



# An analysis of success factors and benefits of partnering in construction

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## Abstract

Partnering is increasingly being used on construction projects. 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. Using a UK-wide postal questionnaire survey, the opinions of different types of organisation — consultants, contractors, and clients were assessed in relation to the success factors and benefits of partnering. The study shows that UK contractors and clients are more positive about partnering than consultants. The research also indicates that certain requirements must be met if partnering is to succeed. In particular, trust, communication, commitment, a clear understanding of roles, consistency and a flexible attitude are necessary. It is recognised that nothing will change without considerable effort from all parties. Respondents believe that partnering can bring significant benefits, including fewer adversarial relationships and increased end-customer satisfaction, to the construction industry if all parties involved in a project strive for its success. © 2000 Elsevier Science Ltd and IPMA. All rights reserved.

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## 1. Introduction

Few industries suffer more from conflict than construction and consequently, the industry is expected to gain from a partnering approach to procurement. Partnering is an arrangement between two parties (e.g. client and contractor or contractor and sub-contractor) which can be either open-ended, for a specified term or for a single project [1]. The partnering procurement method aims to eliminate adversarial relationships between client and contractor by encouraging the parties to work together towards shared objectives and achieve a win/win outcome [2–4]. Partnering seeks to develop closer relationships between parties to a project. Successful partnering requires many factors, in

particular a high level of commitment to shared goals, preferably including those of the client [5].

Chadwick and Rajagopal [6] identify four key differences between the traditional adversarial approach to procurement and the more recent trend towards partnering, namely: (1) an emphasis on cost rather than price, (2) a long-term rather than a short-term focus, (3) defect prevention in place of quality checks, and (4) single, rather than multiple, sourcing.

Saunders [7] provides a model for partnership that is characterised by; (1) frequent communication, both formally and informally, (2) co-operative attitudes, (3) trust between the parties, (4) a win–win approach to negotiation, and (5) open sharing of information and (6) multi-disciplinary involvement.

Fellows [5] argues that partnering embraces the continuous improvement philosophy, which originated in Japan, and must be backed by senior management if it is to succeed. It is further recognised that Europe has

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belatedly recognised the success of Japanese industry since the 1950s and introduced the concept of total quality management (TQM) in an attempt to compete with Pacific Rim suppliers. Harback et al. [8] reckon that partnering will not succeed without TQM with its focus on continuous improvement and teamwork. Griffiths [2] argues that the extension of an internal TQM programme to include major suppliers is the essential difference between strategic alliance partnering and other forms of partnering.

Some advocates of partnering believe that, because trust is required for a successful partnership, a 'gentlemen's agreement' should be used in place of a formal agreement; they argue that the negotiation of a contract indicates a lack of trust. However, Griffiths [2] states that there is a need for the partners to understand the nature of the partnership and, in this light, formally expressed terms and conditions emphasising openness, co-operation and TQM principles, are beneficial.

Baxendale and Greaves [9] argue that competition and partnering are compatible in circumstances where relationships are formed with suppliers which have met qualification requirements and are where the suppliers are committed to reducing the end-customer's costs and service. Griffiths [2] argues that more than one partnership can be developed for the supply of any product or service. He states, however, that due to the investment required by both partners, the number of partners should be kept to the minimum necessary.

This paper expands on the current literature on the subject by evaluating empirically the views of contractors, consultants and clients on their perception of the reasons for adopting partnering and what makes it a success. The benefits, which can be achieved, are evaluated together with the appropriate conditions for the use of partnering. Finally, opinions on whether partnering results in a fair and equitable outcome in construction are examined, together with opinions on its future.

## 2. The research survey

Partnering is relevant to all members of the construction industry (client groups, design team, project management team, contractors, suppliers, subcontractors etc.). The research concentrated on three principal categories of respondent: clients, design team (consultants) and contractors. 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 select responding firms for consultants and contractors; convenient sampling was used for clients. Since there are no dedicated lists of construction clients, the Construc-

tion Clients' Forum was approached and provided a list of 36 clients while the other clients were selected at random from trade directories [10,11]. Following an initial pilot study of five people, questionnaires were sent to 290 organisations (including consultants, contractors and clients) involved in construction, accompanied by a letter explaining the aims of the research.

The survey included closed and open-ended questions. The questionnaire divided into six main sections. Section 1 covered general information about the respondents. Section 2 dealt with partnering trends and Section 3 with the outcome from the use of partnering. Section 4 covered the reasons for using partnering and the benefits which result and Section 5 the risks associated with partnering in particular circumstances, and the construction industry in general. Finally, Section 6 invited respondents to supply general comments on the subject.

The Questionnaire design was based on an extensive review of the literature dealing with partnering. 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.

### 2.1. Questionnaire response

Responses were received to the questionnaire as follows: 25 consultants representing 25% response rate, 32 contractors representing 32.0% of contractors approached and 21 clients representing 23.3% response rate. Overall, the 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 [12] received a 27% response rate to their survey questionnaire and Shash 28.3% [13].

### 2.2. Characteristics of responding firms

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

### 2.3. Data analysis

Statistical analyses were undertaken using the statistical package for social sciences (SPSS). Analyses were undertaken to rank the success factors and ben-

Table 1  
Perceived failings of traditional adversarial relationships (by organisational category)

	Total	Consultants	Contractors	Clients	ANOVA <sup>a</sup>	
					<i>F</i> Statistics	Significance level
Exploitation is common	3.74	3.00	4.23	3.95	6.10	0.01
Rigid specifications	3.50	3.11	3.84	3.48	2.31	0.11
Decisions made with limited knowledge	3.44	3.19	3.55	3.62	0.75	0.47
Short-term focus	3.40	3.15	3.29	3.86	1.94	0.15

<sup>a</sup> ANOVA (analysis of variance) tests whether the mean values on each factor are equal; for: (i) the consultants, contractors and clients; and (ii) the firms that are involved in partnering and those with no involvement.

efits based on mean value of response. A lower value indicates a lower presence of the success factor or benefit. One-way analysis of variance (ANOVA) were performed which test whether the mean values on each success factor and benefit for the groups were equal for:

- (a) the consultants, contractors and clients; and
- (b) the firms that are involved in partnering and those with no involvement.

Tables 1–10 present the results of the analysis. The tables show ‘*F* statistics’ (based on *F*-ratio or value) which tests the null hypothesis that all groups have the same mean. ‘*F* significant’ indicates the probability of rejecting the null hypothesis of no difference between the mean values between groups. Lower probability value indicates that the null hypothesis can be rejected, suggesting that there is difference of opinion between groups. A probability value (significance level) below 0.05 suggests a high degree of difference of opinion between groups on that factor. For example, in relation to Table 1 factor 1 (exploitation is regarded a perceived failing of traditional adversarial relationships) the *F* ratio is 6.10 and the observed significance level is less than 0.01; one can reject the null hypothesis suggesting that there is no consensus of opinion between the groups (consultants, contractors and clients) that exploitation is regarded a perceived failing of traditional adversarial relationships to the same extent. This is supported by the mean value of 3.00 for the factor by consultants compared with 4.23 by contractors and 3.96 by clients.

### 3. Perceived failings of traditional adversarial relationships

The need for change in traditional relationships has for many years been recognised by the UK construction industry, its clients and government [14]. Increasingly, organisations recognise the drawbacks of an adversarial approach to procurement. The features of traditional adversarial relationships which have fuelled the drive to partnering are considered in this study, firstly by organisational category (Table 1) and secondly, by level of involvement in partnering (Table 2).

Overall, in agreement with MacBeth and Ferguson [15], the exploitation associated with traditional procurement routes is believed to be the most important reason for the move to partnering. This is rated the most important reason by contractors and clients; consultants, however, believe that this is the least important problem associated with traditional procurement. Consultants may not suffer greatly from exploitation under traditional procurement methods, due to the nature of the service provided; typically, they commit insignificant resources to the construction process when compared to the commitment made by clients and by contractors. The opinions of the consultants, contractors and clients are different on this factor at a 5% significance level ( $p = 0.01$ ).

Saunders [7] is of the view that the short-term focus is an undesirable feature of the traditional contractual relationship. Respondents in the present study regard

Table 2  
Perceived failings of traditional adversarial relationships (by involvement)

	Total	Involved	No involvement	ANOVA	
				<i>F</i> Statistics	Significance level
Exploitation is common	3.74	3.98	3.24	4.68	0.04
Rigid specifications	3.50	3.68	3.12	3.31	0.07
Decisions made with limited knowledge	3.45	3.55	3.24	0.92	0.34
Short-term focus	3.40	3.41	3.36	0.03	0.86

Table 3  
Factors responsible for successful partnering (by organisational category)

Factors for success	Total	Consultants	Contractors	Clients	ANOVA	
					F Statistics	Significance level
Mutual trust	4.61	4.38	4.74	4.71	1.30	0.28
Effective communication	4.50	4.19	4.77	4.48	2.87	0.63
Commitment from senior management	4.47	3.92	4.77	4.71	8.03	0.01
Clear understanding	4.45	4.19	4.58	4.57	1.49	0.23
Acting consistent with objectives	4.17	3.88	4.42	4.14	2.59	0.08
Dedicated team	4.05	3.801	4.45	3.76	2.94	0.06
Flexibility to change	4.00	3.81	4.19	3.95	1.02	0.37
Commitment to quality	3.97	3.96	3.87	4.14	0.47	0.63
Commitment to continuous improvement	3.95	3.77	4.03	4.05	0.52	0.60
Long-term perspective	3.86	3.81	3.97	3.76	0.29	0.75
Total cost perspective	3.85	3.61	3.97	3.95	1.39	0.25
Formation at design stage	3.85	3.69	3.90	3.95	0.28	0.76
Good cultural fit	3.83	3.61	3.97	3.90	0.84	0.44
Company wide acceptance	3.78	3.58	3.84	3.95	0.75	0.47
Technical expertise	3.76	3.65	3.93	3.62	0.96	0.39
Financial security	3.69	3.38	3.97	3.67	3.03	0.05
Questioning attitudes	3.69	3.61	3.74	3.71	0.14	0.87
Availability of resources	3.68	3.65	3.64	3.76	0.11	0.90
Equal power/empowerment	3.63	3.42	3.84	3.57	0.92	0.40

it as the least important problem. That is the view held despite the belief by other commentators that short-term encourages taking advantage to the full when there is little prospect of future reward being considerable. Clients and consultants appear to be more aware of this link than contractors as these two cat-

egories place the short-term focus as the second most damaging aspect of traditional procurement.

The problem of making decisions based on incomplete knowledge was the most important factor identified by the consultants. This is a common complaint from consultants who often receive imprecise briefs

Table 4  
Factors required for successful partnering (by involvement)

Factors for success	Total	Involved	No involvement	ANOVA	
				F Statistics	Significance level
Mutual trust	4.61	4.72	4.40	2.13	0.15
Effective communication	4.50	4.66	4.16	5.11	0.03
Commitment from senior management	4.47	4.66	4.08	7.04	0.01
Clear understanding	4.45	4.58	4.16	3.63	0.06
Acting consistent with objectives	4.17	4.38	3.72	10.05	0.01
Dedicated team	4.05	4.38	3.36	13.89	0.01
Flexibility to change	4.00	4.17	3.64	4.69	0.03
Commitment to quality	3.97	4.08	3.76	1.73	0.19
Commitment to continuous improvement	3.95	4.21	3.40	10.43	0.01
Long-term perspective	3.86	4.00	3.56	3.12	0.08
Total cost perspective	3.85	3.94	3.64	2.10	0.15
Formation at design stage	3.85	4.02	3.48	2.99	0.09
Good cultural fit	3.83	4.00	3.48	4.24	0.04
Company wide acceptance	3.78	3.89	3.56	1.54	0.22
Technical expertise	3.76	3.85	3.56	1.66	0.20
Financial security	3.69	3.77	3.52	1.31	0.26
Questioning attitudes	3.69	3.92	3.20	11.75	0.01
Availability of resources	3.68	3.79	3.44	2.40	0.13
Equal power/empowerment	3.63	3.74	3.40	1.40	0.24

Table 5  
Benefits attributable to partnering (by organisational category)

Benefits	Total	Consultants	Contractors	Clients	ANOVA	
					F Statistics	Significance level
Less adversarial relationship	4.37	4.15	4.52	4.43	1.01	0.37
Increased customer satisfaction	4.19	3.85	4.45	4.24	2.70	0.07
Increased understanding of parties	3.99	3.81	4.06	4.09	0.64	0.53
Improved time-scales	3.92	3.81	4.13	3.76	0.87	0.42
Reduced risk exposure	3.91	3.54	4.06	4.14	2.31	0.11
Reduced cost	3.81	3.42	4.13	3.81	2.61	0.08
Improved administration	3.73	3.50	3.90	3.76	1.13	0.33
Quality improvements	3.69	3.73	3.68	3.67	0.02	0.98
improved design	3.55	3.27	3.71	3.67	1.39	0.25
Risk shared	3.45	3.19	3.77	3.29	2.90	0.06
Improved return on resources	3.44	3.35	3.55	3.38	0.31	0.73
Design cycle reductions	3.38	3.11	3.45	3.62	1.58	0.21
Increased market share	3.22	3.31	3.29	3.00	0.56	0.57

Table 6  
Benefits attributable to partnering (by involvement)

	Total	Involved	No involvement	ANOVA	
				F Statistics	Significance level
Less adversarial relationship	4.37	4.49	4.12	2.47	0.12
Increased customer satisfaction	4.19	4.38	3.80	5.94	0.02
Increased understanding of parties	3.99	4.15	3.64	4.78	0.03
Improved time-scales	3.92	4.13	3.48	6.08	0.02
Reduced risk exposure	3.91	4.02	3.68	1.60	0.21
Reduced cost	3.81	3.96	3.48	2.88	0.09
Improved administration	3.73	3.81	3.56	1.04	0.31
Quality improvements	3.69	3.74	3.60	0.23	0.63
Improved design	3.55	3.68	3.28	2.43	0.12
Risk shared	3.45	3.57	3.20	2.31	0.13
Improved return on resources	3.44	3.62	3.04	5.81	0.02
Design cycle reductions	3.38	3.47	3.20	1.23	0.27
Increased market share	3.22	3.38	2.88	3.58	0.06

Table 7  
Appropriate conditions for clients to use partnering (by organisational category)

Conditions for use	Total	Consultants	Contractors	Clients	ANOVA	
					F Statistics	Significance level
Strategic significance of business	3.51	3.38	3.71	3.38	0.32	0.73
Level of spending	3.40	3.19	3.55	3.43	0.34	0.71
Cost of changing partner	3.03	3.00	3.00	3.09	0.03	0.97
Availability of alternative partners	2.45	2.35	2.45	2.57	0.14	0.87
Risk of partner failing	2.23	2.08	2.03	2.71	1.74	0.18

from clients and feel side-lined once the site construction phase has commenced.

It is of interest to note that, for all the four problems detailed in the questionnaire, the organisations which have experience of partnering believe the problems are more significant than organisations that have not been involved.

#### 4. Factors responsible for success in partnering

Writers have identified a variety of requirements and factors associated with the successful operation of partnering [6,7,14,16–18].

Partnership Sourcing Limited [7] advocates a 5-stage

Table 8  
Appropriate conditions for clients to use partnering (by involvement)

	Total	Involved	No involvement	ANOVA	
				F Statistics	Significance level
Strategic significance of business	3.40	3.47	3.24	0.34	0.56
Level of spend	3.38	3.70	3.12	1.86	0.18
Cost of changing partner	3.03	3.00	3.08	0.05	0.83
Availability of alternative partners	2.45	2.62	2.08	2.46	0.12
Risk of partner failing	2.23	2.36	1.96	1.37	0.24

Table 9  
Appropriate conditions for consultants and contractors to use partnering (by organisational category)

Conditions	Total	Consultants	Contractors	Clients	ANOVA	
					F Statistics	Significance level
Impact of lost business	3.61	3.54	3.81	3.43	0.38	0.68
Percentage turnover	3.49	3.61	3.81	2.86	2.55	0.08
Number of direct competitors	3.08	3.04	3.19	2.95	0.15	0.86
Degree of product/service differentiation	2.77	2.65	3.10	2.43	1.45	0.24
Price advantage in relation to competitors	2.73	2.54	3.13	2.38	1.75	0.18

process for organisations wishing to adopt the partnering approach to procurement:

- Identify the products and services that will benefit from partnering.
- Convince internal and external organisations of the benefits that can be achieved.
- Select the first partners by concentrating on suppliers of key products and services identified.
- Define the objectives of the relationship to ensure that both parties have a clear purpose in their activities; Lewis [17] recommends setting both short and long-term objectives to ensure that current activities are consistent with the strategic plans of both parties.

- Refine and develop the relationship to ensure that lessons are learnt from mistakes prior to rolling-out the new approach.

Gattorna and Walters [18] concentrate on the criteria, which the parties must embrace for the partnership to succeed. They suggest that the parties must bring something of value to the relationship and have positive reasons for entering it. It is vital that the relationship fits in with the strategic plans of both organisations and that both commit themselves to the relationship. The parties should integrate at all levels and freely share information both formally and, just as important, informally.

Lorraine [16] championed a workshop approach to

Table 10  
Appropriate conditions for consultants and contractors to use partnering (by involvement)

	Total	Involved	No involvement	ANOVA	
				F Statistics	Significance level
Impact of lost business	3.61	3.68	3.48	0.26	0.61
Percentage turnover	3.49	3.68	3.08	2.56	0.11
Number of direct competitors	3.08	3.17	2.88	0.55	0.46
Degree of product/service differentiation	2.77	2.89	2.52	1.07	0.30
Price advantage in relation to competitors	2.73	2.72	2.76	0.01	0.91

successful partnering. The workshops, attended by personnel from both parties, should be established to encourage the cultural change required. The workshop, carrying the support of champions within both organisations, should establish the procedures for the avoidance of conflict and devise a project mission statement. The workshop participants should be drawn from the senior management team and must be fully committed to making the partnership work.

Lorraine [16] recognised that one of the most difficult procedures to establish is the mechanism for adjusting price. Accordingly, while it is important that parties do not resort to claims and aggressive defence of claims and instead seek to resolve cost problems together; it is also vital that cost control is maintained. It is expected that this will require careful ground rules and great skill on the part of the facilitator to strike a balance. In addition, it is argued that the avoidance of cost discipline is one of the major defects of most current partnering projects. Where projects do not experience major difficulties, this will not be a major problem. However, in the event of major problems occurring it may be all too easy for the parties to return to old adversarial habits.

A partnership will not succeed unless there is mutual trust and this is only achieved through the parties acting consistently with their joint objectives [8]. In particular, both organisations must trust the other and not divulge information to their respective competitors.

Lewis [17] advocates the involvement of key suppliers in the design phase of a project. Traditional competitive tendering invites narrow responses as suppliers must meet the specification to ensure that their offer is considered. By failing to involve suppliers in the design process, a great deal of potential value may be lost. Lewis argues that this stifles creativity and changes made following a competitive tendering exercise are costly due to the lost time and aborted design costs. One of the most important rules about forming a partnership is that to be effective each firm must feel free to question assumptions made by the other party. This helps the parties to understand the reasoning behind assumptions made and on occasion will make the 'expert' party question its own assumptions, sometimes with surprising results.

Lorraine [16] suggests that procurement personnel will require to change their way of thinking if partnering is to succeed. One major change will be the move from price as the determinant of bidding success to a package of factors, which also include, in addition to price, details on how the project will be run. Dixon [14] calls for the need for a greater recognition of good behaviour for partnering to be successful.

The Questionnaire lists the factors, which are thought to be responsible the success in partnering.

Respondents mainly identified (Table 3): mutual trust, effective communication, senior management commitment, actions consistent with stated objectives, a dedicated team, flexibility with regard to change and a commitment to continuous improvement. Respondents largely agree with Chadwick and Rajagopal's [16] conclusions on the factors required for success. The factors listed under 'relationship factors' are rated generally more important than those listed within the 'internal buyer' and 'supplier' categories; four of the respondents' top five factors appear in this category.

All respondents believe that mutual trust is crucial for success in the partnering relationship; and while consultants have rated it highly, contractors and clients rank it even higher in importance. This is encouraging, given that traditional relationships between contractor and client are typically mistrustful. Organisations which have not been involved in partnering have recorded a slightly lower rating for this factor ( $p = 0.15$ ), although it is their most important one.

Effective communication was given a very high rating by all categories and by both organisations involved and those not involved in partnering. Contractors rated this factor as their most important reflecting the problems associated with poor communication on site between contractors, clients and consultants. Contractors believe that this factor is crucial to successful partnering. While there is no significant difference in opinion between the three parties ( $p = 0.63$ ), there is a marked difference between those organisations which have, and those which have not, been involved in partnering ( $p = 0.03$ ).

Commitment from senior management is considered an important factor. Contractors and clients regard this as particularly important and both categories rated this as their most important factor. Consultants, however, rated this as a lower priority. Since many consultants are partnership based, they are likely to be involved in decision making and therefore less likely to be frustrated by a board of directors far removed from the day to day problems of construction projects. Organisations with experience of partnering have rated this much more high than those without. As with any new approach, without the backing of senior management, it is unlikely to succeed.

The five least important requirements held to be are: company wide acceptance, technical expertise, financial stability, questioning attitudes, availability of resources and equal empowerment of the parties. Table 4, which compares the response of the firms currently involved in partnering and those without involvement to date, shows that there is a general difference of opinion between the two groups at the 5% level of significance.

## 5. Benefits attributable to partnering

According to Lorraine [16], the main reason for the introduction of partnering is the need to move away from the traditional adversarial relationships in construction contracting. There is increasing recognition that traditional procurement methods result in costs spiralling out of control along with the recognition that quality and safety can be improved by parties working more closely together.

Organisations cannot survive in a market that is becoming increasingly competitive without the support of their suppliers. Working with suppliers can enhance the ability of the organisation to meet the client's programme, quality, flexibility and cost requirements. One of the key benefits of partnering with suppliers is the resultant synergy, enabling constant improvement in the key variables: time, cost and quality [6].

Gattorna and Walters [18] argue that the main reasons for embracing a partnership approach to procurement are to develop joint strategies that will achieve strategic objectives. This will enable organisations to improve the return on scarce resources while also reducing their risk.

The focus on medium to long-term relationships is held by MacBeth and Ferguson [15] to be one of the main benefits of partnerships; it is believed that it compresses the normal learning curve and thereby reduces the normal costs of developing and supporting productive relationships between the parties. Under a traditional competitive tendering approach to procurement, suppliers have a restricted role in the design stage and subsequent design frequently disrupts the programme timetable and threatens the cost plan with the expense of aborted design work [7]. The danger of suppliers becoming complacent due to a long-term relationship with their client is off-set by the presence of alternative suppliers with whom to partner. Suppliers must strive to make continuous improvements or the client may decide to partner with a competitor [19].

Lewis's [17] study of the partnering programmes adopted by several major organisations, including Marks & Spencer, Motorola and Chrysler, identified four key benefits from partnering with suppliers: higher margins, lower costs, better value for customers, and a larger market share. Other improvements identified by Lewis are: quality improvements, design-cycle time reductions and increased operating flexibility. He believes that traditional UK competitive procurement, regarded by some as a key feature of a successful market based economy, is 'faulty and impedes economic growth' in failing to capture the synergy that is achieved by co-operative effort.

Considering that construction projects are inherently risky due to the invariably unique design, number of

organisations involved and unknown site conditions, Ng [20] identifies some benefits of partnering for the industry; he cites the avoidance of some cost, quality and programming problems. A major factor in partnering for construction projects is the benefit from sharing risk between the parties. With major projects the single firm might also struggle to raise the financial resources required; through partnering, construction firms can combine resources and expertise and thereby increase the likelihood of success. Small to medium-sized companies are also more likely to pre-qualify by working together; thus a partnering approach can open up new markets for these organisations. In a same manner, if a firm partners with a local firm on an international project, the language, legal and cultural barriers between client and contractor are reduced.

Table 5 shows the respondents opinions on the benefits attributable to partnering. The most important benefits are a less adversarial relationship, increased customer satisfaction and increased understanding of parties. The least important benefits are improved return on resources, design cycle reductions and increased market share. This table shows that most benefits expected from the parties are better relationships rather than project-based benefits (such as improved design, quality improvement, reduced cost etc.). It can be inferred that because a better relationship between the parties produces the project-based benefits, the project-based benefits have not been rated highly by the respondents.

Table 6, which shows the response of the firms with some experience of partnering and those without any, indicates a difference of opinion between the two parties at a 5% level of significance.

A less adversarial relationship is the main benefit selected by all the parties. Significantly, even organisations that have not yet experienced partnering strongly believe that partnering reduces conflict. This could be a recognition that the UK construction industry suffers from conflict between the large number of organisations inevitably involved in a project.

Increased end-customer satisfaction is ranked as the second most significant benefit by all categories of responding organisations and this supports the view of Chadwick and Rajagopal [6]. Organisations with experience in partnering believe very strongly and agree with MacBeth and Ferguson [15], that an increased understanding of other parties is an important benefit. The fact that the same view is held by contractors and clients is encouraging; it shows understanding of the other organisations' goals and requirements — a mutual understanding which will enable the parties to work well together to achieve project targets.



## 6. Appropriate conditions for the use of partnering

Not all procurement requirements are equally suitable for a partnership approach. For example, the use of portfolio models for partnering has been widely used in strategic planning. According to Olsen and Ellram [21], portfolio models can be used as an analytical tool to improve the allocation of scarce resources by identifying which products and suppliers justify more attention than others.

van Weele [22] has developed the Purchasing Product Portfolio Technique, which considers the need for the procurement manager to adopt a different strategy for different supply markets. Two factors are considered; the first is the importance placed on purchasing by the company which can be (measured by the profit impact of supply items); the second is the risk involved, as measured by the availability of the goods or service, the number of suppliers, storage difficulties and the possibility of substitution. By combining these two key factors a two-dimensional matrix of products with four quadrants (strategic, bottleneck, leverage and routine products) was identified.

In this Portfolio Model, the procurement approach taken will depend on the nature of the requirement. Usually, strategic and leverage products together account for 80% of turnover. Small price changes have a significant effect on product cost and every opportunity to add value must be taken. As organisations experience significant supply risk from strategic and bottleneck products, partnering with key suppliers will help to minimise risk. Contingency planning developed with the co-operation of the supplier will also help to minimise risk. For leverage and normal items traditional aggressive competitive tendering will provide the best value because of the minimal risk and interchangeability of suppliers.

Gattorna and Walters [18] also consider the lever of buyer–supplier interdependence when determining the optimal approach. They advocate a partnership approach where both the buyer and supplier are highly dependent on each other.

According to Watson [23], for the client, the simplest point at which to introduce partnering is the post-tender stage when the lowest compliant offer has been identified. Latham [24] believes the potential construction cost savings using this approach, lie somewhere between 2% and 10%. Furthermore, it is believed that the total savings to be realised using a negotiated contract with either just one contractor, or with two contractors competing against each other for the project, may be up to 30% of project cost and attributable to the earlier involvement of the contractor.

The Questionnaire sets out to compare the opinions of individuals involved in construction with the views of Gattorna and Walters [18]. Respondents' views on

the appropriate conditions for the use of partnering by clients are shown in Tables 7 and 8. The two most important conditions for clients, which concur with Gattorna and Walters [18], are the strategic significance of the business and the level of spending. Where a project is vital to the success of the organisation partnering, this is thought to be a method, which will help the client to achieve a successful outcome. Surprisingly, contractors regard this factor as the most important.

The level of spending is rated by clients as their most important consideration; it suggests that they do not believe that lower-spend projects justify the level of resources required for a successful partnering relationship.

There is no significant difference in opinion between the three parties or between organisations which have and have not been involved in partnering ( $p = 0.12–0.97$ ).

The views of the respondents on the appropriate conditions for the use of partnering by consultants and contractors are shown in Tables 9 and 10. The most important conditions are the impact of lost business and percentage turnover.

All categories of respondents believe that partnering will help consultants and contractors where the impact of losing a client's business is high. Again, partnering can provide security to the organisation in such circumstances. Contractors and consultants believe that they should use partnering when they have a fairly high turnover attributable to the client; the results confirm that of Gattorna and Walters [18]. Where they are already fairly dependent on a client for business, securing a long-term relationship with this client would be expected to secure this business. Clients do not, however, believe that consultants and contractors should enter into partnerships with clients with whom they have substantial business. Perhaps this is because clients prefer the traditional power they have over their suppliers.

Again, there is no significant difference in opinion between the three parties and organisations which have and have not been involved in partnering ( $p = 0.11–0.91$ ).

## 7. General opinion of partnering

Table 11 shows that there is a strong belief that partnering has a future within the UK construction industry. Clients feel that partnering will be around for a long time with contractors being only slightly less positive. Consultants are less convinced and appear to feel that partnering is simply a fad. However, the opinions of the three parties are not significantly different ( $p = 0.52$ ). In addition, the

Table 11  
General opinions about partnering

	Total	Consultants	Contractors	Clients	ANOVA	
					F Statistics	Significance level
Partnering has a future	4.17	3.67	4.32	4.50	3.15	0.52
Partnering brings tangible benefits	3.87	3.60	4.180	3.40	2.33	0.10
Partnering results in win/win	3.75	3.07	3.93	4.30	6.08	0.01
Prior to involvement, believed in partnering	3.57	3.27	3.64	3.80	1.20	0.31
Bargaining powers affect outcome	3.53	3.53	3.57	3.40	0.09	0.91
Partnering will be normal for large projects	3.15	3.13	3.29	2.80	0.50	0.61
Partnering will be normal for small projects	3.09	3.20	2.79	3.80	3.57	0.03

respondents believe that partnering brings tangible benefits. Both consultants and contractors opinions of the benefits from partnering increased following the experience of it. Clients' opinions of partnering after experiencing it were less favourable. This may indicate that clients have either unreasonably optimistic expectations of partnering or that they have gained less from partnering.

Lorraine [16] and Bova [25] believe that bargaining powers can affect the contractual arrangements into which organisations enter. All parties believe that bargaining power could be used to force a firm to enter a partnership but are not particularly worried about this danger.

Although the respondents believe the partnering results in a win/win outcome, Table 12 shows that overall, clients are believed to be the greatest beneficiaries of the approach, followed by contractors. Consultants are believed to benefit to a lesser extent. Although consultants, have the least positive opinion about the benefits which result from partnering, they believe that contractors benefit most followed by themselves with clients gaining the least benefit. While to some extent there is agreement with the views of Griffiths [2], Pettipher [3] and Watson [24] that a win/win outcome is achieved, respondents do not believe that there is an equitable sharing of the benefits which are derived from the use of partnering. However, the opinions of the three parties are not statistically significantly different ( $p = 0.22-0.65$ ).

## 8. Conclusions

The Egan [26] report 'Rethinking Construction' has identified that the UK construction industry needs to improve performance and reduce confrontation in the construction supply chain, especially between constructors and suppliers. 'Partnering the Supply Chain' was advocated to meet these improvements and to 'build down barriers' in relationships among the parties. The report identifies and amplifies five key drivers for change: committed leadership, a focus on customer, integrated processes and teams, a quality driven agenda and commitment to people. One other recommendation of the report pertinent to the study is that the industry should achieve an enabling improvement through long-term relationships or partnering arrangements. According to the report, "Partnering implies selection (of partners) on the basis of attitude to teamworking, ability to innovate and to offer efficient solutions".

The current research shows that there is an increasing trend in the use of partnering in UK construction projects. Many firms who participated in this research have already been involved in partnering and, in general, contractors and clients are the most supportive of the approach. Consultants are less enthusiastic due to fears of loss of control. However, consultants must learn to modify their reaction, as partnering looks set to play an increasing role in construction procurement,

Table 12  
Extent of win/win outcome

	Total	Consultants	Contractors	Clients	ANOVA	
					F Statistics	Significance level
Client	4.19	3.87	4.36	4.20	1.56	0.22
Contractor	4.02	3.87	4.07	4.10	0.60	0.55
Consultant	3.43	3.33	3.57	3.20	0.43	0.65

particularly in view of the Latham [24] and Egan [26] reports.

The research respondents believe that there are many benefits from the use of partnering. In particular a less adversarial environment, increased end-client satisfaction and an improved understanding of the difficulties faced by other parties. Egan [26] has the view that the most immediate accessible savings from alliances and partnering come from a reduced requirement for tendering.

This research indicates that certain requirements must be met if partnering is to succeed; in particular trust, good communication, commitment, a clear understanding of roles, consistency and a flexible attitude. It is recognised that nothing will change without considerable effort from all players.

Overall, the barriers to construction partnering are rated as less significant than the potential benefits. There is therefore, in general, a real belief that partnering can bring benefits and a willingness to implement the cultural changes required to succeed. However, the risks and barriers are real and must be considered. If all parties work together to control risk events and prevent barriers occurring, then partnering projects should succeed.

In sum, partnering can and does work, but all project participants must re-think their attitudes and work to make projects more efficient, successful and free of conflict. Partnering has a future, is the general opinion and respondents believe that all parties benefit to varying degrees from its use.

Clients are in a key position of influence in the selection of the project procurement approach. They must recognise this and use partnering to help achieve an efficient and successful project. Many clients have limited in-house expertise in construction management and are heavily reliant on bought-in expertise, i.e. consultants. Consultants are less positive about partnering than clients and contractors; they perceive a loss of control. Clients must recognise their pivotal position and, if necessary, question the opinion of the consultants. For the client to achieve enabling improvement, Egan [26] has listed four considerations that the Task Force wishes to see: new criteria for the selection of partners; all the key players in the team sharing in success in line with the value that they add for the client; an end of reliance on contracts; and the introduction of performance measurement and competition against a clear target for improvement, in terms of quality, timeliness and cost. The UK Department of the Environment, Transport and Region (DETR) and the Construction Industry Board (CIB) have set up an implementation board, Movement for Innovation, to take forward the Task Force proposals aimed at improving the quality and the efficiency of the UK construction.

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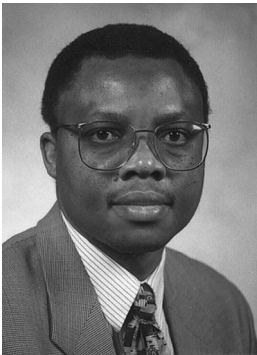
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