The Development of a Partnering Assessment Tool for Projects

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ABSTRACT

Many firms in the construction industry claim to be working in a 'partnering' or even in an 'integrated' way. It is, however, very difficult to verify these claims with the tools currently available. The purpose of this study was to collect and refine existing work on integrative and collaborative working, so as to develop a quick and simple tool that measures the degree of integration with which firms are working. First, the concepts of 'Partnering' and 'Integrated Working' are discussed and, for the purposes of the work a major supposition is adopted: that the difference between these concepts is that companies that are partnering only share project-related information, while companies working in an integrated way share much more of their available information, knowledge and experience. Secondly, the development of the Partnering Assessment Tool is explained and its application to four cases is recounted. The companies' overall scores are presented and discussed as to whether these scores might reflect their actual levels of integration and cooperative working. These scores are presented on a scale that contains the categories 'Cooperative Working', 'Partnering' and 'Integrated Working'. It is concluded that the application of the tool can provide a useful insight in the nature of the relationships between companies that work together in construction projects. Finally, it is recommended that the tool be tested in more cases and companies, and in a variety of different contractual contexts.

Keywords: Assessment tool, Co-operative working, Integrated working, Partnering.

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1.0 INTRODUCTION

The concept of 'partnering' has become a mantra for companies in the UK construction industry, and many claim to have embraced 'partnering' or 'integrated working' on their projects. However, it is particularly difficult to verify these claims and assess whether a company is really partnering, or not: some may not actually be trying (and merely paying lip-service to the idea); others may be trying unsuccessfully; and some companies may actually be successful. The objective of this study is to develop and test a simple tool; the *Partnering Assessment Tool*. We first describe the nature of buyer-supplier relationships in the construction industry, and in particular, the traditional approach to these relations. Following this, the paper focuses on the definition and benefits of buyer-supplier relationships based on partnering and cooperative working, and examines the differences between these concepts. This is followed by a description of the development of the Partnering Assessment Tool, consisting of defining relevant criteria and constructing a scale with categories of cooperative working. This tool is then applied to four test cases, whose results are presented, for the purposes of demonstration and internal validation. The final section presents conclusions and suggestions as to why the tool can offer a hitherto unavailable insight into aspects of integration within the entire project supply chain.

2.0 BUYER-SUPPLIER RELATIONSHIPS IN CONSTRUCTION

In the last twenty to thirty years there has been an apparent move away from arm's-length relationships towards longer-term collaborative working (see, for example, studies by Bensaou, 1999; Sako, 1992). Indeed, many industrial markets are now characterized by the existence of longer-term buyer-supplier relationships (Håkansson and Persson, 2004). Several constructs and frameworks have been developed which have contributed significantly to our understanding of how different buyer-supplier relationships can be developed and managed. For example, Bensaou (1999) presented a portfolio model, and Axelrod (1984, 1997) studied evolutionary patterns of collaboration between multiple agents from an 'organisational ecology' perspective. Cox and Thompson (1997) have argued that models that have been developed from manufacturing industries (such as automotive and electronics) where production takes place within controlled factory environments and where the supply of goods is merely a repeat process of a production line, are of limited use in the construction industry, where most work is organized as projects. The normal systems of tender-based procurement, as well as the 'project-organization' of most work within this industry naturally leads to arms-length relationships, even if the firms repeatedly encounter their counterparts in various construction projects over time.

In the traditional building process, the construction firm obtains a project by tendering. The client chooses the contractor who has offered the best price. Because of the cost-driven nature of the building industry, the successful contractor, in turn, looks for the most competitive prices from its suppliers and subcontractors. The contractor then executes the design, assisted by suppliers and subcontractors. This temporary coalition lasts only until the completion of the project. During the execution stage of the building process, each firm involved allocates resources according to its contract (Voordijk, 2004). These professional and organisational boundaries are rarely crossed. The temporary character of relations stimulates opportunistic behaviour whereby parties may try to obtain as much as possible from their contract (Williamson, 1985). Buyer-supplier relationships in such a traditional construction setting can be characterized as a typical market-exchange relationship, where, according to Bensaou, 'information exchange between two firms takes place mainly during bidding and contract negotiations. Suppliers do not get involved in the design of the component and usually manufacture to the buyer's specifications' (1999, p. 41). It has been argued (for example, by Dubois and Gadde, 2000) that this lack of continuous relationships between firms is the main reason for the construction industry's failure to increase in efficiency and innovation. Although this industry is 'ahead of most other industries in terms of outsourcing' (Dubois and Gadde, 2000, p. 207) many commentators have expressed a dissatisfaction with the

temporality of buyer-supplier relationships; compared to the prime movers in other industries (e.g. automotive), construction contractors do not take full advantage of opportunities to make use of external resources through buyer-supplier cooperation (Lamming, 1993). Most construction firms continue to approach building projects as one-off efforts. This leads to difficulties in accumulating and disseminating corporate learning among projects: the project-based, customized design and execution process fails to capture the benefits of standardized work processes and the integration of automation. Opportunities to capitalize on economies of scale are lost on individual projects. The various buyer-supplier strategies available to manage suppliers are well known in manufacturing. Their applicability in the construction industry however is still less well understood (Barlow and Ozaki, 2005 and 2003; Barlow et al, 2003). For certain products and services in construction, arms-length transactions could be replaced by relationships based on partnering and integrated working; approaches that stimulate adaptation and joint development between buyers and suppliers (Dubois and Gadde, 2001; Storer et al., 2003).

3.0 A RANGE OF FORMS OF COLLABORATIVE WORKING

3.1 Partnering

Although terms such as 'Partnering' and 'Integrated Working' are often used interchangeably, there are arguably differences between the concepts, with 'Integrated Working' being considered a more advanced form of Partnering. Many definitions have been formulated. As Critchlow (1998) observed,

> it can be seen that there is no unified concept of partnering. Rather, it is an umbrella term for a multiplicity of relationships, distinguished by certain common aims, but varying immensely in the form they take.

Egan (1998) defined partnering as

> two or more organizations working together to improve performance through agreeing mutual objectives, devising a way for resolving any disputes and committing themselves to continuous improvement, measuring progress and sharing gains.

Loraine and Williams (2000) claimed to have developed a commonly accepted definition for Partnering, as

> ...a relationship between purchasers and providers of goods and services throughout the supply chain. The relationship is designed to achieve specific business objectives by maximising the effectiveness of each participant's resources. The relationship is based on mutual objectives, an agreed method of problem resolution and an active search for continuous measurable improvements.

Croft (2004) formulated another definition of Partnering as

> ...a contractual arrangement between two parties for either a specific length of time or for an indefinite period. The parties agree to work together, in relationships of trust, to achieve specific primary objectives by maximising the effectiveness of each participant's resources and expertises.

In a report to the Department of Trade and Industry that followed the strategic partnering initiative of The North Tyneside Partnering Agreement (Greenwood, 2004) a number of these definitions were considered. From these, a number of elements were isolated, and these were used in the present study. They are:

- Two or more organizations working, co-operatively together, to achieve mutually agreed objectives in a cost effective manner;
- A focus on continued improvement, quality and effective conflict resolution;
- The above elements underpinned by an attitude of goodwill, commitment, trust and fairness.

The 'Partnering Assessment tool' described in this paper, was developed against this understanding of partnering. As already noted, partnering does not equate to any particular or specific organizational

format. Broome (2002), for example, states that the 'Strategic Alliance' is at one extreme on the partnering spectrum. To understand what this spectrum might be, we can turn to the work of Macbeth and Ferguson (1994), who developed such a spectrum of possible organizational forms (Figure 1).

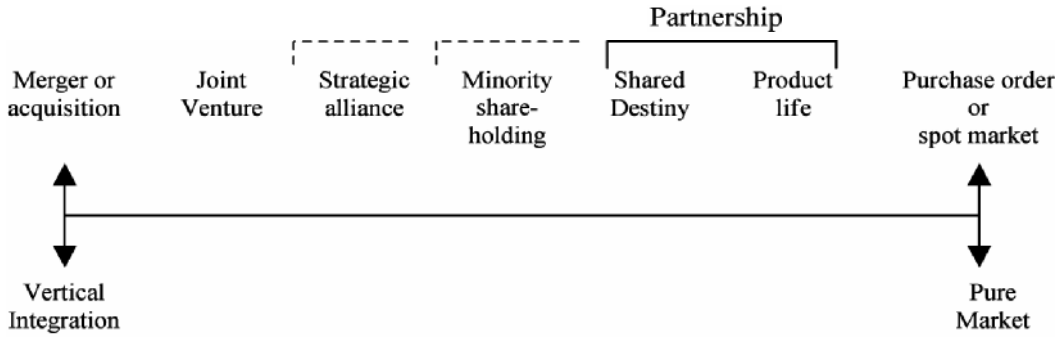

Fig. 1.0 Spectrum of the possible organizational forms (Macbeth and Ferguson, 1994).

Benefits

Many potential benefits of partnering are described in the literature, the most frequent of which are:

- Reduced costs;
- Better predictability of cost, time and quality;
- Projects are finished within time and budget;
- Better-integrated design and higher quality;
- Continuous improvement and increased innovation;
- Better relationships and less confrontation (reduced level of conflict);
- Improved profitability;
- Win-win attitudes;
- Continuity of work within and between teams.

3.2 Integrated Working

When we consider 'Integrated Working' and its differences and similarities with 'Partnering', a major issue appears to be the amount of *shared information* between the parties. Organisations that work *traditionally* tend to guard their information jealously, as they work in a competitive environment; whereas those that can be said to be working in an *integrated way* adopt an open-book approach to information. Those that 'partner' on a *project-basis* share *some* information, inasmuch as it relates to the project. Thus we propose that the extent of *information-sharing* between parties can be adopted as a reasonable proxy for their *level of integration*, and used as a way of distinguishing 'Integrated Working' from 'Partnering'. This leads to the definition of 'Integrated Working' used in this present study, which is:

> Where parties have made long-term agreements to cooperate over several projects, in which they have mutual objectives, are prepared to share all relevant information, and have increased communications to multiple (rather than hierarchical) levels.

With these characteristics it is possible to develop a conceptual framework with two dimensions that also distinguishes 'Partnering' from 'Integrated Working'.

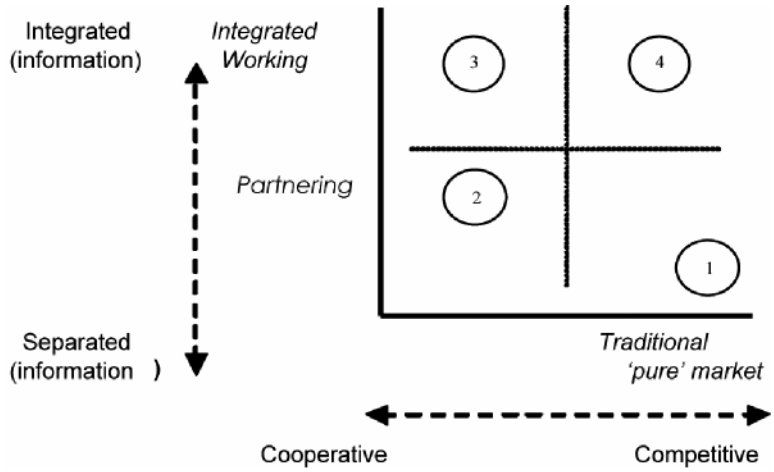

Fig.2. 0 A two-dimensional matrix

From Figure 2 four different ways of working can be theoretically distinguished:

1. Traditional, competitive working. The main objective is self-profit, there is a reluctance to share information, knowledge and experience.
2. Project partnering. The context is cooperative, with mutual goals, and a readiness to share project-related information, knowledge and experience.
3. Integrated working. The context is cooperative, with mutual goals, but extends over several projects. There is a commitment to high levels of communication, including the sharing all relevant information, knowledge and experience.
4. Integrated-yet-competitive. It is not clear whether this is a realistic category. However, the situation is possible with research companies who share their knowledge via the Internet.

Regarding the relative levels of benefit that arise from these different circumstances, it could be suggested that those of 'Integrated Working' are substantially the same as those of 'Partnering', but that they are more likely to accrue and might be greater.

4.0 DEVELOPING A PARTNERING ASSESSMENT TOOL

The purpose of this tool is to enable a quick assessment of levels of integrated working. A number of attempts to do this have been made, including work by Macbeth and Ferguson (1994), Sako (1992), Fontenot and Wilson (1997), Kozak and Cohen (1997) and Bennett (1998). This, and similar literature, provided a source that the current study has drawn upon.

4.1 Indicators

From the literature mentioned earlier, indicators were collected and assessed for suitability; the main criteria were a) the ability to quantify the degree of cooperative working and b) the connection with the characteristics of 'partnering'. This process has resulted in a list of seven main indicators. Each indicator is described in more detail below in terms of its *purpose* and *elements* (see Tables 1 and 2). The *elements* consist of short sentences to which a score can be assigned. Because the focus of this work is on dyadic (buyer-supplier) relationships, both parties were considered.

Table 1.0, Indicators focused on the general background of the buyer-supplier relationship

1. Existing relationships

Description	This indicator looks at established relations. Have there been partnerships before and what were the benefits? Are there any partnerships at present? Does the company deal with the same partners to deliver their projects?
Purpose	To establish past and present ways of working.
Elements	a) Our operational partnership arrangements are simple, time-limited and task-oriented; b) There have been substantial (past) achievements within the partnership(s); c) We always work with the same suppliers / customers and maintain an ongoing dialogue with all of them; d) There are many alternative suppliers / customers that have the same value to my company; e) In comparison to other suppliers /customers, our relationship with a certain supplier / customer is better.

2. Basis of these relationships

Description	This indicator outlines some basic ground rules of the partnership(s). Important aspects are the degree to which companies trust each other and are committed to each other.
Purpose	To provide insight in the degree of commitment, trust and fairness.
Elements	a) We feel this supplier /customer is looking out for our interests and we have belief in one another; b) Long-term commitment is both desired and the reality; c) The way the partnership is structured appropriately recognises each partner's contribution; d) Benefits derived from the partnership are fairly distributed among all partners; e) The partnership is focused on an effective conflict resolution to prevent problems becoming disputes

3. Relationships in practice

Description	This indicator questions how the involved companies carry out their relationships concerning issues like partner selection and joint programs or strategies.
Purpose	Insight into the on-site activities and possible differences between the ideas of the management and the ideas / activities on the project.
Elements	a) We select the most appropriate supplier / customer to provide the services required; b) Suppliers / customers are actively encouraged to bring forward supply chain partners, which will add the most value to successful delivery, particularly those with established proven relationships; c) We cooperate on a high level as reflected by joint marketing programs, customer strategy, sales-force activities, promotional programs, joint cost-reduce activities and joint planning; d) The partnership is focused on continuous improvement; e) Transactions with this supplier / customer do not have to be supervised closely and over half of production is not inspected.

These first three indicators were related to the general background of the companies' relationship. The remaining four indicators are interdependence, communication, information, and objectives, and are shown in Table 2 (below).

Table 2.0, Indicators focused on the characteristics of partnering

4.	***Interdependence***
Description	This indicator questions whether companies acknowledge areas of business in which they are (or are not) dependent upon others and whether clear lines of accountability for partnership performance do exist. Without such an understanding there is a danger of partners overstepping the limits of agreed areas of partnership working.
Purpose	To demonstrate the companies' dependence.
Elements	a) We feel dependent on this supplier / customer; b) The supplier / customer is strategically important to my company; c) It would be difficult for our firm to replace the sales and profits generated by this company and it would be difficult for this supplier / customer to replace the sales and profits generated by our company; d) There is mutual understanding of those areas of activity where partners can achieve goals by working independently of each other; e) There are clear lines of accountability for the performance of the partnership as a whole.

S. Communication	
Description	This indicator is one of the cornerstones of partnering.
Purpose	To provide insight in what degree communication between the partnering companies is achieved.
Elements	a) Our information flow contains a 2-way direction, multiple paths, and interchange of personnel and is often extending beyond strict business; b) Our telephone communication frequency is: (twice per month) - (weekly) - (twice per week) - (daily) – (more often); c) Our electronic communication frequency is: (rarely) - (monthly) - (twice per month) - (weekly) - (more often); d) Our partnership makes use of electronic data interchange; e) Visits to suppliers' manufacturing facilities or visits by supplier to our company regularly take place.

6. Information	
Description	This indicator shows the degree in which information is shared.
Purpose	To provide insight in the levels of trust and 'open book' working between the partnering organizations.
Elements	a) We have access to suppliers' / customers' computer files and the supplier / customer has access to our computer files; b) Our company exchanges more information now with this supplier / customer than we did before the partnership was developed;

c) We have full confidence in the accuracy of the information provided to us from our supplier / customer and we are convinced that our supplier / customer respects the confidentiality of information received from us;
d) Our supplier / customer does not withhold important information from us;
e) We heavily rely on oral agreements and tacit understanding.

7. Objectives

Description: This indicator questions whether the involved companies have mutual objectives and clear joint aims. It also looks upon what range of success criteria the companies are using and whether they agree about it.

Purpose: To provide insight in the existence and level of mutual goals and agreed success criteria.

Elements:
a) We understand each other's business needs and goals;
b) We have clearly defined joint aims and objectives;
c) Our aims and objectives are mutually beneficial and create more value than if we work in isolation;
d) Our aims and objectives are realistic;
e) We have clear success criteria in terms of both service goals and the partnership itself.

Table 3, below demonstrates the way in which these 7 indicators and 35 elements (shown in the right-hand column of the table below, and referenced to Tables 1 and 2) are related to the 'key aspects' of partnering (shown in the left-hand column of the table below) that were adopted from the earlier work of Greenwood (2004).

Table 3.0, Coverage of indicator elements against key aspects of partnering

Key aspects of partnering	***Related indicators elements***
Two or more organizations	1a, 1b, 1c, 1d, 1e
Working together	3c, 5a, 5d, 7c
Mutually agreed objectives	4e, 7a, 7b, 7c, 7d, 7e
Cost effective manner	7c
Focus on continued improvement	3d
Focus on quality	3a, 5b
Focus on effective conflict resolution	2e, 5b
Attitude of goodwill	5a, 5b, 5c, 5d, 5e, 6e
Attitude of commitment	2b, 4a, 4b, 4c, 4d, 4e, 6b, 6e
Attitude of trust	2a, 3b, 3e, 5a, 5b, 5c, 5d, 5e, 6a, 6c, 6d
Attitude of fairness	2c, 2d

All the *key aspects* of partnering are covered by one or more of the indicator elements, but it is noticeable that some are described by more elements than others. The reason is perhaps that these aspects are more suitable for distinguishing the several forms of cooperative working, whilst others are just indicators to demonstrate the existence of relations.

5.0 METHOD

The aim of the study was to carry out a simple demonstration of the Assessment Tool in order to review its workability in the field.

5.1 Data collection

To accomplish this, the 35 elements of Tables 1 and 2 were presented in a score form (see an example extract in Table 4) with the scores being assigned a number from 1 to 5 (1 = strongly disagree, 5 = strongly agree) which can be added up. Thus the range for each indicator is between 5 and 25 points, and the range for the overall score for all 7 indicators is between 35 and 175 points. Assuming, for example, that companies answer all the statements with 'neither disagree nor agree', the amount of points (average score) will be 7 x 3 x 5 = 105 points.

Table 4.0, Example score form

To what extend do you agree with each of the following 5 statements in respect of the Partnership?	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree	*Totals*
1) Indicator X						
a) Statement Y				X		
b) Statement Z					X	
Totals	0	0	0	4	5	9

When a company has completed the form, the total scores are calculated, and these reflect the degree of cooperative working. When applied to single organisation, the result would reflect its perception of how cooperatively it works, or perhaps its readiness to work in this way. The manipulation of the results from two organisations working together, would give a truer indication of *actual* levels of cooperation. Furthermore, two or three different employees in different roles could be used, as they may have differing responses: for example, people on site may differ in their views from those at head-office. At this stage however, the investigation was restricted to a vary simple 'dry run' of the method.

Four assessments were completed on companies working on different construction projects that were underway in the Northeast of England. These were selected according to their accessibility and willingness to cooperate. Representatives from each company were first interviewed, to get an overview of the way the company preferred to work. The each was asked to complete an assessment.

Assessment 1

Company A is a wholesaler, specializing in the distribution and export of their full product line. The company's distinctive characteristic is that they consider relationships with each of their suppliers on equal grounds; no one supplier is treated differently from the rest, they are partners with all of their suppliers, except financially. They have regular communication with their partners but do not use any IT or electronic data interchange.

Assessment 2

Company B has several large supply chains. Each supply chain exists of companies who are aware of each other. Furthermore, all the involved companies have commitment to each other and these relationships are built on long-term agreements. In the last few years the company often worked with the same partners, which has encouraged interdependence. They have always selected the most appropriate partner, but do not have any shared marketing or sales force activities. The companies involved do not share a lot of information, do not have a high communication frequency and do not use electronic data interchange. This company obviously works in a cooperative way and because of its long-term commitment and mutual dependence concerning involved companies. But they are very careful with sharing information and they do not have a lot of telephone or electronic communication.

Assessment 3

Company C has relationships with some of its suppliers, but does not always work together with the same companies. It has developed mutual objectives with the companies involved, although it does not always appear to select the most appropriate supplier. Some long-term agreements do exist, but sharing information or regular communication does not take place. This company works in a cooperative way, because of the existence of some long-term relationships.

Assessment 4

Company D has long-term agreements with all of its suppliers and customers by developing mutual strategic objectives. It only selects appropriate partners, and the selection process is based on mutual trust. Communication between the partners takes place with high frequency and they share almost all their information.

The results of the four assessments are given in the following section. It should be stressed that the study was exploratory, and intended to test the *internal* validity of the approach, rather than to make any generalizable inference from these limited findings.

6.0 RESULTS

The numerical results obtained from the four partnering assessments are shown in Table 5, below.

Table 5.0, Assessment results

Indicator		***Total scores of each firm for each indicator***			
A			*B*	*C*	*D*
1	*Existing relationships*	18	24	18	24
2	*Basis of these relationships*	20	24	17	24
3	*Relationships in practice*	19	18	14	25
4	*Interdependence*	19	21	15	24
5	*Communication*	13	15	11	25
6	*Information*	20	17	15	23
7	*Objectives*	20	21	18	24
Total scores on all indicators		**129**	**140**	**108**	**169**

Company A clearly appears to work within the accepted definition of 'partnering', but not in a fully integrated way in terms of sharing information. Company A received a score of 129 points. Company B received a higher score of 140 points, though performed less well on indicators 3, 5 and 6 (the last two relating to *Communication* and *Information*). Company C did have some long-term agreements, but is certainly towards the lower end of the spectrum of cooperative working, with a score of 108 points. Company D, by contrast, outperformed the others with a score of 169 points. The main reasons for this were the amount of shared information and the high frequency of communication and electronic data interchange.

6.1 Degrees of cooperative working on a scale

The total scores obtained in each case reflect the degree of cooperative working. Combined with the nature of the participants it is possible to hypothesise a scale that contains the relevant categories of cooperative working and their boundaries.

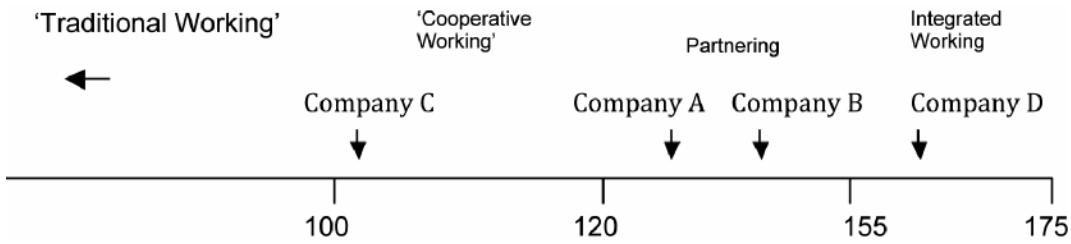

Fig. 3.0 The scale of cooperative working

7.0 DISCUSSION AND CONCLUSIONS

In the construction industry there are a number of expressions used for the general concept of cooperative working: these include 'partnering' and 'integrated working'. It is suggested that a key difference is that integrated working involves the sharing of a significant amount of information, knowledge and experience, and doing this in the longer-term (as opposed to sharing only project-related information). A *partnering assessment tool* was developed in order to measure, quickly and simply, the level of cooperative working that a firm displays. A company's overall score explains its readiness for cooperative working, which can be presented on a scale. The exact graduations on the scale have not been paid a great deal of attention here and would require further research. Furthermore the tool was only applied to the four firms described in this study, purely as a means of testing its feasibility at this very basic level. If the tool were applied to a number of pairs of companies under contract to each other, it could be used to evaluate the degree of cooperative working *between them*. This is an obvious extension of the tool, as it involves measuring both parties' *actual* working practices, rather than the *theoretical readiness* of single parties to cooperate.

More importantly however, the procedure can be applied to *any number* of dyadic buyer-supplier relationships in a given project. Amidst recent scepticism about the true extent of partnering in construction, it has been pointed out that most of the examples cited, have been at the 'top' of the project supply chain (i.e. between client and contractor) and doubt has been expressed about the relationships between main contractors and the members of *their* supply chains (Greenwood, 2001). A simple and quick *partnering assessment tool* would provide a means of measuring the *overall levels* of cooperative working in a given project – with fully-integrated project supply chains behaving almost as if they were

one company. To do this properly, all the supply chains in that project must have been accurately mapped, and account must be taken of the relative importance of different sub-chains within the project. Nevertheless, this approach would go some way to the offering a useful instrument to analyse the degree of cooperative working between all companies involved in the same supply chain.

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