather than having to derive satisfaction from the task itself. Metaphors such as 'teamwork' and 'customer' are therefore intentionally used to mask the reality that most employees are required to act as mindless cogwheels in a remorseless machine. If this critical interpretation is accepted, it would seem that the rhetoric of customer responsiveness is primarily used as hollow propaganda to justify management regimes which are increasingly based on domination and control.

Continuous improvement

There is an obvious paradox in the ethos of continuous improvement as measured in terms of cost improvement. Organisations such as Tesco cannot continue to claim that partnering secures 20% savings every two years for too much longer. If continuous improvement was advocated in the sense of continuously examining how things are done in the context of an ever-changing environment, then it would make some sort of sense. It is the link to *measurable* cost improvement which renders the logic ultimately unsustainable. The Egan Report also places great emphasis on the need for objective

measurement, whilst calling for a 10% annual cost reduction. There is no guidance on how such measurements are to be achieved in isolation of varying interest rates, price inflation and currency fluctuations.

Several authors have suggested a link between continuous improvement, or *kaizen*, and 'management by stress'. For example, Garrahan and Stewart (1992) observe that the regime of *kaizen* as implemented by Nissan UK creates the expectation of a continuous flow of ideas for improvement, thereby providing a source of additional stress for their employees. The associated ideas of 'teamworking' can also be interpreted as a means of self-policing through peer surveillance and control. In other words, employees are encouraged to identify defects caused by others and to ensure that the 'guilty' are identified (Legge, 1995). Peer pressure is therefore brought to bear to ensure that workers do not 'let down' fellow team members. According to Beale (1994), the Nissan system of continuous improvement is directly dependent upon the existence of a single union agreement which to all extent-and-purposes is a 'no-strike' deal. Such collaborative agreements between global corporations and single unions once again echo the tenets of corporatism. The ultimate power of course rests with Nissan UK, who can simply relocate elsewhere if the work force refuses to conform. Beale (1994) further suggests that the contention that *kaizen* equates with management-by-stress is supported by the reported high labour turnover at Nissan's plant in Sunderland, despite very high levels of local unemployment. In contrast, the Egan report presents Nissan UK as a paragon of good practice.

A critical reading of the case studies provided by Bennett and Jayes (1998) provides ready support for the contention that continuous improvement equates to management-by-stress. Sainsbury's approach to partnering was initially linked to the downsizing of their property division from 240 to 80 staff. The remaining employees were ominously 'instilled' with the culture of TQM. Costs were apparently reduced by 35% and typical construction durations were reduced from 42 weeks to 15. However, these impressive achievements were not enough. Sainsbury's management have since established further 'tough and steadily improving cost, time and quality targets'. The regime of management-by-stress is even more apparent in the case study of Rover Cars, who seem especially proud of imposing a regime of 'relentless pressure' on their supposed partners.

Conclusion

This paper has presented a critical perspective on partnering in construction. A significant credibility gap has been demonstrated between the rhetoric of the major clients and the way in which they behave in practice. The arguments in favour of partnering would seem to owe more to the buying power of its advocates rather than to any independent appraisal. The established literature repeatedly exhorts the construction industry to accept partnering as an act of 'faith', whilst casting dissenters in the role of deviants. Construction firms are deterred from critical comment by the threat of being labelled 'adversarial', thereby denying themselves access to a significant proportion of the UK construction market. It has further been suggested that the seemingly sacred concept of 'customer responsiveness' owes more to propaganda than to a coherent management policy. Likewise, the seductive rhetoric of continuous improvement is too often used to camouflage reactionary management regimes which rely on control, surveillance and stress. Unfortunately, the more that managers' behaviour is governed by propaganda, the less likely they are to engage in risk-taking and entrepreneurial behaviour. Within corporatist regimes, individuals rise to join the technocratic elite on the basis of compliance, rather than deviance.

It would be a mistake to read this interpretation of partnering as some sort of conspiracy theory. Such an interpretation would credit the technocratic elite with too high a level of consciousness. The reality of the situation is more one of mindless compliance caused by intellectual laziness. Despite the alleged prolonged crisis in construction productivity, the industry's technocratic elite continue to award themselves very comfortable salaries and to recruit others in the same mould. In this respect, the parallel with previous corporatist regimes is once again unavoidable. The construction industry would likely be much improved if its managers were less accepting of the propaganda continuously propagated by corporatist bodies such as the Construction Industry Board. It is surely the role of academics to expose the dogma and propaganda which all too often prevails. Unfortunately, critical thought in defence of humanism is seemingly in terminal retreat as universities become just another interest group within the corporatist coalition.

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HARMONY AND PROFIT IN SMEs: THE POSSIBILITIES AND LIMITATIONS OF BUILDING PARTNERSHIPS

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Abstract

This paper aims to identify opportunities to assist small and medium sized construction companies work in partnership with clients and increase their effectiveness through the exploitation of communication procedures and technologies. A review of the literature highlighted the importance of partnering approaches. The results showed that small and medium construction companies who participated in the research were reluctant to work for main contractors, but welcomed opportunities to work with and form partnerships with blue chip companies and public sector clients. Construction companies were concerned that the continued use of competitive tendering to establish project partners would undermine the process by preventing them from contributing to the design stage and by rewarding firms who submit low bids, only to claw back profit later. They also objected to being denied opportunities to continue working with clients with whom they had established a strong relationship and understanding of the service required. A strategic partnership combined with involvement in an action learn set prompted one medium sized construction company to produce a detailed report about the management of maintenance defects. We plan to run workshops to promote good practice concerning the management of maintenance defects and the introduction of new technologies.

Keywords: Action research, construction, partnering, workshops.

Introduction

Increasingly, government and private clients are putting pressure on construction companies to produce higher standards of building, meet the needs of the social infrastructure and reduce costs (The Housing Corporation, 1997; West, 1997). Identifying and responding to these pressures requires construction companies to increase their sensitivity to the environment, offer innovative solutions to problems and develop collaborative styles of working (Construction Innovation Forum, 1997; The Housing Corporation, 1996; Weaver, 1997).

'Partnering' is a recognised method of improving communication mechanisms and technologies, responding to innovative construction projects, creating a less stressful working environment and reducing transaction costs resulting from uncertainty, competition and information asymmetry (European, Construction Institute, 1997); Loraine, 1994; Construction Industry Board, 1997). The approach can be used to achieve a range of client objectives including equality, training and employment for local people and services for tenants (Davey *et al*, 1998). The extension to relationships with sub contractors has helped large contractors achieve more compliant bids, less confrontation and lower tendering costs from their subcontractors (Mathews *et al*. 1996).

Research to identify and develop opportunities for partnering has mainly targeted large construction companies and clients involved in large-scale projects (e.g. redesign of bank branches for Nat West). Indeed, Sir John Egan (1998) urges large companies to ensure that they are at the forefront of changes to improve productivity. However, small and medium sized construction companies comprise the bulk of the construction industry and are well positioned to take advantage of new market opportunities arising from collaborative building programmes (Davey *et al*, 1998). The primary aim of our research project was to assist small and medium sized construction companies establish and work in partnership with public and private sector clients based in the North West of England and diversity into new business opportunities. The project also sought to encourage companies to increase competitiveness through more effective exploitation of communication procedures and technologies. The 8-month project called '*Building Partnerships*' was funded by UMIST, The Manchester Federal School of Business and Management and the European Regional Development Fund.

Literature review

Partnering is one of several strategies being proposed by practitioners, academics and managers (Cook and Hancher, 1990) and draws heavily upon lessons learned from Japanese manufacturing. It is defined by the Reading Construction Forum (1995) as:

“a management approach used by two or more organisations to achieve specific business objectives by maximising the effectiveness of both parties. The approach is based upon mutual objectives, an agreed method of problem resolution, and an active search for continuous measurable improvements”.

In Europe, there are basically two types of partnering: project partnering, where the parties come together for the duration of the project; and strategic partnering where the parties develop a longer term relationship over a series of projects for which contracts are usually negotiated. The former is recommended for public sector clients who have to use market testing in order to comply with EC procurement regulations, usually through the competitive tendering process. Nevertheless, public sector organisations are allowed to use partnering criteria to select and award contracts (Loraine, 1994; European Construction Institute, 1997).

A partnering relationship is only recommended where the management teams of all parties involved display a fundamental commitment to partnering and where companies share a common culture (Smircich, 1985). The partnering process involves allocating time to agree objectives, establishing an open style of communication, developing a mechanism for problem resolution and identifying measures designed to monitor and help improve performance (CIB, 1997).

While partnerships are an effective method of helping construction companies strengthen links with clients, diversify into new projects and enhance competitiveness, they are potentially undermined by the construction industry's existing 'macho' and adversarial culture and its widespread use of short-term, legalistic approaches to procurement and contracting. Partnerships are also difficult to implement and maintain in a system characterised by indirect linkages between clients, contractors, subcontractors, consultants, suppliers, employees and end-users. As a result, industrialists and academics have found it necessary to adapt partnering methods to specific contexts and to build upon success factors, rather than relying entirely upon prescriptive models. They also warn that the benefits of partnering are not necessarily immediately apparent (Barlow *et al.*, 1997; Mathews *et al.*, 1996).

Methodology

An action research methodology was employed where researchers and participants work together to identify and define problems within the industry, develop solutions and bring about improvements through the implementation of good practice. Action research is used to instigate and learn from the process of change, rather than simply explain problems or provide theoretical insights (Easterby-Smith *et al.*, 1991). It is an educational process capable of changing the researchers, participants and the situation and requires the people being studied to be involved in thinking, planning, implementing and disseminating research as well as a willingness on the part of the researchers to learn and change. The process of gathering data, reflecting upon the findings and forming insights, integrating insights into theories and creating closure on discoveries in order to plan action is undertaken together (Reinhardt, 1981).

We began the research process by eliciting assistance and participation from contacts gained during previous allied research designed to help senior managers from housing associations (Davey *et al.*, 1998). Housing associations are charities (i.e. not for profit organisations) funded by grants/loans from central government. They are responsible for providing housing for people in social need, for rent or sometimes for sale, and for improving the wider social fabric through employment and the purchase of goods and services (Council of Mortgage Lenders, 1997).

So far, empirical data has been collected from in-depth semi-structured interviews with 8 managers from 5 construction companies and 5 managers from 4 public sector organisations. The interviews with construction companies covered the following topics: choice of clients and projects; methods of gaining business; successes and problems; future plans; methods of assessing performance; good practice; and relationships with subcontractors, consultants and suppliers; views on partnering; and details of partnering projects. The clients were asked to give similar information, but related to the business available to contractors and methods of procurement. The format was adapted to the specific interests and needs of the participants, and action taken following the interview to help participants develop solutions. Information was also gained from a seminar run by the housing associations, two large contractors, the Chamber of Commerce, the university and a network for women property professionals.

The comments from the interviews and seminars were classified into categories. The categories were initially similar to the topics covered during the interviews, but were adapted to fit participants' comments, the literature and our analyses of the data. Although informed by our personal experiences and knowledge (Marshall, 1981), our insights into the research process

and outcomes were discussed and developed with members of an action learning set comprising 3 academics, 6 managers from housing associations and 2 from a medium sized construction company. The set resulted from collaboration between UMIST, the University of Salford and the Revans Centre for Action Learning. It provided regular information, feedback and practical support.

Results of the research

The research revealed that clients and contractors were interested in more cost-effective procurement, improved design and contractual arrangements, achieving higher standards of quality on projects and getting involved in 'added value' projects. It also found commitment to the principles of partnering or forming partnerships amongst some of the participants. The findings from workshops and further research to help strengthen links between clients and improve competitiveness amongst SMEs is detailed below:

SMEs welcomed opportunities to work in partnership with public sector clients and blue chip companies, but were reluctant to work as subcontractors.

A construction manager survey showed that large contractors were obtaining 10% to 70% of turnover/contracts from partnerships and the majority forecasted increases in revenue from partnering relationships (Walter, 1998). However, some small and medium sized contractors expressed reluctance to partner with main contractors due, in part, to the fact that subcontractors are unable to increase their profit margins by negotiating favourable rates from suppliers, but mainly due to fear of litigation and non-payment. A marketing executive said that he would not want to work for a main contractor because the company's last contract with a large construction company looked likely to result in litigation. Even a manager from a large construction company acknowledged that large firms delayed payment to increase profit, with the unscrupulous failing to pay within the time agreed in the contract or not paying at all:

"Cash management is the way that [large contractors] make money. SMEs get hammered. Certain contractors are unscrupulous because they delay or don't pay at all" (business development manager, large construction company).

While reluctant to work as a subcontractor for a main contractor, contractors were keen to collaborate with blue chip companies. Blue chip companies were perceived to offer large contracts, reliable payment and high rates of quality work completed within a short period of time, as well as professional conduct and experience at partnering relationships. An alliance with a blue chip company also appeared to enhance a contractor's standing amongst its clients. A development director from a housing association believed such an alliance demonstrated the company's professionalism and trustworthiness.

Although profit margins offered by public sector clients were relatively low, the contractors welcomed opportunities to collaborate on projects run by public sector clients such as housing associations and local authorities. These clients provided a steady source of income, which maintained turnover, along with reliable payment. Indeed, a housing association had introduced a payment scheme that guaranteed payment within one week of receiving the invoice in order to attract contractors and obtain value for money. One marketing manager highlights the benefits of work offered by educational authorities:

"The outcry over education has led to money in building schools. Money is spread fairly thinly amongst local authorities. Some of the work is of interest. It's below average in value, but local [to the company's offices]. The work keeps staff and teams together and keeps management on site" (marketing manager, SME).

Although the housing associations were a significant client group in the North West spending over one billion pound in the last five years (Davey *et al.* 1997; Lunney 1996), a marketing manager of a medium sized construction company pointed out that companies bid for projects within their capabilities in terms of size and often specialised in certain types of work (e.g. New build, refurbishment or maintenance) or contracts (e.g. Design and Build or standard contracts). He therefore found it difficult to determine funds available for refurbishment work from capital spending figures for public sector clients. In his view, the clients were unwilling or unable to share information with contractors, perhaps due to lack of knowledge.

SMEs wanted to get onto public sector clients' approved lists and be invited to tender.

While construction companies wanted to work for public sector clients, they sometimes found it difficult to take advantage of specific opportunities. The public sector clients generally restricted opportunities to tender to contractors from their approved lists who complied with their specific criteria (Commission for Racial Equality, 1995; Nicholson, 1998). The construction

companies were able to gain membership of approved lists by either applying directly to client to an independent body responsible for assessing applications. Several managers from housing association and universities admitted that they were reluctant to consider applications from new contractors, however, because they were happy with existing companies and the process of evaluation for initial applications and annual review was time consuming and costly. Nevertheless, managers were prepared to consider applications from companies who presented a professional image and/or offered something special.

Housing associations and university clients said they offered opportunities to tender to contractors with whom they had established good working relationships, developed an understanding of the standards required and were likely to get value for money. A development officer from a housing association said that he considered contractors who had successfully completed construction projects in the past for the company, but that only a limited number of construction companies were eligible for contracts involving the provision of training and employment opportunities for local people. A university maintenance manager offered opportunities to contractors approved by the manufacturers to use their materials. Other contractors had simply stopped undertaking work for the university. He believed that this meant that the contractors working for the university all understood the quality required and could therefore price accordingly.

The contractors attempted to increase their chances of being invited to tender by ensuring that they performed well on current projects and through the use of marketing activities. A marketing manager of a medium sized company said he placed advertisements in trade magazines, though he complained that this was costly and the frequent calls from trade magazines were disruptive. The majority attempted to establish personal links with clients. One large company had appointed a business or marketing manager with budgets to cover expenses, but two small companies relied upon directors to gain business and one said he found it difficult to commit time to establishing and maintaining new contacts.

SMEs welcomed opportunities to partner with public sector clients and one firm wanted assistance with a application for project partnerships.

The construction company managers were generally positive about the prospect of working in partnership with public clients. A contracts manager said that partnering improved the quality of the relationship and enabled his firm to meet the needs of the clients in terms of the quality of the product and budget, whilst still making a profit.

A marketing manager from a medium sized company thought that partnering would help the contractor and client talk through and resolve problems together, without resorting to litigation. Nevertheless, the fact that public sector clients can use partnering criteria to select potential partners and award contracts (Loraine, 1994; European Construction Institute, 1997) required new knowledge and skills from construction companies and some managers welcomed assistance in acquiring them. For example, a marketing manager of a medium sized company had received a letter from the a local authority informing contractors of their intention to enter into a partnership arrangement. The letter included the following:

“This initiative is intended to enable a co-operative style of management for the execution of the works, whereby all the parties to the contract can work together without affecting the contractual requirements and obligations...it will include establishing a forum at the post tender stage for identifying possible cost savings and solving areas of potential difficulty or conflict before they impinge on the programme and/or cost of executing the works” (technical services director, local authority).

The company had not yet formally established a partnering relationship, and therefore wanted help in responding to the selection procedure of the local authority. He pointed out in a letter to us that the company’s “experience of the partnering process is very much on a learning curve” and that a “contribution towards understanding the procedures is much appreciated” (marketing manager, SME).

Alternatively, construction companies could identify land and property themselves which could be presented to clients as opportunities for collaboration. Although speculative work yielded higher profit margins and enabled companies to increase their control over the building process by employing more staff on permanent contracts, the risks and the difficulties were considered too great for one medium sized company:

“If a Local Authority has land, but no money our organisation could come in and develop the land. It is very complicated for tax, rebates and grants. Often need something special-commercial input. For example, shops or housing for sale, rather than just social renting I can come up with a site and take it to a housing association. I lose money by chasing sites” (marketing manager, SME).

SME felt that the process of competitive tendering used for project partnering undermined the potential benefits of the approach.

Although SMEs were interested in partnering and often positive about the potential benefits, they were concerned that the process of competitive tendering undermined the potential benefits. Construction managers complained about clients failing to comply with codes of practice governing the length of time allowed to prepare and submit tender documentation. A director of a medium sized company pointed out that they had traditionally been given four weeks to price design and build contracts, but three weeks had apparently become the norm and around 15% of clients were asking contractors to return tender documents within two weeks. In one instance, he telephoned to ask whether the deadline had been extended and was told that he was the only one to complain, but later discovered from other contractors that they had also contacted the client. In one instance, despite allowing only two weeks to submit a tender, the client apparently delayed opening and assessing the bids for several months, by which time the figures were out of date.

The managers pointed out that awarding contracts to the company who offered the lowest price encouraged firms to submit a low bid, but to then claw back profit by claiming for items not specified in the contract or specifying overpriced materials. An interviewee explains how the process works:

“If I give a low bid. I then have to get it back. I say I want to know the colour of the curtains required. They go on holiday. I charge extra. I then offer gold braid curtains” (construction company manager).

The process of clawing back money was perceived to increase the likelihood of litigation and break down trust. The lack of trust was symbolised by the client’s appointment of a quantity surveyor to oversee the project and ensure budgetary control:

“Everyone is suspicious of everyone’s motives. The client appoints a surveyor because he does not want to get ripped off. He has to protect his price margins” (contracts manager, SME).

A business development manager pointed out that in project partnerships the design and price for the building have already been fixed which, in turn, reduces opportunities for innovation and cost saving. He would like the opportunity to negotiate contracts during the early stage of the design process:

“We want the opportunity to negotiate on what they want to achieve. We don’t want to be given a fixed project with a given price. If they bring this to the table, it’s too late. Where is the innovation? Partnering means discussing the site layout, subcontractors and suppliers” (business development manager, large contractor).

The majority of contractors wanted to continue working with clients with whom they had developed a strong relationship, where they understood the service required and had already overcome initial problems. They often objected to procurement mechanisms that broke up relationships. For example, a contracts manager complained about a random systems of selecting contractors to tender used by a local authority, even though it guaranteed work and had previously enabled him to diversify into building schools:

“It’s a lottery [the tendering process]. It’s perceived as fair, but isn’t. The local authority has 20 contractors and randomly selects 6. The client wanted us, but couldn’t have us because we weren’t selected. What’s the incentive to be good? At least we are still on the list! Partnering then goes” (contracts manager, SME).

The construction companies welcomed opportunities offered by public sector clients to circumvent the competitive tendering process. A contracts manager from a medium sized firm extended his contract with a local authority by, for example, remaining on site to complete further work and thus providing better value for money:

“The number of return clients we have is substantial, but we still have to tender. We built a [public building] for the --- Authority. We had already shown our ability. We said that if we could do the two together, we could do it cheaper” (contracts manager, SME).

Nevertheless, a group of managers from the housing associations informed us that they were under pressure from their regulatory body to ensure work was evenly spread amongst contractors and to minimise risk by avoiding over reliance on a small number of contractors. They also felt under pressure to use competitive tendering, rather than negotiated contracts.

SMEs involved in strategic partnerships were under pressure to demonstrate good performance.

Despite being discouraged from relying upon a small number of contractors and negotiating contracts by regulatory or governing bodies, three public sector organisations had established a minimum number of three contractors with whom they do business and/or regularly negotiated contracts. Although the housing associations had formally selected partners, the university had simply relied upon a select list of companies who met its requirements. Choosing only a small number of partners enabled a housing association with a relatively small construction budget to offer a significant amount of business to those construction companies and thus increase their likelihood of being considered a valued client. A development director of the housing association said that choosing mainly small and medium-sized contractors enabled him to deal directly with the managing director, guarantee the availability and commitment to their projects and influence their organisational strategies and practices. The use of preferred contractors was also intended to reduce costs, maintain strong relationships and improve the quality of service provided, especially during the post-construction phase of the project.

A contractor who was working in partnership with a client had joined a subcommittee designed to improve quality had been prompted by his involvement in the action learning set to produce a comprehensive report about the management of maintenance defects. The report outlined the problems and potential solutions. It also provided examples of reporting forms, schedules, meeting agenda and quality assurance information (McDonald, 1998).

The allocation of work to partners meant that other construction companies appeared unwilling, however, to bring new business opportunities to the clients. One client was considering paying a fee to companies who identified new opportunities. The difficulties were compounded by pressure from the regulatory body to demonstrate the effectiveness and fairness of partnering relationships compared to standard relationships with contractors who have been selected through competitive tendering. Construction companies were also concerned about the consequences of strategic partnerships both for their firms and the industry. A director of a construction company that prided itself on the quality of its workmanship, but which had not been considered for partnering, was unhappy about not being selected as a partner. Several construction managers were also concerned that by reducing competition partnering would prevent new companies from entering closed markets.

Conclusion

The construction companies who participated in the project welcomed opportunities to meet public sector clients and to address some of the problems within the industry. We plan to run a series of workshops designed to facilitate the process of change both through their format and content. The workshops will involve representatives from public sector clients, construction companies and academia. The workshops will enable the researchers to introduce the research project, present detailed information about the problems encountered, recommended solutions and discuss the role of the client in promoting good practice. Small discussion groups will be used to determine the applicability of the recommendations within the delegates' own organisation and to gain more detailed information. The discussion groups' findings will be presented to the entire group during a plenary session.

The subject of the first workshop will be the management of maintenance defects. Initial recommendations include: the joint inspection of the property by the client, main contractor and maintenance manager prior to its hand-over; setting the date for handover at the beginning of a contract; and the use of a standard form to record information from tenants about problems encountered, the form would then form the basis of a formal maintenance/defect tracking system. It is anticipated that the form should also enable maintenance managers to record instances where problems have arisen not from defects, but from other factors such as tenant damage, tenant lack of knowledge or lack of routine maintenance. The information should be recorded and used for monitoring the performance of all parties. The second workshop on communication procedures and technologies will involve demonstrations of video conferencing equipment, maintenance management software and digital cameras.

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OPERATIONAL RISKS ASSOCIATED WITH PARTNERING FOR CONSTRUCTION

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Abstract

Organisations which have used partnering for construction projects are now reporting favourable results, including decreased costs, quality improvement and delivery of project to programme. This paper presents trends in the usage of partnering and risks associated with partnering based on a questionnaire survey of construction clients, contractors and consultants. The paper reviews risks faced by the construction industry from the use of the partnering procurement method. The study reveals an increase in the use of partnering since the Latham report was published. Also, there has been a shift in its use from the post contract stage of construction to the design stage of project development. Since most projects' costs are committed at the design stage, it is reckoned that this shift would assist the partners to make a significant contribution to the achievement of project objectives. Factor analysis of the risks involved in partnering shows that these are dominated by operational risks, and it is reckoned that these could constitute a barrier to the successful adoption of this procurement method in construction. Cost risks are not considered important in the use of partnering procurement method.

Keywords: Conflict, clients, consultants, contractors, factor analysis, partnering, procurement,

Introduction

Partnering is increasingly being used for construction projects since the Latham report "Constructing the Team" was published which recommended partnering as a means of improving inter-firm relations [Latham (1994)]. Partnering involves the parties to a construction project working together in an environment of trust and openness to realise the project efficiently and without conflict. This requires a major change to the construction industry culture. NEDO (1991) describes 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". Baker (1990) has identified conditions conducive to partnering from both the owner's and contractor's perspective. The conditions include the fact that the owner must be willing to change, possesses the ability to transfer some of its responsibilities to the partnership, has a commitment from its executive ranks to the partnering, desires to focus on overall results rather than strictly a singular component, etc.

Organisations which have used partnering for construction projects are now reporting favourable results, including decreased costs, quality improvement and delivery of project to programme. Many claims have been made for the benefits of partnering, in terms of project cost, time, quality, buildability etc. (e.g. Bennett et al, 1996). For example, US research claimed, on average, reduced overall projects costs of 5%, client's costs of 10% and time taken to completion of 6% on partnering projects [McLellan (1995)]. Despite these benefits, there remain to be investigated the risks associated with this mode of construction procurement. This paper presents trends in the use of this procurement route and the risks arising from the use of partnering for construction. The investigation adopts a questionnaire survey to gauge the views of construction clients, contractors and consultants on partnering trends for construction and the risk factors involved.

Overview of risk involved in construction

Procurement now represents a significant risk, possibly the most significant, faced by most organisations [Griffiths (1992)]. Risk is a function of the interaction of uncertainty and the magnitude of the potential loss or gain. Construction work involves considerable risk due to the complex nature and uncertainties inherent in the construction process [Al-Bahar and Crandall (1990)]. Consequently, the construction industry suffers from several factors, which act as barriers to the introduction of a partnering approach to procurement. For example, specifications tend to be imprecise and are firmed up too late in the process; parties often make promises they do not expect to honour and there is a constant focus on cost and programme to the detriment of quality and the client's requirements; construction contracts usually have built in penalties in the form of

liquidated damages without providing incentives for contractors, i.e. there is a focus on the punishment of undesirable behaviour rather than the reward of exemplary behaviour etc. [Smit (1995)]. The result of risk exposure, for example from poorly drafted contracts, poor project planning or contractor management, is inflated contract costs, poor workmanship, inferior materials, contractor bankruptcy and programme delays. Risk is also increased simply by the hiring of a contractor to undertake work due to the inevitable loss of employee loyalty and loss of control over sub-contractor activities [Bova (1995)].

Traditionally, most UK construction clients package their construction requirements into one-off projects and use competitive tendering to determine the award of the contract. This results in a short-term and reactive procurement strategy, which requires contractors to respond to fragmented demand [Cox and Townsend (1996)]. Considering all these, it is expected that full benefits from partnering will take time to develop in an industry dominated by a focus on the short-term [Matthews *et al.* (1996)].

Lamming (1993) is of the opinion that the intensity of the partnership relationship and the central philosophy of commitment can lead to a high level of pressure to perform whereby partners under pressure may be encouraged to take unnecessary risks to prove their worth. Saunders (1994) and Ramsay (1996) recognise that the formation of a partnership with a supplier involves considerable risk. They assert that the risk of the transfer of power from buyer to the supplier is significant in a single source relationship. They argued further, that very large buyers will be in a position to overcome this risk by being able to dedicate resources to developing new sources of supply in the event of the original supplier flexing its new found power, while smaller companies will not be in a position to insure themselves against this type of risk. With respect to construction, Baxendale and Greaves (1997) believe that construction firms entering partnering with sub-contractors may limit competition resulting in the remaining firms forming cartels.

Methodology

A postal questionnaire was considered appropriate for the investigation as the total population of organisations involved in construction projects, i.e. consultants, contractors and clients, is extremely large. Random sampling was used to reduce the data to manageable proportions. Following a pilot study which involved 5 people, questionnaires were sent to 290 organisations (comprising consultants, contractors and clients) involved in construction work under cover of a letter explaining the aims of the research.

The survey comprised of closed and open-ended questions. The questionnaire comprises six main sections. Section one covers general information about the respondents. Section two deals with partnering trends and section three with the outcome from the use of partnering. Section four covers the reasons for using partnering and the benefits which result and section five the risks associated with partnering in particular and the construction industry in general. Finally, section six allows respondents to make general comments on the subject matter.

The questionnaire was designed to allow comparisons to be drawn between the organisational categories involved in construction work (clients, consultants and contractors) and to compare the opinions of organisations which have experienced partnering with those with no experience of partnering. This paper reports only the sections of the questionnaire dealing with trends and risks associated with partnering for construction.

Questionnaire response

Responses were received to the questionnaire as follows: 25 consultants responded representing 25.0% response rate, 32 contractors representing 32.0% of contractors approached and 21 clients responded which is 26.7% of the those to which a questionnaire was sent. Overall, response was 78 out of 290 representing 26.7% response rate. This response rate is not unusual for a construction industry survey; for example, Vidogah and Ndekugri (1998) received a 27% response rate to their survey questionnaire and Shash (1993) 28.3%.

Characteristics of responding firms

Most of the contractors (90.6%) that responded to the questionnaire have been involved in partnering for construction work. Less than half of the consultants (48%) and clients (47.6%) have been involved in partnering. Overall, 51 companies out of the 78 that responded to the questionnaire have been involved in construction partnering.

Trend in the use of partnering

The questionnaire examined the trend towards partnering for construction; in particular, when organisations were first involved, which party introduced partnering and the stage of the construction process where partnering is introduced.

The majority of the contractors became involved in partnering in 1991 followed by consultants in 1993. The year of first involvement for clients is 1995. This may indicate that contractors have been involved in partnering arrangements with sub-contractors or that the clients who responded to the questionnaire were not representative of the client population. This later entry into partnering by clients is also reflected in the level of involvement as they have the least experience of partnering compared to consultants and contractors. Although there is significant difference in the timing of first involvement of contractors, clients and consultants in partnering ($p=0.09$), there is a general trend of increasing use of partnering which agrees with the view of Chadwick and Rajagopal (1995). The year of first involvement in partnering by the responding groups is shown in Table 1.

Table 1 Year of first involvement in partnering

Year	Total	Consultants	Contractors	Clients
>1985	7	2	5	0
1986/87	0	0	0	0
1988/89	3	1	2	0
1990/91	4	0	3	1
1992/93	4	1	3	0
1994/95	14	3	9	2
1996/97	21	6	6	9
Total	53	13	28	12

(F Stat=2.53; $p=0.09$)

Table 2 shows that sixty percent of responding firms have recommended the use of partnering for further construction projects since first being involved in the use of the procurement method. On individual organisational categories, the contractors are the most enthusiastic with 84.4%, followed by consultants at 44% and clients at 42.3%. This may reflect that contractors have felt the most benefit from partnering considering that contractors may have suffered most from the conflict which often occurs in traditionally procured projects. These results contradict an American study which found that all 71 construction clients, contractors and consultants which had been involved in at least one partnering project claimed they would be happy to continue working in that way (McLellan, 1995).

Figures 1 to 3 show the trends in the use of partnering procurement method by consultants, contractors and clients, respectively, at the various stages of the construction process. These figures show that most firms were not involved in the use of partnering to a great extent at any stages of the construction process in the 1980s, although this procurement method has long been in use in the petro-chemical sector compared with the building sector. The 1990s are associated with the increasing popularity in the use of the procurement method, which coincides, with publication of the Latham report. Latham (1994) advocates the use of partnering for construction project developments and the government's endorsement of the procurement route in the public sector. Although, the procurement method has been used predominantly by the private sector, it is expected that this will be adopted with time for public sector projects, as far as some conditions are met, namely: it does not create an uncompetitive environment, does not create a monopoly, the partnering arrangement is tested competitively, it is established on clearly defined needs and objectives over a specified period of time and the construction firm does not become over-dependent on the partnering arrangement [McLellan (1995)].

Table 2 Number of firms that have recommended partnering since first used the method

Organisational Category	Number of Firms	% of Firms
Consultants	11	44.0
Contractors	27	84.4
Clients	9	42.3
Total	47	60.3

(F Stat=0.79; $P=0.46$)

The figures also show that while the consultants tend to get involved in partnering at pre-design stage, the most common stages at which contractors are involved are post-design and post-competitive tendering. It would appear that clients prefer to introduce partnering at the post contract award stage; which tends to suggest that clients prefer to introduce partnering as part of the negotiation process following the traditional competitive tendering. A number of clients have used partnering at the pre-design stage, however few introduce partnering at the post-design stage.

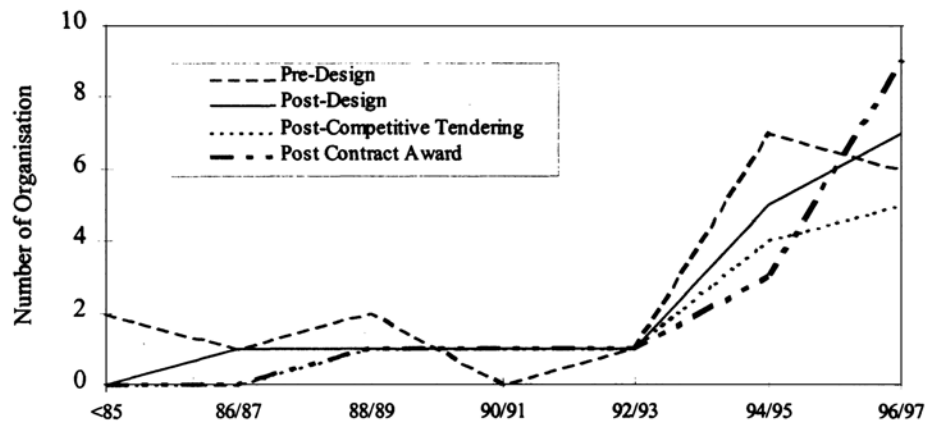


Figure 1 Trends in involvement of consultants in partnering

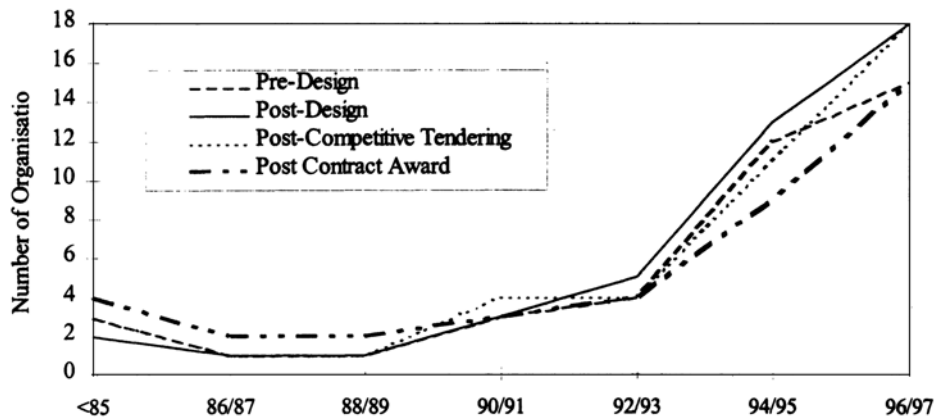


Figure 2 Trends in involvement of contractors in partnering

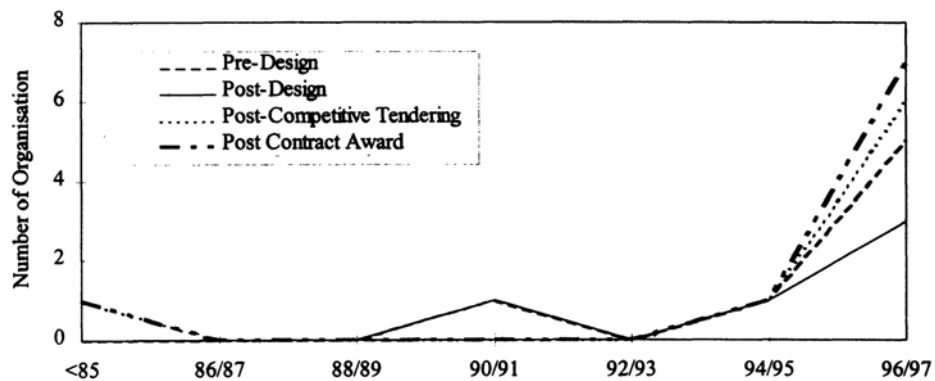


Figure 3 Trends in involvement of clients in partnering

Figure 4 presents a summary of the trends in the use of partnering at various stages of construction process. This shows that while the construction industry has been involved in 'partnering' at the post contract and post competitive tendering phases of construction since 1980s, project partnering from pre-design stage is a recent development in the industry.

Construction partnering risks

Harback *et al.* (1994) have identified five pitfalls of partnering: unfulfilled expectations, unfinished business in which some elements or process of the partnering are still in dispute, assumption that all parties involved in the partnering are willing to share personal beliefs and thoughts, one-size-fits-all approach rather than seeing partnering as being specific to a project and conflict between internal (relationship between various departments of the company) and external (relationship with other

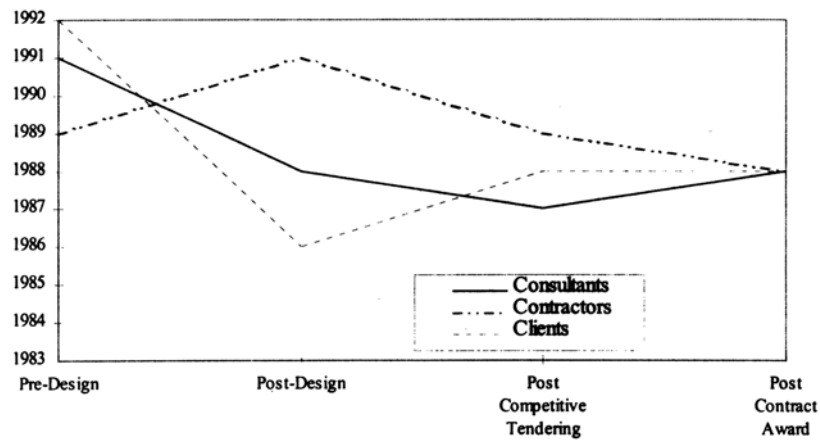


Figure 4 Summary information on the trends in the use of partnering

parties) partnering. There are however some features of the construction industry which make the introduction of partnering more difficult than in other industries.

These features of the construction industry are taken further by providing the respondents with a list of probable risks associated with partnering, which were identified from a literature review, for them to assess the level important to their establishments. The respondents were asked to rate the level of importance on a Likert scale of 1 to 5; 5 denotes most important and 1 denotes least important. As part of the subsequent analysis of the data, the Cronbach alpha reliability is produced. Cronbach alpha reliability (the scale of coefficient) measures or tests the reliability of the five-point Likert-type scale used for study [Norusis/SPSS (1992)]. The Cronbach's coefficient alpha is 0.84 (F statistics=7.512, $p=0.000$), indicating that the 5-point Likert scale used for measuring the risk factors is reliable at 5% significant level. Table 3 presents the importance ranking of the risk factors by the contractors, clients and consultants and all the respondents combined.

The five most important operation risk factors identified by the respondents were managers' unwillingness to relinquish control, partners become complacent, increasing dependence on partner, pressure to perform and partner reverts to adversarial relationship. With the exception of the risks of partner reverting to an adversarial approach and limited competition leading to cartels, the opinions of the three parties on the risks associated with partnering were not statistically significant. The clients recognised that partnering may limit competition, which could lead to cartels.

The consistently least important risk factors overall and within the groups are those associated with cost, which tends to suggest that the parties do not see cost as important risk factor in partnering. These opinions on costs associated with partnering contradict the claims made by MacBeth and Ferguson (1994) and Ramsay (1996).

To capture the multivariate relationship between the risk factors, the Factor Analysis technique was used to investigate the cluster of relationship. Various tests are required for the appropriateness of the factor analysis for the factor extraction including Kaiser-Meyer-Olkin (KMO) measure of sampling accuracy, anti-image correlation, measure of sampling activities (MSA) and Barlett Test of Sphericity.

Table 3 Risks associated with partnering

Risk Factors	Cod e	Total	Consult s	Ctrs	Client s	F	Sig.
Managers unwilling to relinquish control	R4	3.58	3.23	3.71	3.81	2.24	0.11
Partners become complacent	R1	3.55	3.23	3.68	3.76	1.99	0.14
Increasing dependence on partner	R2	3.47	3.50	3.29	3.71	0.83	0.44
Pressure to perform	R9	3.33	3.31	3.26	3.48	0.23	0.79
Partner reverts to adversarial approach	R10	3.27	3.08	3.06	3.81	2.74	0.07
Limited competition leading to cartels	R3	3.15	2.96	3.00	3.62	2.79	0.07
Suppliers add contingency to tenders	R11	3.06	2.88	3.13	3.19	0.48	0.62
Downsizing results in inadequate resources	R5	3.01	3.11	2.90	3.05	0.32	0.73
Cost of new procedures/systems	R8	3.00	3.15	2.74	3.19	1.73	0.18
Costs of understanding partner	R6	2.81	3.15	2.61	2.67	2.17	0.12
Cost of increased communication	R7	2.78	2.92	2.61	2.86	0.73	0.48

The eleven risk factors were subject to factor analysis, with principal component analysis and varimax rotation. The first stage of the analysis is to determine the strength of the relationship among the variables based on either correlation coefficient or partial correlation coefficients of the variables. Table 4 shows the partial correlation coefficient (same as the matrix of anti-image correlation) between the variables. The results of the partial correlation matrix show that the variables share common factors, as the partial correlation coefficients between pairs of the variables are small when the effect of the other variables are eliminated. According to Norusis/SPSS (1992) the partial correlations should be close to zero when factor analysis assumptions are met and that if the proportion of large coefficients are high, the use of a factor model should be reconsidered. The table also displays the Measures of Sampling Adequacy (MSA) on the diagonal of the matrix. The value of MSA must be reasonably high for a good factor analysis. In this case, the value of MSA ranged between 0.749–0.855 suggesting no need to eliminate any variable from the analysis.

Table 4 Anti-image correlation Matrix (the MSA is shown on the diagonal)

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
R1	0.794										
R2	0.140	0.850									
R3	-	-	0.820								
	0.238	0.228									
R4	-	-	0.111	0.809							
	0.338	0.171									
R5	-	-	-	-	0.795						
	0.057	0.090	0.090	0.147							
R6	0.026	0.022	0.065	-	-	0.767					
				0.061	0.252						
R7	-	0.056	-	0.119	0.024	-	0.749				
	0.172		0.194			0.376					
R8	-	-	0.113	-	-	0.050	-	0.795			
	0.004	0.220		0.038	0.030		0.498				
R9	-	-	-	0.050	0.199	0.038	0.057	-	0.789		
	0.219	0.185	0.150					0.187			
R10	0.103	-	-	-	0.012	-	-	-	0.020	0.855	
		0.186	0.329	0.246		0.127	0.034	0.037			
R11	-	-	0.000	-	-	-	-	-	-	-	0.910
	0.253	0.170		0.111	0.025	0.016	0.019	0.095	0.000	0.124	

Barlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix. In this case the value of the test statistic for sphericity is large (Barlett Test of Sphericity=260.591) and the associated significant level is small ($p=0.000$), suggesting that the population correlation matrix is an identity. Observation of the correlation matrix of the risk factors shows that they all have significant correlation at 5% level suggesting no need to eliminate any of the variables for the principal component analysis. The value of the KMO statistic is 0.8141, which according to Kaiser (1974) is satisfactory for factor analysis. In essence, these tests show that factor analysis is appropriate for the factor extraction.

Principal component analysis was undertaken, which produced a three-factor solution with eigenvalues greater than 1, which explains 60.8 percent of the variance. Varimax orthogonal rotation of principal component analysis is then used to interpret these factors. An unrotated principal component analysis factor matrix only indicates the relationship between individual factors and the variables, and it is sometimes difficult to interpret the pattern. Rotation techniques, such as varimax method, transform the factor matrix produced from an unrotated principal component matrix into one that is easier to interpret. The factor loading based on varimax rotation is shown in Table 5. Each of the variables loads heavily on to only one of the factors, and the loadings on each factor exceed 0.5. The factors and associated variables are readily interpretable as operational risk in partnering (FACTOR 1), cost risk (FACTOR 2) and attitude risk (FACTOR 3)

Table 5 Varimax rotated matrix for partnering risk factors

Risk Factors	Code	FACTOR 1	FACTOR 2	FACTOR 3
Managers unwilling to relinquish control	R4	0.738		
Increasing dependence on partner	R2	0.707		

Risk Factors	Code	FACTOR 1	FACTOR 2	FACTOR 3
Partner reverts to adversarial approach	R10	0.682		
Suppliers add contingency to tenders	R11	0.680		
Limited competition leading to cartels	R3	0.646		
Partners become complacent	R1	0.645		
Cost of increased communication	R7		0.866	
Cost of new procedures/systems	R8		0.724	
Costs of understanding partner	R6		0.630	
Downsizing results in inadequate resources	R5			0.713
Pressure to perform	R9			-0.601

Operational risks relate to the process, cultural, structural and organisational requirements for the effective and successful implementation and adoption of partnering for construction. Some elements of the operational risk factors are considered and evaluated as follows:

Managers are unwilling to relinquish control

Overall, this risk is considered the most significant which supports the view held by Gattorna and Walters (1996). All categories, with the exception of consultants, are extremely concerned about management control. If senior management refuse to allow a project team to act in accordance with project goals then this will obviously impede a successful partnering relationship. Partnering tends to involve TQM principles including involvement in decision-making at all levels. If management refuse to support such a culture then benefits are likely to be reduced. Additionally, if low level managers feel that they have no control over decisions that affect them the feeling of ownership, which helps people to work together, is also diluted.

Partners become complacent

Complacency is regarded as a significant risk by the respondents which supports Lamming (1993). Contractors and clients are both highly concerned about this with consultants less so. Overall, this is regarded as the second most significant risk. This concern is understandable as partnering relations are costly to establish. For example, BAA has paid about £50,000 per annum on its Heathrow Airport/Paddington Station rail link project simply for contractors to meet regularly with each other and the client [Thatcher (1997)]. Similarly, Beefeater Restaurants provided contractors' personnel with training in interpersonal skills in addition to the customary health and safety and site specific training [Tulip (1997)]. Obviously, if an organisation has committed considerable resources to meetings, training etc. a partner becoming increasingly complacent could reduce the potential return on these resources.

Increasing dependence on partner

The respondents regard increasing dependence on their partner as a significant risk. This is not surprising as one way to cope with risk is risk sharing, in which case the occurrence of any single risk event is less likely to threaten the viability of the organisation. If an organisation is heavily dependent on another organisation, it may not survive the severing of the relationship. Consultants regard this as the greatest risk associated with partnering. This risk is also identified by Saunders (1994) and Ramsay (1996) as being important in partnering.

Partner may revert to adversarial approach

Although the presence of adversarial relationships in construction is one reason why partnering is currently being used in the industry, this adversarial culture is still regarded by the respondents as a risk factor to the success of partnering within the construction industry. While all categories believe that the risk of a partner reverting to an adversarial approach exists, clients ranked this as the second most significant risk. Considering that Watson (1997) regarded this risk as particularly significant it may indicate that the parties involved in partnering are still less trusting which may be due to their exploitative experience from traditional procurement methods.

Conclusion

Traditional adversarial procurement is increasingly being recognised as an inefficient procurement method. The short-term focus of this approach encourages poor performance from parties involved in construction projects due to the lack of incentives to perform and the tendency for exploitation by organisations involved in construction projects. The partnering procurement route is expected to address these shortcomings. However, this procurement route cannot eliminate all problems associated with the client-contractor or contractor-sub-contractor relationships. To be successful it requires fundamental changes in the participants' attitudes. Successful partnering will require trust, openness and a win/win approach to negotiation and problem solving.

The study shows an increasing trend in the use of partnering since the publication of the Latham report. The majority of the firms that participated in the study have been involved in partnering. In general, contractors and clients are supportive of partnering principles. Consultants are less enthusiastic due to fears of loss of control. It is expected that consultants will change this attitude with time considering that partnering looks set to play an increasing role in construction procurement.

Construction projects are inherently risky. This is due to many features, which are unique to the industry, including the prototypical nature of projects, the large number of firm involved which results in conflicts of interest and communication difficulties. Conflict is very common and therefore a significant risk faced by parties to a project. Although partnering represents a risk reduction technique, the use of partnering itself is not risk free. The risks must be analysed and strategies must be developed to mitigate them. This study shows that operational risks are most fundamental to the use of partnering for construction. It is the responsibility of the parties involved in the procurement route to develop strategies to respond to these risks very early in the process by avoiding the risks where practicable, reducing the probability of the risk events occurring or reducing the severity of the risks. By working together under an attitude of trust, open-book policy, a clear understanding of roles etc. these operational risks are less likely to arise and those that do should be responded to by all organisations thereby reducing the impact.

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THE IMPLICATION OF PARTNERSHIP SUCCESS WITHIN THE UK CONSTRUCTION INDUSTRY SUPPLY CHAIN

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Abstract

The concept of partnering in construction seems to be the subject of the decade within the industry. Large construction companies in developed countries such as Japan and USA use partnership sourcing with suppliers, clients, and even competitors as a strategic choice to improve their effectiveness, innovativeness and competitive edge. But above all, these relationships can create harmony that can lead to increase returns for all parties.

The construction industry in UK tends to be fairly fragmented and adversarial although parties are increasingly trying to use alliances and partnering techniques to add value to their projects. While the material procurement services process is not the only factor known to contribute to the effectiveness of the construction industry, it has always been identified as an important causal factor. Nevertheless, Supply Chain Management has taken a low priority in the construction industry thinking and in particular its importance in determining business success.

Partnering is currently held by many as the way forward in construction. There is a belief that this form of procurement will produce 'win-win' results for clients, contractors, and suppliers. This paper will illustrate the implication of partnering success in the supply chain. It will outline partnership success in other industries, particularly in the manufacturing industry, and show what lessons are to be learnt from this success in order to be successfully implemented within the construction industry supply chain.

Key words: Construction industry, manufacturing industry, partnering, supply chain

Introduction

The phrase 'supply chain partnership sourcing' has become common in today's business language. While there are other forms of business relationships, it appears that, based upon academic and trade publications on the subject, supply chain partnerships are currently generating a great deal of interest (Ellram and Cooper, 1990; Miller and Treece, 1992).

During the last ten years, European and American companies have shown considerable interest in the concept of partnership sourcing, in contrast to the more traditional adversarial purchasing relationships (Lamming, 1993). Though this has been led by the automotive and electronics industries seeking an effective response to Japanese penetration of their home markets, its influence has spread into other sectors as well (Morris and Irmie, 1992). Certainly the United Kingdom has taken the idea with interest, at least at the level of government departments such as the Department of Trade & Industry and other industrial bodies such as the Confederation of British Industry and the Society of Motor Manufacturing and Trades (DTI, 1992).

Partnership success in the manufacturing industry

In industries other than the construction sector, much attention has been shown in the concept of supply chain management and its contribution to business performance. Benefits such as minimisation of waste, efficiency improvement, greater productivity and overall improved supply coordination all culminate in a more competitive business operation.

This approach has been put to test in the manufacturing industry, such as the automotive industry, where the adoption of the Japanese 'lean supply' concepts throughout the supply chain has proved its success in terms of improved competitiveness. The most notable example is that of Toyota Motors and its tier suppliers which was reported in 'The Machine that changed the world' by Womack (1990).

Many international surveys' results show that supply arrangements can provide significant business benefits to companies practising them (cf. Cox and Townsend, 1997). Research also shows that there is an increase in the proportion of the UK suppliers that feel customers can help them improve their performance in the face of new competition. UK suppliers with partnering

relations have been able to contain cost increases and to protect their profit margins in a much more effective way than non-partnership suppliers (Sako, Lamming and Helper, 1994).

As a result, some researchers suggested that if partnering works for non-construction industries, then it should also work for the construction industry. However, Thompson (1997) argued that the supply chain characteristics of the construction and manufacturing industries (e.g automotive industry) are wholly different and thus blindly applying supply chain management principles to construction without any prior research is very risky and may require the procurement process to be re-engineered.

Partnering in the construction industry

Partnering appears to be a confused concept, meaning different things to different people. To some it means a single-sourced relationship, while to others it means effective project management (Larson, 1995). There are innumerable definitions of partnering, many of which seem to be derived from similar sources. One of the earliest definitions of partnering in construction appears to have been developed by the Construction Industry Institute's Partnering Task Force. Partnering has been defined as: 'A long-term commitment between two or more organisations for the purpose of achieving specific business objectives by maximising the effectiveness of each participants resources. The relationship is based on trust, dedication to common goals, and an understanding of each other's individual expectations and values.' (Construction Industry Institute, 1989).

Built on the thoughts and views of the Latham report, the Construction Industry Board (CIB) has developed the most recent definition. The CIB, 1997 states that 'partnering is a structured management approach to facilitate team working across contractual boundaries. It should not be confused with other good project management practices, or with long-standing relationships, negotiated contracts, or preferred suppliers arrangements, all of which lack the structure and objective measures that must support a partnering relationship.' The inference here is that partnering can occur irrespective of the type of the supply relationship involved.

Types of partnering

Table 1: Different forms of partnering

Forms of Partnering	Sources	DIFFERENTIATING FEATURES		
		Relationship duration	Basis of partner selection	Condition for Use
Project	Bennett& Jayes Badden-Hellard CIB	One-off	Competition/ negotiation	All projects. Best for high value.
Strategic/Full	Bennett& Jayes NEDC CIB	Long-term	Competition/ negotiation	Where good business case, part of medium long term strategy
Post-award	ECI	One-off	Competition	Public projects, including series of small projects
Pre-selection arrangement	NEDC	One-off/ Long-term	Negotiation	Any project. Advanced selection of contractors.
coordination agreement	NEDC	One-off/ Long-term	Competition/ negotiation	any project. Agreement overlaid on standard contract.
Semi-project	Mathews, Tyler and Thorpe	One-off	Limited competition	All projects where scope of negotiation is limited

Source: Institute of Civil Engineering Surveyors.

The literature reveals that partnering is not a unified concept. It takes on a number of different forms, including:

- Project partnering
- Strategic/full partnering.
- Post-award project partnering.
- Pre-selection arrangements.
- Coordination arrangement
- Semi-project partnering.

The main differentiating features between these different types appear to relate to relationship duration, the basis of selection and the most appropriate conditions for application as presented in the [table 1](#).

Application of the supply chain management in the construction industry

Supply chain management is a new way of managing the supply chain. It has been defined as the process of activities which transforms raw materials to finished goods and services for use by the end consumer, irrespective of corporate boundaries (Thompson, 1997). This approach has been developed from the Japanese management practices. It has aims of building trust and cooperation, improving coordination, exchange market information, develop new products and streamlining material flow among all parties in the supply chain. The supply chain members in construction industry can be, clients, consultants, contractors, subcontractors or suppliers. Each member has his own role to do. Communication with different parties and team operation are essential to provide better performance. Kanaji and Wong (1998) suggest that there is an inherent conflict between many of the parties goals. The contractor, architect, or engineer, consider maximising profit as their goal, while the owner has the goal of minimising costs. Consequently the application of partnering relationships among the different parties of the supply chain is suggested as a better means to coordinate the parties goals and build trust among them so that the whole supply chain can work as a single unit.

Problems of the supply chain in the construction industry

Disputes, claims, lawsuits, delays, cost overruns and so on are words which are all too common in today's construction industry. These issues have made the construction environment unbearable for both clients and contractors.

The construction industry is plagued by supply chain difficulties which are generally characterised by high levels of interdependence and uncertainty. The majority of the problems lie in completion dates, quality standards, cost and clients' satisfaction with the services of the construction industry. There are many aspects of designing a complex building, and choices or changes in one area: the structure, the services, and the finishes inevitably have consequences somewhere else. The whole process of designing and constructing a project is therefore characterised by discovering inter-dependencies, which makes for uncertainty.

The problem with the coordination of design, construction and supply is that it is ineffective in managing these interdependencies. Designers may not be fully aware of all the complex interdependencies that exist between different aspects of the design of a building. They may also fail to understand the implications of design choices for construction methods, or for materials or components and so contractors have to find or improvise solutions on site. The result is extra work, with scope for conflict over who should undertake it, given that contractors have typically worked under fixed price contracts.

A related problem is that everyone is working on the basis of what the 'centre' specifies, rather than on the basis of what is actually needed by the person who is going to use their work. So the contractor building the structure of an office building may find themselves installing a cladding system specified by the architect which requires expensive facing to the structural members specified by the structural designer, while if the cladding supplier and contractor were together could have specified a much cheaper system to do the same thing. In reality, there is a lot of informal problem solving and adaptation of interfaces, but this happens in spite of the formal system, rather than because of it, and indeed may be held up by the need for formal approval (Holt, 1996).

Implication of partnership success

Until 1986, Laing Homes, a leading construction company, used a traditional adversarial approach in its buying. Analysis shows that supplier services were generally poor and product quality was patchy at best, particularly for timber products. Since that date the company has operated in co-operation with suppliers involving them in product design and performance improvement programs. Suppliers now have reasonable assurance of continued business and are given open access to their client forecast demand projections to enable them to improve forward planning. Although many of the derived benefits are difficult to quantify, Laing Homes' emphasis was on driving cost down. They illustrate their approach to improved quality and saving through partnership. With their suppliers, they jointly developed a specification which although achieved a higher unit price, met its needs precisely. Although the company paid more for the product it reduced wastage by nearly 20% and cut the rejection rate by a factor of ten and reduced overall costs substantially. To meet their client increased specification, the suppliers also formed ongoing relationship with exporters and suppliers in a knock-on effect of improvements and mutual benefits (Ashmore, 1995).

Marks and Spencer, the Ministry of Defence and a host of other organisations which together spend £40 billion a year on construction have called on the industry to achieve 30 percent cost reduction by 2000 in return for establishing client policies to cut waste from the supply chain (Construction news, 1998)

Construction Clients' Forum commits the clients, who represent 80% of Britain's construction expenditure, to drive up standards for the 21st century. In return, it calls on the industry to collaborate to reduce poor standards of work and cut cost and time overruns.

It can be seen that a lot of work has been undertaken concerning the partnering of the supply chain in different industries. However, the recent movement to partnering offers an exciting alternative to the present system of doing business. Partnering is seen to provide the construction industry with a fundamentally different approach to teamwork. This revolutionary management process emphasises co-operation rather than confrontation and it calls for a simple philosophy of trust, respect and long term relationship. Partnering focuses on team building, conflict management, trust and mutual goal and objective development between contracting parties. A charter is developed between partners involved in the process, tools and techniques are identified to overrun the partnering relationship.

Partnering: a tool for improving performance

The central purpose of partnering is to increase productivity. Once this aim has been achieved, the greater productivity can be used to pursue other secondary goals. For example, productivity gains can be used to secure lower prices, increase profits, raise wages, increase quality, deliver better designs, make construction safer, make competition deadlines and provide every one involved with bigger profits.

It is acknowledged that the extension of partnering down throughout the supply chain in the UK construction industry is still in its fancy, but examples are beginning to emerge as cited above. All parties of the construction industry chain can benefit from partnering. The benefits would be greatest if partnering is applied throughout the supply chain, rather than simply between clients and main contractors. Partnering is a philosophy of teamwork and cooperation. Supply chain management supports partnering in the sense that it sees different parties as a supply chain, which needs integration to ensure best performance. In the supply chain, different parties perform different functions of production process. Hence the quality of the final product depends on the performance of each party. Without the application of the appropriate approaches, the effective and efficient performance of the supply chain cannot be achieved. This research is based upon these observations.

Current research

This paper provides the background of a research undertaken in the UK. The objective of this research to determine the use of partnering as a tool to enhance the performance of the supply chain of the construction industry and to answer the following questions:

1. What true partnering means and how it can benefit all parties concerned in the construction chain?
2. What are the appropriate basic tools and techniques used to manage the partnering relationship?
3. What are the behavioral characteristics (e.g. trust, co-operation), which enhance the success of the partnering relationship?
4. How to encourage the use of partnering on appropriate projects?
5. What are the managerial activities required to ensure the efficient performance of the partnering relationship and what are the tools required to support these activities?

Conclusion

The construction industry is plagued by many difficulties of the supply chain. The majority of the problems lie in the competition dates, quality standards and cost and the dissatisfaction with the services of the construction industry. Partnering is a process of teamwork between various parties. Construction industry depends on working together in various parties in the supply chain in order to provide quality performance. Since partnering is a process of teamwork, it is seen to be one of the concepts of harmony of relations, which would positively affect the performance of the supply chain.

Partnering can be implemented as an approach to overcome these difficulties and enhance the performance of the industry. Consequently, there is a need for researchers to assess the current and future expectations of partnering satisfaction as perceived by business executives responsible for implementing partnering. More needs to be established as to the types of partnering suitable for the construction industry supply chain and the strategic performance to be adopted that will help the procurement process to undergo successful changes.

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PROJECT TEAM PERFORMANCE—MANAGING INDIVIDUAL GOALS, SHARED VALUES AND BOUNDARY ROLES.

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Abstract

The project team consists of participants from a variety of different organisations to form a temporary organisation in order to achieve the common objective of procuring the project. Each member of the team will have their own important objectives and self interests. The lack of concern for other participants' risks on the project are major contributors to team failings. Construction project performance is dependent on a team effort and good communication. A constructive team environment is one in which members are interactive and shared values provide the foundation for goal setting. This paper discusses these issues drawing on the results of a survey of 166 project participants on their perceptions on issues relevant to project team performance. Partnering identifies with the management of team building and emphasises an environment of trust, teamwork and co-operation. Partnering is an example of the need to balance individual goals, shared values and boundary roles.

Key Words: Goals, interaction, team performance, team roles, values.

Introduction

From initial inception and financing, to the design and then to the actual construction, the building process is largely a team effort. While teams and teamwork are important in the construction project process, it appears that they are commonly encumbered by problems. Teams in project based manufacturing industries such as construction face higher levels of uncertainty and consequently higher levels of problems encountered than in permanent organisations. The adversarial nature of business, and in particular the construction industry, can be considered an aim of each team member attempting to win at all costs. This creates a hostile and uncompromising team environment which is not often resolved but merely discarded at the end of the project [Loosemore (1995)]. As the construction industry is characterised by temporary teams it is vital to establish certain ground rules. In construction these 'rules' take the form of a building procurement method or the contract. The various procurement methods set the boundaries of conduct which the team members must abide and function. The behaviour and development of project teams consequently has been and remains very much a function of the procurement method adopted.

Procurement methods have undergone significant changes in recent years. It is apparent that between traditional systems and design and construct, there are a number of significant and direct, team organisational and operational implications. Design and construct has changed much of the mechanics of building procurement but not enough to eradicate the problems and biases held by stakeholders. The reality that there is still far from ideal teamwork operating as most publicly evident in the findings of the 1992 Royal Commission [Royal Commission into Productivity in the Building Industry in New South Wales, Australia (1992)]. The problems which project teams encounter must be faced within the framework or confines of the procurement system adopted. Problems within the project team are a complex function caused by dissimilar objectives, motivations and perspectives held by team members [Franks (1995)]. The magnitude of the negative effects that poor teams and teamwork can impact upon the project can be illustrated where management methods have been found to lower budgets by up to 10% and place projects ahead of schedule by up to 18% [Latham (1995a)]. These results have been achieved by what has become the most recognised team management method in the construction industry, termed 'partnering'. The success of management methods such as partnering is heavily reliant upon all stakeholders being open with each other as to their individual goals of the project. Understanding each parties motives and goals assists communication and formation of common project goals [CSPC (1993)].

Understanding individual goals in a team situation

The identification and understanding of team dynamics and decision making from the perceptions formed by the main project stakeholders as suggested by [Shapira et al. (1994)] is significant, yet appears to have been neglected in sufficient detail in

published research to date. Traditional procurement has been identified as contributing to the fragmentation of the construction process and producing an adversarial climate for team members [Blake (1996)]. The development of alternative procurement methods such as design and construct, report to have increased the level of interdependence and teamwork between all team members, resulting in traditional adversaries required to work together [Blake (1996)].

[Hill (1995a)] supports the need for understanding the motives and agendas of individual team members and states "...the best way to prevent disputes from arising is to make sure that each party knows what the other party wants...". It is the participation of the stakeholders as a team from the very beginning of the construction cycle which [Mathur and McGeorge (1991)] see lacking as they identify the participating stakeholders in the construction process as being fragmented in their objectives, practices, methodologies and mechanisms. Further support is provided by [Latham (1994)] who in his report highlights the lack of trust and teamwork in the construction industry drawing particular attention to clients insisting on onerous contract conditions and consultants regarding clients not as the core of the process, but as a nuisance. Communication is essential to successful team forming, however the industry has been criticised for its poor communication practices, which consequently lead to reduced productivity and project performance [CSIRO (1996)].

The importance of clients to the construction industry cannot be over-emphasized, they have the right to expect that projects meet their needs and aspirations [Holt etc (1995)]. According to [Latham (1995b)] clients need a 'strong and influential voice'. Clients in general are becoming more sophisticated and experienced seeking more involvement in the building process [Nahapiet (1993)]. Client performance can not be solely attributed to whether or not the client is experienced as [Kometa etc (1994)] found that the success of the project with regard to the client, involved a number of closely interrelated issues, most importantly those concerning financial stability and project feasibility.

Consultants traditionally have been the leaders, however they have been relegated to a lower position on the team [Allen (1996)] mainly due to the evolution of design and construct procurement methods. This has created a significant amount of hostility as they attempt to retain their valued position in the team [Ndekugri and Turner (1994)] and [Gordon (1994)]. The client highly regards the effectiveness of consultants, and it remains the first group which is called upon when considering to commission a project. The [Building (1995)] survey found when asking over 400 clients who they first approach when considering the commissioning of a project that over 60% will approach a consultant first. In the growing environment of professional liability, consultants fear clients will hold them responsible for extra expenditure [Stewart (1994)]. This litigation prone industry makes for a very negative environment for the consultant to work within. The consequence is likely to result in reduced and heavily qualified communication being transferred between team members. The importance of avoiding litigation is evident with all parties and the search for a less combative situation has assisted the growth of design and construct procurement methods.

While the stakeholders work together towards the common goal of the project, their actions and motives do not always align, often resulting in potential conflict. The source of conflict can be crudely seen as a fight for control or power within the team. [Al-Sedairy (1994)] found that the most heated and frequent conflicts occurred between the contractor and the client, and the contractor and the consultant; where the most significant causes of conflict were found to be timing, project concept, costs and specifications. [Loosemore (1995)] realised the limitations of working in a project-based industry by highlighting the fact that participants are well aware of the limited life span of each job as it reflects the uncooperative, differentiated nature of the temporary organisation which is created to produce the project and contributes to the divisions and general lack of collective responsibility of the problems when they arise.

The team in construction—shared values

The advent of team failings can largely be attributed toward member's self interest. The lack of concern for other team members risk on the project is common [Loosemore (1995)]. [Gabriel (1991)] found that that "there are those who, for various reasons, are disruptive, i.e. they damage relationships and synergy for reasons including individual objectives that are different from the main objectives, a lack of understanding of priorities, or simply to be an 'anti project manager'." The NSW Public Works Department [CSPC (1993)] views coincide, attributing much of the problems team encounter are due to the individualistic nature of members within the team fostered by the adversarial nature of the industry. [Murphy (1996)] draws on the fact that even the gaming theories which believe zero sum or win-lose strategies are often successful if not necessary for survival. [Loosemore (1995)] found that the importance of an effective, structured and harmonious team seems very important. Whereas [Franks (1995)] goes further by stating that "...effective teamwork is essential to success."

Goal setting appears to be an underlying requirement for a team to work with any productivity. [Reijniers (1994)] found that a common cause of team failure was due to the non-goal directed preparation of teams. It seems apparent for a team made up of individuals bringing different motives together that common goals must be set before these members are able to work concurrently [Swierczek (1994)]. It is therefore advantageous that in the setting of common project goals that all members are involved to some degree as changes are likely to induce conflict [Williams and Lilley (1993)]. Increased understanding is the first step towards achieving better teams in the industry by highlighting the fact that the key to team development is to study

the character of the individuals and then work at the relations of the group [Franks (1995)]. A degree of tolerance must be attained, in that there will nearly always be minor interpersonal problems within groups [Stronhmeier (1992)]. [Myers (1996)] emphasises Belbin's 'Apollo Syndrome' where teams of highly capable individuals can collectively perform badly.

[Ward etc (1991)] found that clients were strongly influenced by their previous experiences and consequently often brought to the team preconceptions based on how relationships with other participants worked in terms of both harmonies and conversely arguments and distrust. [Fellows and Langford (1993)] suggested that the construction industry will see Joint Ventures becoming increasingly important.

Management of the team—boundary roles

Team partners in Joint Ventures, at project level, more often than not have some degree of conflicting interests [Reijniers (1994)]. The management of conflict has been identified as a means for successful team forming, and to be achievable "... requires specific organisational structure so that the conflicts of interest can be managed...the structure should focus on the constraints and the common goal." A proactive approach to team building will lead to a greater chance in achieving success [Swierczek (1994)]. The construction project team is similar to a joint venture where the parties mostly come from different company, professional or cultural backgrounds. These 'cross-functional teams' [UCSD (1996)] are clearly advantaged by managed team forming to attain common goals. Team forming difficulties within the industry are partly due to the limited life span of the team, which consequently gives little incentive for the members to move too far from their organisational goals in favour of more common project goals [Loosemore (1995)].

Partnering is the term which this paper identifies with as the management of team building [CSPC (1993)]. According to [Hill (1995b)] partnering should be viewed as a concept to establish working relations among the parties through a mutually developed, formal strategy of commitment and communication where trust and teamwork prevents disputes, create a co-operative bond, and facilitate the completion of a successful project. Partnering was identified as one of the possible keys by Latham where studies have shown a wide range of projects that 10–30% cost savings were established [Latham (1995b)]. [Stevens (1993)] saw partnering created an environment where trust and teamwork prevent disputes.

According to [Chandler (1994)], Australia has been slow to adopt partnering, but, some cynicism has been eliminated by a push by public sector clients to include partnering within contracts. A pilot study by [CSIRO (1996)] found that Australian contractors believe that partnering has improved communication between parties. The construction industry has been slow to adopt a managed approach towards team forming with [Ridout (1994)] highlighting through case study research in firms which fully adopt partnering, that, initially the contractors members believed that it was exposing the company to high levels of risk from being open. Designers were cautious, according to [Wright (1993)] as it opened up additional avenues for the other team members to criticise the designs.

The way in which each team members' organisation works also has significant implications to the effective co-operation of the team. [Williams and Lilley (1993)] identified a significant problem as being the differing procedures between the team members organisations followed. It can not be assumed that team members come from similar size firms, consequently, procedural requirements are often seen to frustrate. For example, larger firms tend to have a structured decision making hierarchy which will seem slow compared to the smaller, more responsive firm. Team forming problems are further enhanced by individualism as a common cause. According to [Tampoe and Thurloway (1993)] in a successfully managed team forming process, the individual within the team is recognised and the team will move towards fostering and development of project environment. This will encourage mutuality, belonging, rewards, banded power and creative autonomy is likely to result in improved project performance.

The survey

The aim of the survey was to provide an insight into the perceptions of project participants on the issues of firstly procurement and the team, secondly obstacles to team formation and finally team management. A structured questionnaire was administered to 166 building contractors, project managers, building owners and clients, architects, engineers and quantity surveyors in Sydney and Newcastle in Australia. [Table 1](#) summarises the respondents by project team role.

Table 1 . Respondents by project team role

Respondent group	Sub-group	Number
Contractors		31
Consultants	Architects	32
	Engineers	31
	Quantity Surveyors	18

Respondent group	Sub-group	Number
Clients	Clients	27
	Client's Representatives	27

Procurement approach and team reliance

Respondents were asked about their preferences between the traditional and design and construct procurement approaches. [Tables 2](#) summarises their responses by the different groups.

Table 2. Respondents' preference for procurement method

Respondents	Preferred method of project procurement	
	Traditional Contract	Design & Construct
Contractor	21%	79%
Consultant	64%	36%
Client	44%	56%

Building contractors showed a strong preference for the design and construct procurement approach in contrast with the consultants who generally still preferred the traditional approach.

The respondents were asked to rate how the two procurement approaches influenced team formation (ie team members working better together) on a 5-point Likert type scale where 1 was "Very Little" and 5 was "Very Significant". [Table 3](#) summarises these results.

Table 3. Perceptions of the influence of procurement approach on team formation.

Respondents	Degree of influence on team formation									
	Traditional Contract					Design & Construct				
	1	2	3	4	5	1	2	3	4	5
Contractor	17%	40%	30%	13%	0%	3%	3%	14%	53%	27%
Consultant	8%	23%	43%	18%	8%	12%	14%	30%	35%	9%
Client	11%	39%	37%	13%	0%	7%	6%	20%	58%	9%

The design and construct approach was generally perceived to be more influential on team formation. Consultants as a group did not express this as strongly as the other groups.

Obstacles to team formation and success factors

Respondents were asked to assess and rank from a list of 43 factors the importance (seriousness and frequency) of these factors in hindering team formation. The factors were derived from an extensive review of the literature. [Table 4](#) reports the top 10 factors ranked by each group of respondents.

Table 4. Perceived factors hindering team formation

Factors	Contractor ranking	Consultant ranking	Client ranking
Selection of a contractor who has tendered too low	1	3	4
Errors in documentation and drawings by consultants	2	4	2
Slow supply of documentation by consultants (drawings etc)	3	7	3
Members operating on tight profit margins	4	1	5
Slow resolution of disputes and conflicts	5	8	10
Unfair contract conditions/low regard for design issues	6	6	7
Unrealistic deadlines being set by team leaders	7	2	9
Team members held in low esteem	8	10	8
Communication shortcomings between members	9	5	1
Differing perceptions of project goals & quality requirements at project outset	10	9	6

All the respondent groups chose the same factors for the top 10 factors hindering team formation. Within these 10, the different groups of respondents perceived different rankings, probably related to their own roles and goals.

Respondents were also asked to rank 14 factors in terms of their perceived importance to successful teaming.

Table 5. Perceived factors important to successful teaming

Overall ranking	Factors	Contractor ranking	Consultant ranking	Client ranking
1	Ability of team to resolve conflicts quickly	3	2	1
2	Ability of members to negotiate and reach compromises	1	3	2
3	The project is feasible in terms of time and budget	2	1	8
4	The setting of clear and realistic milestones for the team	7	4	3
5	Confidence in other team members' abilities	5	5	9
6	Establishing mutually agreed goals early in the project process	6	6	6
7	Team organisational authority structure defined at start	9	9	5
8	Smooth operation of formal communication channels	8	7	7
9	Realistic profit margins for all team members	4	8	12
10	Trust exists between team members	10	10	10
11	Informal communications channels open	13	12	4
12	Understanding of other team members' objectives	12	12	11
13	Members are benefiting in proportion to their risk and effort	11	13	13
14	Similar levels of experience between team members	14	14	14

Factors to do with managing relationships, individual and shared goals featured strongly in the perceptions of all the respondent groups.

Team management

Respondents with personal experience with formal partnering arrangements (48) were asked to respond to three statements using a 5-point Likert type scale from "Strongly Disagree" (SD) to "Strongly Agree" (SA). The aim is to determine whether managed approaches to the team are viable and if they can improve team performance. Table 6 reports that responses given by respondents who have personal experience of partnering.

Table 6. Perceptions: "Partnering improved team formation"

Respondents	"Partnering improved team formation"				
	SD	D	N	A	SA
Contractors	0%	17%	25%	50%	8%
Consultants	21%	22%	21%	32%	5%
Clients	6%	20%	21%	53%	0%

Table 7. Perceptions: "Managed techniques can improve team formation"

Respondents	"Managed techniques can improve team formation"				
	SD	D	N	A	SA
Contractors	0%	8%	25%	58%	8%
Consultants	7%	7%	35%	42%	10%
Clients	18%	0%	11%	58%	13%

Table 8. Perceptions: "Team members were cynical towards partnering"

Respondents	"Team members were cynical towards partnering"				
	SD	D	N	A	SA
Contractors	0%	33%	8%	58%	0%
Consultants	0%	16%	20%	33%	31%
Clients	0%	6%	21%	38%	36%

Discussion

Procurement methods have been a strong theme throughout this research because they set the boundaries within which the team operates. While there are a great variety of forms of procurement currently available they can be typified by the two most prevalent, being traditional procurement systems and design and construct procurement systems [Ndekudrin and Turner (1995)]. Recent research [Fellows and Langford (1993)], [Ndekugrin and Turner (1994)], [Building Magazine (1995)], suggests that alternate procurement methods, led by design and construct methods will gain popularity at the expense of the traditional approach in the future.

The favouring of design and construct by the contractor is quite understandable considering it generally elevates the contractor to a team leader position where the contractor has increased control over the direction of the team. Perhaps the reason why design and construct procurement methods are so popular with the contractor is because it eliminates the traditional consultant barrier of communication with the client. As the contractor usually carries the heaviest burden of risk and responsibility, it is critical that they be given the opportunity to participate at client level in order to monitor the risks. Consultants on the other hand report a preference for traditional procurement methods. The high dependency of consultant input with traditional systems is the most likely reason for their preference. Clients also showed a slight preference for design and construct procurement methods. The increase in sophistication and experience of clients generally means that they wish to become increasingly involved with the construction process. Design and construct type systems offer the client increased involvement and monitoring with the majority of risk transferred onto the contractor.

The contractor, consultant and client groups all reported that design and construct methods required a greater level of team work. This was particularly strongly expressed by the contractor group. When working in a traditional procurement environment the contractor must take a harder line with the other team members namely the consultants, than they would with design and construct. The harder line taken by the contractor in traditional procurement systems itself spells out the significance of procurement systems to teams. The traditional 'hard dollar' procurement drives contractors to bid on price alone resulting in minimal margins if at all.

Team hindering factors have been shown to arise from virtually the slightest weaknesses or problems encountered by the teams [Loosemore (1995)]. This study has focused on the problems identified by the review of the literature. The problems can be categorised into four clear areas concerning money, performance, communication and industry culture. Money has been reported as being a major hindering factor for project teams and is the element that affects the ability of members to perform. [Akintoye and Skitmore (1992)] noted that the construction industry is typically operating on tighter margins than other industries, consequently financial considerations are likely to be the origin of the many problems team face. [Latham (1995b)] pointed out the single-mindedness of clients towards cost minimisation as a significant cause that has led to a chain reaction creating a number of problems within the industry. The erosion of profit margins highlighted by [Ndekugri and Turner (1994)] is a function of an increasingly competitive environment and the increase in popularity of newer procurement systems. Although there have long been critics of the practice of selecting the lowest bid rather than an overall value for money basis selection policy [Ward etc (1991)] and [Latham (1995b)], it is pointed out by [Fellows and Langford (1989)] and [Latham (1995b)] that accountability issues make movement away from this policy of lowest bidder selection very difficult.

Performance related issues are reported to be some of the top factors causing problems within the project team. The ability to perform is dependent upon each member performing to expectation. Errors and slow supply of documentation are highlighted as causing project performance difficulties. The fact that team members are highly interdependent of each others' services means that failure by one is likely to have a detrimental 'domino' effect amongst all team members. Onerous contract conditions that are seen to disproportionately shift the burden of risk between the stakeholders, as highlighted by [Latham (1994)] can be overcome by the use of design and construct methods of procurement due to the single point of responsibility which is commonly the contractor. Communication problems within the construction industry are well acknowledged by [CSIRO (1996)]. The survey respondents reported that good communication was an important ingredient of a successful team and conversely found that communication related problems apparently caused a large portion of team disharmony. Poor understanding or communication is also reported to lead to unrealistic time frames being set.

Both [Franks (1995)] and [Hill (1995a)] consider that the first step in addressing problems within teams is made through a better understanding between members of individual motivations, perspectives and problems. This is also the case as reported by the contractor and consultant as an important step to team improvement. While it is generally agreed that better teams will ensure a greater likelihood of eventual project success, there has been little effort directed towards managing or directing project teams on the basis of encouraging trust, teamwork and co-operation. A better understanding of how boundary roles between participants should be managed is essential.

Managed methods such as partnering can improve team dynamics although it is clear that a great deal of cynicism, particularly on the part of clients, exists. For the success of partnering this issue must be addressed before clients can begin to see the benefits in adopting such strategies with their projects.

Conclusions

The potential for the performance of project teams to improve will be enhanced as the building industry moves from the traditional procurement approaches towards alternate procurement methods such as design and construct, and adopt managed team formation approaches such as partnering. Some of the key issues in achieving this improvement are the management of the individual goals of the team members, developing strong shared values for the project and effectively managing the interfaces between team members and the external environment.

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