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# Motivation, commitment and the use of incentives in partnerships and alliances

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The use of incentives in partnering and alliancing has been seen as an important way of reinforcing collaboration in the short term and helping to build trust between clients and contractors in the long term. Yet only rarely has the impact of incentives on such relationships been discussed, let alone subjected to systematic investigation. This is despite a wealth of theory and research which brings into question the use of incentives and reinforcers as ways of generating motivation and commitment. Drawing upon this theoretical knowledge base and using evidence from a number of case studies of partnerships and alliances, this paper demonstrates how a number of important cognitive and social dimensions affect the use and impact of incentives, sometimes in ways contrary to those intended. The conclusion drawn is that there are important limitations to the use of incentives as means of reinforcing collaboration and developing commitment and trust, and that this raises questions more generally about the assumptions that underlie many of the practical 'tools and techniques' commonly associated with partnering and alliancing.

**Keywords:** Partnering, alliancing, incentives, motivation, commitment

## Introduction

The use of incentives to reinforce collaborative ways of working has been an important element of recent debate concerning the emergence of partnering and alliancing. Since early reports on the costs of adversarialism, academics and practitioners have argued that it is possible to create a 'win-win situation' in which both clients and contractors (and perhaps consultants and suppliers) stand to gain from the performance benefits of collaboration (CII, 1989, 1991, 1994; NEDO, 1991; CRINE, 1994; Latham, 1994; Bennett and Jayes, 1995, 1998; ACTIVE, 1996; Bennett *et al.*, 1996). Moreover, not only is a sharing of gains (and losses) seen as desirable, but also it is seen as necessary, in order to generate commitment to project objectives and help build a relationship between contractual partners based upon trust (e.g. Bennett and Jayes, 1995, 1998). Consequently, most prescriptions for

partnering or alliancing contain recommendations for developing appropriate incentive systems (e.g. CII, 1991; NEDO, 1991; Bennett and Jayes, 1995). These are referred to variously as 'risk-reward' or 'gainshare-painshare' arrangements.

Beyond this, however, there has been very little discussion or systematic analysis of the motivational principles and assumptions underlying such systems. Indeed, the basic premise that such arrangements are desirable and necessary to reinforce collaboration seems simply to be taken for granted (e.g. CII, 1991, pp. 39–40). Perhaps this reflects a belief that the motivational effects of financial rewards and penalties are so self-evident that the only real issue concerns the detailed design of an appropriate system of incentives and reinforcers (cf. Arditi and Yasamis, 1998). Whatever the reason, to regard such incentive systems as an unproblematic part of the 'technical apparatus' to support partnering is to simplify considerably the

issues of motivation and commitment. Indeed, the very logic of the argument, that contractual partners need to be motivated to collaborate, is somewhat at odds with the rhetoric of developing trust that permeates the partnering literature.

As will be seen, relationships between incentives, motivation, commitment and trust are not so self-evident and unproblematic as they might at first appear, particularly when one takes into account the complex organizational dynamics that are at the heart of a partnering relationship (Bresnen and Marshall, 1998, 1999). Drawing upon theories of motivation taken from management and organizational theory, this paper seeks to understand the operation of incentive mechanisms on a number of case study partnering and alliancing projects. The general aim of the paper is to demonstrate that the use of incentives in partnerships or alliances is grounded in quite simplistic assumptions about the nature of motivation in organizations and thus does not necessarily provide an appropriate and effective basis for improving collaboration between organizations. This aim can be broken down further into a number of more specific research questions. First, do incentives actually work as intended as instruments of behaviour modification (cf. Luthans and Kreitner, 1975) or do they have any limitations? Second, are incentive systems elaborate enough to recognize and allow for important 'cognitive' aspects of motivation and commitment? Third, how do complex social relationships within organizations affect the use of mechanisms more commonly geared to modifying individual behaviour? Finally, what part do other, non-financial aspects play in helping to understand motivation and commitment to partnering? By exploring these questions in some conceptual and empirical depth, the overall intention is to contribute towards a more sophisticated understanding of the nature of motivation and commitment under partnering and alliancing than exists to date in the relevant literature.

### Partnering and the use of incentives

Partnering and alliancing are now fairly well established approaches to contracting in the USA, the UK and Australia and there is an extensive literature that sets out to demonstrate their main principles, practices and benefits (CII, 1989, 1991, 1994; NEDO, 1991; CRINE, 1994; Latham, 1994; Quick, 1994; Thompson, 1994; Bennett and Jayes, 1995, 1998; ACTIVE, 1996; Barlow and Cohen, 1996; Bennett *et al.*, 1996; Barlow *et al.*, 1997). The forms that partnering and alliancing take in practice and the use of the terminology vary considerably (Hincks *et al.*, 1996; Barlow *et al.*, 1997; Bresnen and Marshall, 1998). However, there is considerable

agreement on the basic principles underlying the approach and on the fact that these and related forms of cooperation (such as joint ventures) lie at the more collaborative end of the spectrum of interorganizational relationships (Thompson and Sanders, 1998).

Broadly speaking, partnering involves a commitment by organizations to eschew adversarialism and to co-operate to achieve common business objectives (CII, 1991, p. iv; Bennett and Jayes, 1995, p. 2). Thus partnering has been defined as 'a long-term commitment between two or more organizations for the purpose of achieving specific business objectives' (NEDO, 1991, p. 5). Frequently alliancing is taken to refer to partnering on a single project basis (e.g. Green, 1994, 1995), although opinion is divided as to whether this is feasible, given the lack of continuity of work and the importance attached to the development of trust (Loraine, 1993; Bennett *et al.*, 1996; Green and McDermott, 1996). Mostly partnering and alliancing have been taken to refer to the relationship between client and contractor, although it is clear that the potential is there for applying principles of collaboration further down the supply chain (e.g. Construction Productivity Network, 1997).

Whatever the precise application, the case for partnering and alliancing rests on claims made about their performance benefits, in terms of cost, time, quality and a whole range of other criteria (e.g. CII, 1991; NEDO, 1991; CRINE, 1994; Latham, 1994; Bennett and Jayes, 1995, 1998; ACTIVE, 1996; Bennett *et al.*, 1996). Empirical evidence in support of these performance claims is somewhat thin on the ground, although research by Larson (1997) on 291 construction projects did establish a positive relationship between partnering and measures of project success. There is also plenty of case study evidence of the performance benefits of partnering (e.g. Tse, 1985; Cowan *et al.*, 1992; Weston and Gibson, 1993; Knott, 1996). On the other hand, there is some evidence too of the failure of partnering to meet performance expectations (e.g. CII, 1994; Rackham *et al.*, 1996; Angelo, 1998).

More generally, research on partnering as a whole is notable for its heavy reliance on anecdotal evidence and prescription. Nowhere is this more evident perhaps than in the discussion of the 'tools and techniques' supposedly needed to develop partnering and alliancing. The prospect that it may be possible to 'engineer' collaboration and trust through 'formal' mechanisms, such as team-building and incentives systems (Bresnen and Marshall, 1998), has led to a profusion of reports and manuals aimed at providing practitioners extensive guidelines for 'best practice' in partnering or alliancing (e.g. CII, 1991; NEDO, 1991; Bennett and Jayes, 1995, 1998). Invariably, part of the

recommended arsenal of techniques is the use of financial incentives, through one of the many forms of 'risk-reward' or 'gainshare-painshare' arrangement found in practice (e.g. Green, 1995, p. 201).

Although incentives are seen as only part of the 'total package' of measures (and by no means only relevant to partnering), they are nevertheless regarded as an important means of reinforcing collaboration in the short term (and of helping to cement trust in the long term), since they lead to a sharing of gains from collaboration (Green, 1995, p. 198). The general principles upon which incentive systems should be based include the need to ensure that risks and rewards are commensurably and fairly distributed among the parties concerned and that they are tailored to specific project objectives (CII, 1991, p. 11; Bennett and Jayes, 1996, p. 6; Barlow *et al.*, 1997, p. 12). Beyond this, however, often details given are very sketchy and rarely amount to little more than statements of principle (e.g. Bennett and Jayes, 1996, p. 6). Moreover, with a few notable exceptions (CII, 1991; Green, 1994, 1995), no real research effort has been directed at examining the effects of such measures.

### **Motivating to collaborate: an alternative perspective**

This lack of attention reflects a problem with much of the prescriptive literature about partnering: namely, that it tends to conform to the fairly simplistic idea that financial incentives (positive and negative) have a more or less direct effect upon the motivation and ability of individuals and groups to achieve particular goals or standards of performance (and to work more closely together in the long term). Thus, it is believed that devising and agreeing a formula for the distribution of gains and losses between companies will *necessarily* have an appropriate effect on behaviour, if not to the full extent expected, then at least in the desired direction. Such a presumption seems so self-evident that it barely warrants any serious attention or discussion. However, as will be shown, it falls very far short of a full understanding of motivation and commitment in the context of partnering.

The motivational assumptions embodied in the use of financial incentives owe much to the principles of 'behaviour modification', a branch of learning and motivation theory which emphasizes the use of rewards and punishments as incentives and reinforcers to influence behaviour (Luthans and Kreitner, 1975). Another, more familiar way of referring to it is as the 'carrot and stick' approach, and it can be traced back to the stimulus-response psychology associated with behaviourism and, in particular, to Skinner's work on

operant conditioning (Skinner, 1961). Behaviour modification, based upon operant conditioning principles, is designed with the intention of 'shaping' behaviour through the selective application of rewards and punishments that encourage certain actions and discourage others (Arnold *et al.*, 1998, chap. 10). The effects of such processes of positive and negative reinforcement are, of course, potentially very powerful. However, as an approach to understanding human motivation, behaviour modification suffers from three main sets of limitations.

### **Cognition and individual differences**

First and foremost, this behavioural approach tends to downplay, or ignore altogether, the role of cognition and individual differences in motivation (Locke, 1977; Kohn, 1996). The subject of motivation is an enormous one and there exists a wide range of different approaches and theories (for a review see Arnold *et al.*, 1998, chaps 10, 11). However, one thing that is shared by most contemporary motivation theories is a central concern with the subjective perception and preferences of individuals, in particular with the different values they may place upon the same reward or punishment and the varying perceptions they may have about the probability of achieving such outcomes. In other words, the decision to exert effort in a particular direction (i.e. to be motivated) is more the result of a conscious weighing up of pros and cons than it is a reflex response to an external stimulus (Handy, 1993). Moreover, individuals can and do take a much more proactive role in defining the range of potential goal outcomes available (cf. Bandura, 1977, 1986). Behaviour modification approaches, by contrast, simply assume that the motivating power of rewards and punishments can be taken as given, and more or less at face value.

This emphasis upon cognitive processes (of perception, thinking, evaluating and learning), has given rise to a group of motivation theories labelled 'process' theories. One highly prominent approach within this group is known as expectancy theory (Vroom, 1964; Porter and Lawler, 1968). In its simplest form, expectancy theory suggests that motivation is a function of three main factors (Vroom, 1964): the subjective value placed on the reward by the individual (termed 'valence'); the perceived likelihood that effort will produce an appropriate level of performance ('expectancy'); and the perceived likelihood that this performance will be converted into an appropriate level of reward ('instrumentality'). Importantly, the relationship between these three factors is expressed as a multiplicative one: if any factor equals zero no motivation will result, as the reward will not be seen to be either of value or achievable (Handy, 1993).

Furthermore, in order for motivation to be sustained and for learning to result, there needs to be appropriate, timely and meaningful feedback (Porter and Lawler, 1968).

This more cognitive approach to motivation forms the basis of goal-setting theory, which links motivational expectations to the setting of practical task objectives (Locke, 1968; Latham and Locke, 1979). According to goal-setting theory, goals need to be meaningful, specific, challenging and acceptable to those who are attempting to achieve them (Locke, 1968). This applies whether they are externally imposed or chosen by the individuals themselves (Bandura, 1986; Locke and Latham, 1990). Another important cognitive dimension concerns perceptions of equity and here it is important that individuals perceive fairness in the distribution of rewards relative to the effort that they have put into a task, otherwise appropriate (downward) adjustments to effort are likely to be made (Adams, 1965).

### **The impact of social relations**

These limitations of the behaviour modification approach are compounded enormously when one takes into account the fact that clients and contractors are seldom individuals, but are instead complex *social* organizations. The literature on incentives implicitly treats organizational and individual goals as more or less the same thing (e.g. Arditì and Yasamis, 1998). However, there may be no necessary and direct correlation between the goals sought by the 'dominant coalition' within the organization (cf. Child, 1972) and the goals sought by individuals and groups (cf. Perrow, 1961). Systems theory, for instance, has long acknowledged that different 'preferred outcomes' and 'cause-effect beliefs' are likely to influence problem-solving and decision-making processes (Thompson, 1967). It is also quite conceivable that individuals will seek to pursue their own personal interests (Morgan, 1986, ch. 6).

Even if there is some degree of internal consensus, there is unlikely to be a simple and direct relationship between an external stimulus and an organizational response, as much as chief executives or project managers would like that to be the case. Instead, all sorts of distortions and unintended consequences are likely to come into play, primarily due to horizontal and vertical differentiation and its effects upon communications, decision-making and influence within the organization (cf. Lawrence and Lorsch, 1967). What will happen is, of course, an empirical question. However, there is no doubt that the logic of stimulus-response conditioning does not lend itself readily to capturing such internal organizational

complexity (e.g. Pearce, 1996). The main implication here is that it is important to understand not only that attitudes and beliefs may conflict within the organization (between departments and/or hierarchical levels), but also that collaboration, motivation and commitment may vary across different levels of analysis (for example, being high at the organizational level but low at the level of the individual; see Rosenfeld and Wilson, 1999, pp. 5–7). Whatever the case, to presume a unity of purpose and perspective within the organization is a gross over-simplification of reality (Burrell and Morgan, 1979, pp. 204–388).

### **Intrinsic and extrinsic rewards**

A third set of limitations concerns the emphasis in behaviour modification upon extrinsic (i.e. financial) rewards. Without going deeply into the substantial literature that explores the nature of extrinsic and intrinsic rewards (see Arnold *et al.*, 1998, chap. 11 for a review), suffice it to say that a reliance solely or mainly upon extrinsic rewards as a source of motivation tends to emphasize the 'calculative' nature of involvement in collaborative ventures, whereby agents are motivated essentially by (short-term) economic self-interest, their emotional commitment to the relationship is low and their involvement is dependent upon the receipt of financial rewards commensurate with their efforts (March and Simon, 1958; Etzioni, 1961; Handy, 1993). Of course, this more 'arms-length' type of relationship between contractual partners is common and may be perfectly appropriate. However, it is not the same thing as the deeper level of attachment that occurs when relationships are based upon a strong moral commitment, shared cultural values and close personal identification with each others' goals (cf. Etzioni, 1961; Handy, 1993). Yet it is precisely this more intense form of commitment that often is expected of partnering and other forms of collaborative inter-firm relationship (e.g. Sako, 1992).

An emphasis upon extrinsic rewards also potentially ignores or downplays the significance of intrinsic rewards, such as a sense of achievement or interest in the work itself, as motivating factors (cf. Herzberg, 1966). Although obviously such intrinsic factors may not be the most salient aspect of the organization's calculation of the benefits to be gained through collaboration (there is, after all, the need to make money), they may nevertheless be important in encouraging deeper levels of commitment at a group or individual level, a factor that, we are told, is vital to the success of partnering in the long term (e.g. Bennett and Jayes, 1995, 1998; Holti and Standing, 1996). In other words, financial incentives may be useful to reinforce 'calculative trust', based upon the rational pursuit of

financial self-interest, but they are limited in their ability to generate more intense forms of trust at the group or individual level, based, for example, upon acknowledged expertise or close interpersonal relationships (Child and Faulkner, 1998).

To summarize, it should be clear from the above that formal incentives, although obviously relevant and important, are only part of the overall picture insofar as a complete understanding of motivation and commitment in partnerships and alliances is concerned. In developing this theme, the foregoing discussion has identified a number of important issues which usefully can be reframed as key research questions. First, are incentive systems used in practice consistent with the principles of behaviour modification that they are meant to embody (and, if not, how, why and with what effects)? Second, what are participants' subjective experiences of such systems in practice, in terms of their effects on motivation? Third, how are such systems influenced by internal organizational complexity (and what variation is there at different levels of analysis)? Finally, what other factors influence motivation and commitment and how do they relate to the use of incentives? The aim of the next section is to explore these questions in greater empirical depth, drawing upon primary data obtained from case studies of partnering and alliance projects.

### Case studies of the use of incentives in partnerships and alliances

The data used to explore these issues were drawn from a research project designed to investigate, *inter alia*, the range of economic, organizational and technological factors supporting or inhibiting the development of collaboration between clients and contractors (Bresnen *et al.*, 1999). The data reported here were

specifically derived from six case studies of medium-to large-scale construction projects undertaken by experienced clients using partnering or alliancing arrangements. Only data concerned with the nature and impact of incentive arrangements are reported in this paper. For further information about these cases see Bresnen and Marshall (1998, 1999).

A case study approach was selected as the most appropriate way to examine these and other issues in depth. It was also seen as the best way of capturing a wide range of views and opinions of respondents selected from different organizations and across a variety of management levels (cf. Yin, 1984; Bryman, 1989). Qualitative research methods were used, semi-structured interviews being the main form of data collection, supplemented by direct observation and the use of project and company documentation. The interviews in each case included a selection of team members from each main participating organization (client, designers, main contractor) and, where possible, interviews with subcontractors' representatives (on average, 18 interviews were conducted per case). The fieldwork was conducted between March 1997 and May 1998.

The projects ranged from £9 million to £400 million in value and included one offshore, two process plant, two civil engineering and one building project (see Table 1). Each case study project had been formally established as a partnership (cases B–E) or an alliance (cases F–G), with most framework agreements and alliances simply including the client and main contractor. Despite some problems occurring on each of these projects, overall it was generally agreed by the participants that each one had performed well in terms of meeting time, cost and quality objectives. What follows is a distillation of the main findings concerning the use of incentive arrangements across the case studies, based upon the information obtained from the interviews and documentary sources.

**Table 1** The case studies

Project	Description	Value	Sector	Completion	Contractual arrangement
B	Airfield civil engineering	£20m	Civils	Feb 1999 (final phase)	NECC contract under 5-year, £30m framework agreement
C	Hotel building	£27m	Building	Late 1998	Design/build (under long-term partnering agreement)
D	Water treatment works	£9m	Civils	April 1998	Modified IChemE Green Book contract under long-term partnering agreement
E	Industrial gases plant	£80m	Process plant	Mid 1999	Conventional project (but 5-year alliance with mechanical services contractor)
F	Oil refinery plant upgrade	£25m	Process plant	Feb 1998	Project alliance (with standard works contract)
G	Gas production platform (topside component)	£400m	Offshore	1997	Project alliance (memorandum of understanding)

### Incentive systems

All of the projects included some form of incentive over and above normal contract terms and conditions (see Table 2 for details). Commonly this involved a risk-reward or 'gainshare-painshare' formula which specified the division of any gains or losses and which was based upon an agreed target cost. The precise details differed from case to case, particularly in their inclusiveness and scope. Most of the partnering incentive schemes included just the client and main contractor (plus the designers in case D). In the two alliances (F and G), a much wider range of contractors and suppliers were involved. An interesting point to note here is the lack of inclusion of some key participants in the design-construct process (especially designers, but also other contractors). Sometimes, these omissions had negative consequences: in case G, for example, major early difficulties were experienced due to problems with the performance of one contractor who was initially outside the circle of collaborators.

There were occasional anomalies in the links between incentives and work packages. In project E, for example, incentives were based upon whole project performance, despite the contractor being formally responsible for only the mechanicals package. The stated rationale for this was to ensure that the contractor did not attempt to pursue efficiency gains at the expense of other subcontracts. Similarly, in case F, one contractor pointed out the irony that they were able to achieve gainshare despite an overspend on their own individual work package. Project B also illustrated an interesting variation on the same theme. In this case, there had been some concern that the risk-reward formula would focus too much attention on individual projects at the expense of the overall framework. This had prompted the client to replace the original scheme with a formula linked instead to overall framework performance.

What is apparent from these observations is the piecemeal way in which such systems are developed in practice: the use of incentives is selective and partial and clearly not system-wide. This would not be a problem were it not for the fact that often such systems (and broader collaborative agreements) exclude key participants on whose activities overall project performance ultimately depends. In terms of behaviour modification theory, such an approach contravenes the principles of contiguity and contingency of reward that are central to reinforcement processes (Arnold *et al.*, 1998, p. 228). Following the logic of more sophisticated motivation theories, calculations of expectancy, instrumentality and equity may be affected negatively, perhaps even resulting in reduced levels of effort (Arnold *et al.*, 1998, chap.11).

### Risk-reward formulae

Another way in which these systems varied was in the details of the formula used for the allocation of risks, rewards and penalties. With regard to the range of performance criteria incorporated, most risk-reward arrangements focused mainly upon cost, although some (on the alliances) did incorporate quality and safety criteria as well. The obvious point here is that it is important to tailor incentives to whatever the project's key performance indicators are, rather than simply to cost. Incentives also need to be structured to avoid any unanticipated and unwanted effects (e.g. encouraging cutting corners with regard to quality or safety). Consequently, devising a system based upon 'appropriate' performance criteria is not necessarily as straightforward a task as it may seem.

With regard to the formula itself, some arrangements involved a simple split of any gains or losses between client and contractor (e.g. case C), whereas others (especially B and the alliances) relied on a much more complex formula. A good example of this complexity was project G, where incentives were split into two groups: those linked to individual contracts and those calculated against contribution to overall CAPEX performance. Generally, gainshare-painshare on individual contracts was calculated on the basis of an agreed man-hours target, although precise details varied between participants. With regard to total CAPEX, each contractor had a separate target, based on the areas of work they influenced. So, for example, the hook-up and commissioning contractor's target was based upon fabrication and offshore logistics costs, but not upon costs associated with engineering, equipment, bulk materials and installation.

The main point to stress here concerns differences in the potential motivational impact of these systems. Taking a behaviour modification perspective, it could be argued that more elaborate systems (e.g. F and G) represent a more systematic approach to 'shaping' behaviour. However, whether they work in this way is very much open to question. On the other hand, taking a more cognitive perspective, it could be argued that simpler systems (e.g. C) are likely to have a greater motivational impact, since they are much easier to relate to and help promote clearer expectations and easier calculations of potential outcomes. Either way, clearly the two types of approach operate according to quite different assumptions about individuals' reactions to incentives.

### Developing the systems

The systems differed also in the way in which target costs and risk-reward formulae were established. Across all the projects, the contractor's involvement in

**Table 2** Project incentives

Project	Participants included	Incentive systems	Gainshare–painshare to contractor	Other conditions	Input into pricing	Variations and changes
B	Client Main contractor	Target cost with sharing of risks and rewards	75% savings (if<80% target) 50% savings (if 80–100%) 50% costs (if 100–120%) 100% costs (if > 120%)		High level of contractor input into developing project cost plan	Replaced by cost plus contracts, with percentage fee incentives linked to overall framework performance
C	Client Design-build contractor (+ 2 Subcontractors)	Target cost risk/reward framework on procurement bid	50% savings/costs (any) Risks and rewards ‘uncapped’		Joint negotiation of target cost between client and contractor	Client imposed ceiling on project budget from outset
D	Client Main contractor Designer	Target cost risk/reward framework	25% savings, 10% to designer (if<95% target) No gain/pain if 95–105% Risks and rewards ‘uncapped’	Liquidated damages and other liability clauses come into effect if the partnership is dissolved	Joint negotiation of target cost between client, designers, and contractor	Contract re-priced and painshare component introduced following takeover of client company
E	Client Mechanicals contractor	Target cost risk/reward framework for mechanicals package, calculated against performance of entire construction budget	30% savings (if<100%) No pain if 100 – 105% 30% costs (if>105%) Risks and rewards ‘uncapped’	Removal of performance bonds, liquidated damages, and retention clause. Bonus for bringing plant on stream ahead of schedule	Construction budget agreed in consultation with mechanicals contractor	Mid-project agreement to add time penalties and remove 5% ‘dead zone’ before pain attracted by the contractor



**Table 2** continued

Project	Participants included	Incentive systems	Gainshare–painshare to contractor	Other conditions	Input into pricing	Variations and changes
F	Client Designer/procurer Consultant 4 Contractors 2 Equipment suppliers	Risk/reward framework calculated against total alliance target cost	73% savings/costs (any; shared among alliance) Contractors' liability 'capped' at 112.5%	Gainshare conditional on achieving schedule, quality and safety targets. Liquidated damages retained. Incentive for achieving shut-down within agreed target time	Target cost agreed between client and contractors	
G	Client Designer/procurer 2 Contractors (later inclusion of 2 others)	Target cost risk/reward framework calculated against performance of individual packages and total CAPEX applied to core contractors	Fee + 50% saving (if <100%) Fee only (if 100 – 110%) Fee – 50% (if 110 – 120%) No fee (if >120%) (Note: formula based on target man-hours and varied between contractors; above figures are for Designer/procurer only)	Gainshare conditional on achieving schedule and safety targets. Bonus for meeting key milestones. Removal of contract penalty clauses. Later incentives introduced for bringing production on-stream early and for post-operational availability performance	Initially contract price as bid. Subsequently target costs mutually agreed with contractors	Risk–reward formula separately established and dependent upon individual contribution (see text)

the pricing process was high and joint target cost setting was seen as appropriate, not only because the contractor's direct input improved the chances of developing an accurate estimate but also because it was considered useful in gaining their commitment to project objectives. It was also generally seen as a useful way of promoting cost or value engineering (especially in cases C and F). There were, however, some difficulties experienced in agreeing a target cost, particularly where the initial scope of the project was relatively undefined (cases C, E and F). In such circumstances, getting agreement was still regarded as possible, provided there was a 'give and take attitude' (contractor, case C). However, attitudes could also change: in case D, for example, a take-over of the client organization led to the contractor having to resubmit a price for the work in competition with another company. The revised bid was successful, but not without some disruption and difficulty being caused to both designers and contractors.

It was evident that the key factor was the degree of trust and openness that existed between client and contractor. In project F, for example, some difficulties were experienced in reassuring contractors that the target cost approach was not simply a strategy for ratcheting up performance at their expense: a finding that echoes other research that highlights suspicions about client intentions (Green, 1995, p. 202). By way of contrast, project E was a good (if rather extreme) example of the benefits of trust. In this case, early negotiations were intense and protracted and the target cost was left open to accommodate additions to scope; moreover, the formal contract was agreed only during construction, leaving both parties exposed to risk. In these circumstances, the client and contractor crucially relied upon their long term relationship which underpinned the formal partnership. The more general observation here is that it is trust in the relationship, rather than a system of incentives, that is important. Incentive systems do not necessarily create trust and, if anything, they tend to symbolize the *lack* of trust and long-term commitment underpinning the relationship (cf. Green, 1995, p. 202).

### **Incentives, motivation and commitment**

Nevertheless, across the cases, attitudes towards gain-share-painshare arrangements were quite positive and they were seen as being useful in helping reinforce collaboration by providing the opportunity for both clients and contractors to make gains. In case C, for example, incentives appeared to have a direct impact on the drive to reduce costs and increase value for money, especially through early cost planning and value engineering. There also appeared to be a strong

level of appreciation for performance against target cost, which was monitored on a monthly basis. In case F, there was evidence also that the close monitoring of performance criteria against an elaborate system of targets ensured that incentives had some impact.

However, this masks a quite mixed overall response to such arrangements, and a much more subtle set of findings about the factors affecting staff motivations. First of all, it was clear that other sources of motivation, particularly the prospect of further work, were much more important to the companies and individuals concerned. In case C, for example, liquidated damages had been set at the symbolic level of £1 per day. Yet intense efforts were made by the contractor to meet the programme end-date, including absorbing extra costs associated with rescheduling the programme. Similarly, in case B, the possibility of winning future work from the client and the stability in cashflow and margins this would generate were acknowledged as the principal drivers behind the contractor's more 'flexible' approach to the work. Similar direct and indirect benefits to contractors were emphasized in the other partnering cases (D and E).

Second, there was clear evidence that incentives were not necessarily a source of motivation to those 'on the ground'. In case E, for example, both client and contractor expressed the view that risk-reward elements had more impact at company level and little direct effect on site activities. Similar points were made by client, designer and contractor staff working on case D. Moreover, in both these cases, contractors' project management staff were adamant that the existence, let alone details, of incentive arrangements should not be divulged below site management level (based upon the belief that it would encourage pressure for increased wages, bonuses and benefits). What is remarkable about this finding is that it stands in very stark contrast to conventional wisdom in other industrial sectors, where the need for motivation and commitment throughout *all* levels of the organization is stressed. It was clear also that incentive systems did not necessarily provide meaningful *personal* sources of reward and satisfaction. In case D, for example, many staff across the project team were unaware of the (somewhat complex) financial arrangements and instead focused upon the greater autonomy and improved working relationships that they were experiencing as a more direct and meaningful source of satisfaction (cf. Herzberg, 1966). Similar comments were made by staff in various project and site management positions across the cases.

Finally, it was evident that there was very little direct connection at all between project incentives, on the one hand, and systems for the appraisal and reward of individual members of staff, on the other

(an observation that was confirmed by senior managers across all cases). Such a finding is certainly in line with other reports of a lack of reward for individuals under partnering agreements (CII, 1991, p. 40). However, it does highlight the underlying presumption that, whereas company reward systems are important, related individual reward systems are unimportant or unnecessary. Furthermore, excluding the *de facto* training and development associated with participation in partnering workshops, it was reported across the cases that managers rarely received any training or development specifically tied into their roles and responsibilities under partnering and alliancing arrangements. Taking all of these points together, the observation that more intrinsic factors (such as achievement and autonomy) are important realized sources of motivation and commitment for individual staff in partnerships and alliances is encouraging. However, what is discouraging is the lack of systematic attention seemingly paid to human resource management practices of training, development and reward (cf. Beer *et al.*, 1985; Guest, 1990), which may prove to be extremely important in sustaining partnering strategies and capabilities in the medium to long term (e.g. Holti and Standing, 1996).

## Concluding discussion

The foregoing analysis has attempted to demonstrate a number of important limitations of the use of incentives, based upon observations made on a number of case study projects of partnerships and alliances, and informed by theories of motivation. First of all, it has illustrated the very piecemeal way in which they are often developed and applied, which can contravene some of the basic principles of behaviour modification theory. Second, it has emphasized the importance of understanding that participants' evaluations of rewards, expectations of performance and perceptions of equity are highly subjective and may well differ. Third, it has stressed the importance of recognizing that motivation and commitment operate at different levels of analysis (what might be 'good for the company' is not necessarily good for the individual). Fourth, it has demonstrated that motivation and commitment may be the result of intrinsic, as well as extrinsic, rewards.

Taking all these points together, the obvious implication is that, at the very least, there is a need for such systems to be very carefully designed if they are to enhance motivation. However, even if they are well designed, any motivational benefits may be negligible or even offset by potentially negative consequences. The research reported here certainly

produced no evidence of any strong and systematic relationship between type of incentive system and project outcomes, suggesting that variation in incentive system has only a minor impact upon performance, compared with other (organizational and long term) sources of motivation (cf. Bresnen, 1991). Clearly there is a need for more research to explore further the impact of incentives upon project performance in partnering and alliancing situations. However, these findings certainly do cast doubt upon the simplistic presumption that there is a necessary and direct relationship between project incentives and performance outcomes.

The more general implication and possibility, however, is that perhaps project incentive systems simply cannot motivate in the way they are intended (cf. Kohn, 1996), in which case one has to search for other, more indirect or symbolic reasons for their use (e.g. as a demonstration of commitment to partnering). One obvious argument is that incentives *do* reinforce commitment and cement trust between organizations in the long term. However, even ignoring the fact that this cannot apply to single project alliances, the evidence suggests that there are limitations here too: in particular, significant changes and inconsistencies in internal policies and personnel can confound attempts to establish clear and stable expectations, and make any trust that is developed between organizations fragile and difficult to sustain. If one accepts that these relational aspects do tend to matter more, then incentive systems are likely to play, at best, only a very small part in the development and consolidation of trust in relationships between participants.

Therefore the long-term reinforcing power of incentive systems depends crucially upon context. If there remain, for example, any underlying or residual suspicions about the intentions of contractual partners, then incentive systems are unlikely to offset them and promote any deeper commitment and trust. Instead they may even be seen as a form of exploitation. Similarly, if not all staff throughout the organization 'buy in' to the logic of partnering (particularly if there are no personal incentives to do so), then inconsistencies in approach at different levels within the organization may undermine trust. More generally, the lack of a systemic approach to partnering (e.g. through supporting systems for staff training and development) may seriously inhibit the ability to put the rhetoric of collaboration into practice. It is therefore important that attempts to develop collaboration do not rely simply upon devising appropriate incentive mechanisms, but instead embrace a wide range of supporting internal policies, systems and practices.

This emphasis on context also leads to one final point. This paper has purposely concentrated only

upon the use of incentives. However, as noted earlier, partnering and alliancing encompass a much wider range of interrelated systems and practices. The paper has, of course, attempted to analyse incentive systems in the context of broader commercial drivers and organizational factors. More importantly, however, focusing upon this one aspect precisely illustrates how exploring the 'total package' of partnering in more depth illuminates important practical problems and logical inconsistencies. Moreover, this is in an area where the underlying cause-effect logic (of incentives on behaviour) would appear to be pretty much self-evident. In other words, if project financial incentives do not necessarily operate as intended, what of other, more intangible aspects of partnering? The more general implication therefore is that there is a need to continue to question and challenge the assumptions that underlie many of the techniques commonly associated with partnering and alliancing.

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## References

- ACTIVE (1996) *ACTIVE Engineering Construction Initiative: The Action Plan*, ACTIVE, London.
- Adams, J.S. (1965) Inequity in social exchange, in *Advances in Experimental Social Psychology*, Vol. 2, Berkowitz, L. (ed.), Academic Press, New York.
- Angelo, W.J. (1998) Partnering goes awry on Connecticut bridge job, *Engineering News Record*, **240**(18), 17.
- Arditi, D. and Yasamis, F. (1998) Incentive/disincentive contracts: perceptions of owners and contractors, *Journal of Construction Engineering and Management*, **124**(5), 361–73.
- Arnold, J., Cooper, C. and Robertson, I. (1998) *Work Psychology: Understanding Human Behaviour in the Workplace*, 3rd Edn, Financial Times/Pitman, London.
- Bandura, A. (1977) *Social Learning Theory*, Prentice-Hall, Englewood Cliffs, NJ.
- Bandura, A. (1986) *Social Foundations of Thought and Action: A Social Cognitive Theory*, Prentice-Hall, Englewood Cliffs, NJ.
- Barlow, J. and Cohen, M. (1996) Implementing partnering: some common red-herrings in the literature, in ESRC/EPSRC Workshop on Partnering in Construction, University of Salford, 13 May.
- Barlow, J., Cohen, M., Jashapara, A. and Simpson, Y. (1997) *Towards Positive Partnering*, The Policy Press, Bristol.
- Beer, M., Spector, B., Lawrence, P., Mills, D. and Walton, R. (1985) *Human Resources Management: A General Manager's Perspective*, Free Press, New York.
- Bennett, J., Ingram, I. and Jayes, S. (1996) *Partnering for Construction*, Centre for Strategic Studies in Construction, Reading University.
- Bennett, J. and Jayes, S. (1995) *Trusting the Team: The Best Practice Guide to Partnering in Construction*, Centre for Strategic Studies in Construction/Reading Construction Forum, Reading.
- Bennett, J. and Jayes, S. (1998) *The Seven Pillars of Partnering*, Reading Construction Forum, Reading.
- Bresnen, M. (1991) Construction contracting in theory and practice: a case study, *Construction Management and Economics*, **9**, 247–63.
- Bresnen, M. and Marshall, N. (1998) Partnering strategies and organizational cultures in the construction industry', in *Proceedings of the 14th Annual Conference of the Association of Researchers in Construction Management*, Hughes, W. (ed.) pp. 465–76.
- Bresnen, M. and Marshall, N. (1999) Achieving customer satisfaction? Client-contractor collaboration in the UK construction industry', in *Customer Satisfaction: A Focus on Research and Practice*, CIB, London.
- Bresnen, M., Marshall, N. and Trimble, E. (1999) *Cultural Change in Construction: Developing the Client's Management Role to Improve Project Performance*, EPSRC final report No. GR/L01206, January 1999.
- Bryman, A. (1989) *Research Methods and Organisation Studies*, Unwin Hyman, London.
- Burrell, G. and Morgan, G. (1979) *Sociological Paradigms and Organizational Analysis*, Tavistock, London.
- Child, J. (1972) Organizational structure, environment and performance: the role of strategic choice, *Sociology*, **22**(1), 1–22.
- Child, J. and Faulkner, D. (1998) *Strategies of Cooperation: Managing Alliances, Networks and Joint Ventures*, Oxford University Press.
- CII (1989) *Partnering: Meeting the Challenges of the Future*, Construction Industry Institute Special Publication, CII, Austin, TX.
- CII (1991) *In Search of Partnering Excellence*, Construction Industry Institute Special Publication, CII, Austin, TX.
- CII (1994) *Benchmarking Implementation Results, Team-building and Project Partnering*, Construction Industry Institute, Austin, TX.
- Construction Productivity Network (1997) *What Does Supply Chain Management Offer the Construction Industry?*, Workshop Report of joint CPN/CIB/BRE conference held at Building Research Establishment, Garston, 5 November.
- Cowan, C., Gray, C. and Larson, E. (1992) Project partnering, *Project Management Journal*, **23**, 5–11.
- CRINE (1994) *CRINE Report*, Institute of Petroleum, London.
- Etzioni, A. (1961) *A Comparative Analysis of Complex Organisations*, Free Press, New York.
- Green, R. (1994) Collaborative relationships between producers and contractors in the UK oil and gas production industry, in British Academy of Management Annual Conference, Lancaster, 13 September.

- Green, R. (1995) *Partnering and Alliances: Theory and Practice*, Society of Petroleum Engineers, Richardson, TX.
- Green, C. and McDermott, P. (1996) An inside-out approach to partnering, in *Partnering in Construction*, ESRC/EPSRC Workshop, University of Salford, 13 May.
- Guest, D.E. (1990) Human resource management and the American dream, *Journal of Management Studies*, 27(4), 377–97.
- Handy, C.B. (1993) *Understanding organisations*, 4th Edn. Penguin, Harmondsworth.
- Herzberg, F. (1966) *Work and the Nature of Man*, World Publishing, Cleveland, OH.
- Hinks, J., Cooper, R., Allen, S. and Carmichael, S. (1996) Is partnering a state of mind? A comparison of manufacturing and construction, in *Partnering in Construction*, ESRC/EPSRC Workshop, University of Salford, 13 May.
- Holti, R. and Standing, H. (1996) *Partnering as Inter-related Technical and Organisational Change*, The Tavistock Institute, London.
- Knott, T. (1996) *No Business as Usual: An Extraordinary North Sea Result*, The British Petroleum Company, London.
- Kohn, A. (1996) Why incentive plans cannot work, in *Motivation and Leadership at Work*, 6th Edn Steers, R. M., Porter L.W. and Bigley G.A. (eds) McGraw-Hill, New York, pp. 512–18.
- Larson, E. (1997) Partnering on construction projects: a study of the relationship between partnering activities and project success, *IEEE Transactions on Engineering Management*, 44(2), 188–95.
- Latham, G.P. and Locke, E. (1979) Goal-setting: a motivational technique that works, *Organisational Dynamics*, Autumn, 68–80.
- Latham, M. (1994) *Constructing the Team*, HMSO, London.
- Lawrence, P.R. and Lorsch, J.W. (1967) *Organisation and Environment*, Harvard University Press, Cambridge, MA.
- Locke, E.A. (1968) Toward a theory of task performance and incentives, *Organisational Behaviour and Human Performance*, 3, 157–89.
- Locke, E.A. (1977) The myths of behaviour modelling in organisations, *Academy of Management Review*, 4, 543–53.
- Locke, E.A. and Latham, G.P. (1990) *A Theory of Goal-Setting and Task Performance*, Prentice-Hall, Englewood Cliffs, NJ.
- Loraine, R. K. (1993) *Partnering in the Public Sector*, Business Round Table, London.
- Luthans, F. and Kreitner, R. (1975) *Organisational Behaviour Modification*, Scott Foresman, Glenview, IL.
- March, J.G. and Simon, H.A. (1958) *Organisations*, Wiley, New York.
- Morgan, G. (1986) *Images of Organisation*, Sage, London.
- NEDO (1991) *Partnering: Contracting without Conflict*, HMSO, London.
- Pearce, J.L. (1996) Why merit pay doesn't work: implications from organisational theory, in *Motivation and Leadership at Work*, 6th Edn., Steers, R.M., Porter, L.W. and Bigley, G.A. (eds), McGraw-Hill, New York, pp. 519–26.
- Perrow, C. (1961) The analysis of goals in complex organisations, *American Sociological Review*, 26, 855–67.
- Porter, L.W. and Lawler, E.E. (1968) *Managerial Attitudes and Performance*, R.D. Irwin, Homewood, IL.
- Quick, R. W. (1994) Partnering: the Australian experience, in *Proceedings of the 2nd Conference on Construction Conflict: Management and Resolution*, P. Fenn (ed.), International Council for Building Research Studies and Documentation (CIB), Lexington, KY.
- Rackham, N, Friedman, L. and Ruff, R. (1996) *Getting Partnering Right: How Market Leaders are Creating Long-Term Competitive Advantage*, McGraw-Hill, New York.
- Rosenfeld, R.H. and Wilson, D.C. (1999) *Managing Organisations*, 2nd Edn, McGraw-Hill, London.
- Sako, M. (1992) *Prices, Quality and Trust: Interfirm Relations in Britain and Japan*, Cambridge University Press.
- Skinner, B.F. (1961) *Analysis of Behaviour*, McGraw-Hill, New York.
- Thompson, J.D. (1967) *Organisations in Action*, McGraw-Hill, New York.
- Thompson, M.J. (1994) The Australian environment and the future for partnering, *Australian Construction Law Newsletter*, 38, 41–58.
- Thompson, P.J. and Sanders, S.R. (1998) Partnering continuum, *Journal of Management in Engineering*, 14(5), 73–8.
- Tse, K.K. (1985) *Marks and Spencer: Anatomy of Britain's Most Efficiently Managed Company*, Pergamon Press, Oxford.
- Vroom, V.H. (1964) *Work and Motivation*, Wiley, New York.
- Weston, D. and Gibson, G. (1993) Partnering project performance in US Army Corps of Engineers, *Journal of Management in Construction*, 9(4), 331–44.
- Yin, R.K. (1984) *Case Study Research: Design and Methods*, Sage, Beverly Hills, CA.