PARTNERING IN CONSTRUCTION

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Salford, 2008

This manual is part of the Construction Managers' Library – a set of books related to the wide area of management in construction. The books were created within the Leonardo da Vinci (LdV) project No: PL/06/B/F/PP/174014, entitled: "COMMON LEARNING OUTCOME FOR EUROPEAN MANAGERS IN CONSTRUCTION". Warsaw University of Technology, Civil Engineering Faculty, Department of Construction Engineering and Management was the Promoter of the Project.
The following organisations were Partners in the Project:
- Association of Building Surveyors and Construction Experts (BE)
- Universidad Politécnica de Valencia (ES)
- Chartered Institute of Building Ireland (IE)
- Polish Association of Building Managers (PL)
- Polish British Construction Partnership Sp. z o.o. (PL)
- University of Salford (UK)
- Chartered Institute of Building (UK)

The objective of this project was to create seven manuals conveying all the information necessary to develop civil engineering skills in the field of construction management. The scope of knowledge presented in the manuals is meant to be the basis for assessing the managerial qualifications of civil engineers by the Association of European Building Surveyors and Construction Experts for the purposes of the European engineering professional card - EngCard.
The following manuals have been developed (in the brackets you will find an estimate of didactic hours necessary for mastering the contents of a given manual):
M1: PROJECT MANAGEMENT IN CONSTRUCTION (100)
M2: HUMAN RESOURCE MANAGEMENT IN CONSTRUCTION (100)
M3: PARTNERING IN CONSTRUCTION (100)
M4: BUSINESS MANAGEMENT IN CONSTRUCTION ENTERPRISE (100)
M5: REAL ESTATE MANAGEMENT (100)
M6: ECONOMY AND FINANCIAL MANAGEMENT IN CONSTRUCTION (240)
M7: CONSTRUCTION MANAGEMENT (100)

The manuals created for the purposes of the library are available in three languages: Polish, Spanish and English. The manuals may be used as didactic materials for students of postgraduate courses and regular studies in all three languages.

Graduates from the courses will receive a certificate, which is recognized by all organizations – members of the AEEBC, association of construction managers from over a dozen European countries. Polish representative in the AEEBC is the Polish Association of Building Managers, in Warsaw.

More information about the LdV project see:
www.leonardo.il.pw.edu.pl

More information about the Polish Association of Building Managers:
www.psmb.pl

EXECUTIVE SUMMARY

PARTNERING THE WAY FORWARD

Partnering is the most efficient way of undertaking all kinds of construction work.

Partnering involves two or more organisations working together to improve performance.

To make partnering work those involved need to agree a set of mutual objectives, agree a decision making process and be committed to continuous improvement.

Partnering can be applied to one-off schemes (project partnering), or can be on-going over a series of developments (strategic collaborative working).

Typically, with Project Partnering, cost savings of 2-10% are achieved. With Strategic Collaborative Working savings of 30% are realistic, over time. The cost of undertaking partnering is very small, adding less than 1%.

In addition to reducing costs partnering can also improve service quality, deliver better designs, make construction safer, meet earlier completion deadlines and provide everyone involved with bigger profits.

There are three clear and distinct stages to partnering:

1. Mutually agreeing to use partnering
2. Setting up an initial partnering workshop to agree objectives and decision making processes
3. Carrying out the construction work using partnering workshops to ensure that the team improves and uses feedback

Partnering applies to the whole business process. There are clearly benefits for contractors to partner with their clients but for the real benefits to be realised it is essential that they partner with their supply chain.

Partnering means working in cooperation with the construction industry firms you employ to find better ways of working together that best serve the interests of everyone involved. It requires all the individuals and firms involved to agree how they will make decisions, including how they will resolve problems. It requires them to agree specific improvements to their normal performance that they will seek to achieve.

CHAPTER 1

BACKGROUND TO PARTNERING

DEMANDS FOR EFFICIENCY

The construction industry is historically criticised for failing to give its clients what they want. Increasingly due to many varying factors the construction industry is under pressure to improve and deliver better value for its clients. The performance of the construction industry can be improved. It has to as adversarial attitudes inhibit the potential of talented people in the industry.

Clients have every right to expect buildings and infrastructure to meet all their functional requirements, have low life cycle costs and be produced efficiently. The challenges this provides for the construction industry is tough.

Partnering was formally recognised in the UK in 1994 in the Latham report. The Latham report clearly linked the industry's poor performance relative to cost, time and quality to the prevalent adversarial attitudes. It made detailed recommendations for the industry to improve its traditional project based approach, but to do so by adoption of a new family of modern conditions of contract based upon the concept of partnering. This was the main impetus for change in the UK construction industry. This was driven by client concerns about the impact on their commercial performance by the inefficiencies and waste that were so prevalent in the construction industry. There was clearly a need to improve trust, fosters a collaborative culture and eliminate adversarial relationships.

In the UK in 1998, the Egan report clearly stated that the UK construction industry should use partnering as the basis of establishing long term relationships, rather than just being project based. It should aim for continuous improvement, the benefits of which should be shared on an openly fair basis so that all parties have a real incentive and motivation to find different and better solutions. These project teams should include from day one all the design, manufacturing and construction skills working in fully integrated teams.

It was also recognised that even long term partnering by integrated teams, based upon experiences from other industries, would not achieve the sustainable improvement needed. The industry needed to end its reliance on formal contracts as they do not add any value to the customer.

The Latham and Egan reports clearly stated that substantial improvements can be achieved in the procurement of projects through the early integration of the team and the procurement process. This can serve to eliminate the adversarial attitude and culture of the industry which has an inherent culture of blame.

They also recognised the importance of the uptake of good practice in partnering between client and supplier at any point throughout the supply chain. It is important to remember that an integrated supply chain brings together all the parties responsible for key elements of the project. Supply chains can extend from the designers and main contractor, through to the manufacturers and specialists that are not part of the integrated project team. Integrated supply chains are long-term standing arrangements independent of a particular project.

Things have changed over recent years and leading practice in the UK construction industry has made great strides in producing world class buildings and infrastructure quickly and efficiently. This has been achieved by moving away from traditional practice, first by adopting project management techniques and more recently by using partnering. Understanding these changes will help clients make best use of the construction industry. It will also help the industry itself to improve yet further.

LIMITATIONS DUE TO TRADITIONAL PRACTICES

Traditional construction practices are made up of independent firms brought together by competitive bids and tough contracts. Consultants fight to maintain their independence, contractors compete for work and specialist contractors struggle in a market driven by demands for lower costs and faster delivery.

Traditional forms of procurement do not recognize the contribution that can be made by early collaboration and the nature of competitive tendering makes it difficult for cooperative teamwork. A confrontational approach to projects does not sit well with efficiency.

Traditionally the construction industry had a structure based on the perceived status of the various professions and trades. But it provided no explicit coordination or control. Consultants fiercely maintained their independence, contractors competed for work and specialists struggled to maintain the integrity of their skills and knowledge against market driven demands for lower costs and faster deliver. Clients dealt with an industry that appeared chaotic by using competitive tenders and tough contracts to protect their own interests.

Project teams, assembled from work teams brought together often for the first time, relied on professional and trade practice to coordinate their work. The approach failed because it provided no overall direction, reducing everyone involved to defending their own interests. It ignored the need for well developed links between workers that are the hallmark of effective teams. Despite these weaknesses, some clients are attracted by the simplicity of inviting competitive bids and encouraged by advice from professionals with a vested interest in old ways of working, continue to use traditional methods. All too often they are sadly disappointed as they discover that claims, delays, defects and disputes make this an expensive and ineffective approach.

Contractors are focused on and rewarded for what they achieve in respect of their own part of the project. However, the owner is primarily concerned with the delivery of the project as a whole. Alignment of these two objectives is rare. Contractors who design and build projects are paid on an individual basis for the work done and have no further interest in the project once their services have been completed.

Traditional practices can also create misalignment between the individual contractors. Each contractor has a financial interest only in its own performance and has no incentive to work in a way that is most efficient for the project as a whole. This can result in contractors seeing an opportunity to gain from inefficiencies and confusion by instigating claims.

These limitations can be addressed by:

- Identifying, selecting and involving all the key contractors at an early stage of the project
- Affording the contractors an opportunity to work together
- Creating commercial alignment by giving the contractors a direct financial stake in the project

PROJECT MANAGEMENT

The construction industry recognises the weaknesses of the traditional approach and in recent years has gone a long way to develop the use of project management to resolve these issues. Project management provides a better approach for construction than the traditional practices. Cost, time and quality are controlled to achieve the client's objectives. Some designers claim to be inhibited by these management controls but in practice design outcomes tend to be better than on traditional projects where designers take the lead. Indeed many leading designers welcome having management issues dealt with by specialists so they can concentrate on design.

Project management provides a better approach for construction. Project management improves the performance of project teams by creating a management role with strong links to the client and all the work teams.

The construction industry has long recognised the failures of the traditional approach and in recent years has gone a long way towards resolving them by using project management.

Project management improves the performance of project teams by creating a management role with strong links to the client and all the work teams. The additional costs of project managers and strong links are more than offset by greater efficiency as work teams benefit from being told how, where and when to work.

Specific client objectives sometimes force project managers to regard creativity and innovation as risky and this can cause a concentration on cost and time at the expense of quality. Designers and specialists often complain about these controls. Equally many leading designers welcome having a project manager deal with management issues leaving them free to concentrate on design.

In practice management disciplines result in designs that on average are better than on traditional projects where designers take the lead. Design led projects can produce outstanding designs but are equally likely to result in mediocre outcomes. However, project management encourages consistently good design.

THE EMERGENCE OF PARTNERING

Partnering delivers significant improvements in performance by empowering designers and specialists to do their best work.

Partnering in construction begins with very careful selection procedures. They rely on questionnaires, interviews and negotiations designed to ensure that the work team are competent and will work cooperatively. Within this framework, price and cost play a minor role. The aim is to select an effective team able to concentrate on doing its best work.

Partnering empowers designers and specialists to use cooperative teamwork in making their own decisions through well developed communication links. A project managers role in the team is to ensure that quality, time and cost control systems are used efficiently.

Partnering delivers benefits quite quickly in construction because they build on a natural way of working. People actually choose to cooperate with others who make their work easier and more successful. These natural ways of working are more efficient and it is clear to see that the industry's poor performance is caused by work teams being forced into an adversarial defence of their own interests by competitive tendering and tough contracts.

The benefits that have emerged from partnering that builds on these natural and efficient ways of working have encouraged leading clients, consultants, contractors and specialists to work together on a long-term basis.

PUBLIC PRIVATE PARTNERSHIP

A Public Private Partnership (PPP) is a term used for Government schemes involving the private business sector in public sector projects.

The Private Finance Initiative (PFI) is a form of PPP developed by the Government in which the public and private sectors join to design, build or refurbish, finance and operate (DBFO) new or improved facilities and services to the general public. A private sector provider will through a Special Purpose Company, hold a DBFO contract for facilities such as hospitals, schools, and roads according to specifications provided by public sector departments. Over a typical period of 25-30 years, the private sector provider is paid an agreed monthly or unitary fee by the relevant public body for the use of the asset, which at that time is owned by the PFI provider. This and other income enables the repayment of the debt over the concession length. Ownership of the asset usually returns to the public body at the end of the concession. This enables improvements to be made to public services without upfront public sector funding. The risks involved are shared between parties and allocated appropriately.

One of the key requirements for PFI schemes is that they offer the public sector value for money. Clients demand high quality services, delivered on time and to budget. Historically, major investment projects built purely under public finance have failed time and again to keep within the initial schedule and funding constraints. PFI has proven to be substantially more cost-effective and reliable.

PFI concessions are competitively bid in compliance with EU procurement rules. The private sector consortium chosen as the preferred bidder has incentives to perform to the highest standards throughout the whole of the concession. Contracts are carefully drawn up at Financial Close to ensure any failings of sub-contractors also carry heavy penalties. Performance is monitored closely at all stages, allowing problems to be rectified before they escalate.

PARTNERING CONTRACTS

The principle of partnering contracts is to focus all members of the team on the success of the project by all the partnering organisations signing up to the same contract. Many partnering contracts make it a condition that all the partners work together for the benefit of the project and for the benefit of all parties. An advantage of partnering contracts that focus on integrated teamworking is that the parties do not have to find ways around the contract in order to work cooperatively.

Some of the contract requirements may require organisations to make a major cultural shift when using these contracts for the first time. This training will take time and requires resources to set up.

The benefits of a well-structured partnering contract outweigh amended traditional forms of contract which some organisations prefer to use. However, when choosing which contract to use for each project, the team must make their own choice based on their experience. Through joint training partnering organisations will become more familiar with partnering forms of contract.

CHAPTER 2

WHAT IS PARTNERING?

INTRODUCTION

Partnering is a management approach used by two or more organisations to achieve specific business objectives by maximising the effectiveness of each participants resources. It requires that the parties work together in an open and trusting relationship based on mutual objectives, an agreed decision making process and an active search for continuous measurable improvements

Partnering is the most efficient way of undertaking all kinds of construction work including new buildings and infrastructure, alterations, refurbishment and maintenance. The basic elements have been in practice for a long time, but this has not been recognised by those involved. The elements are evident when those involved on a project work together as a team because they have worked together before and are brought into the project at the very early stages.

Partnering is a management approach used by two or more organisations to achieve specific business objectives by maximising the effectiveness of each participant's resources. Partnering can be based on a single project but the real benefits are realised when it is based on a long term strategic commitment. Project specific partnering is about partnering on individual projects. Strategic collaborative working is about long-term relations between parties who are prepared to work together over long periods of time. It requires a detailed knowledge and understanding of each parties' business, so maximising the effectiveness of each other's business.

DEFINITION OF PROJECT PARTNERING

Project partnering is a set of actions taken by the work teams that form a project team to help them cooperate in improving their joint performance.

- Specific actions are agreed by the project team taking account of the project's key characteristics, and their own experience and normal performance. The choice of actions is guided by a structured discussion of mutual objectives, decision making processes, performance improvements and feedback.

Project partnering is a set of actions that help project teams improve their performance. It involves initial costs and provides substantial benefits. It is not a fixed way of working; it develops as project teams cooperate in finding the most effective ways of achieving agreed objectives.

DEFINITION OF STRATEGIC COLLABORATIVE WORKING

Strategic collaborative working is a set of actions taken by a group of firms to help them cooperate in improving their joint performance over a series of projects.

- The actions initially aim to agree an overall strategy, ensure the right firms are included, financial arrangements support partnering, firms' cultures, processes and systems are integrated, overall performance is benchmarked, project processes are continually improved and the whole strategic collaborative working arrangement is guided by feedback. Ultimately the actions aim at establishing and continuously developing a long term business based on an integrated construction cycle that links clients' use of constructed facilities with their development and production

The more partnering is used and the benefits are experienced, the more likely it is that strategic long term partnering will be used. Partnering is about the formation and development of a relationship or relationships created through the project. Partnering creates a variety of opportunities and concerns for the participants.

The term "strategic collaborative working" is often used due to the concern of the widespread misuse of the term partnering. This has eliminated the misconceptions of previous definitions of partnering allowing people the chance to learn about new best practice methods in collaborative working practices. These concepts include early involvement of suppliers, selection of all parties by value, performance measurement and continuous improvement, common team processes supporting commercial arrangements that align risk and reward for all parties on demand and supply side.

ESSENTIAL FEATURES OF PARTNERING

Partnering consists of three essential features. The three features are mutual objectives, an agreed decision making process and an active search for continuous improvement.

They form the partnering logo shown below:

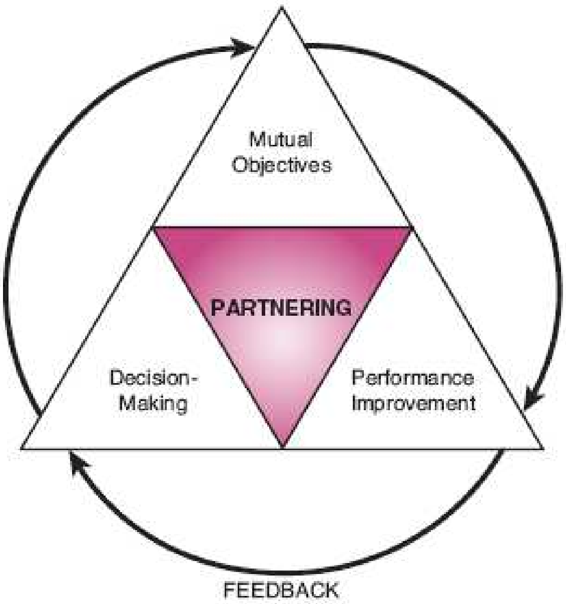

Fig. 2.1 Logo showing three essential features of partnering.

MUTUAL OBJECTIVES

The most fundamental requirement of partnering is an agreement of mutual objectives. The aim is to find objectives that firmly establish for everyone involved in the project that their own best interests will be served by concentrating on the overall success of the project.

When people cooperate in adopting a 'win-win' attitude they produce enough for everyone to have everything they reasonably want.

Partnering accepts that firms look after their own interests. It requires a tough minded recognition by clients that they will get what they need only if consultants, contractors and specialists have a realistic opportunity to do good work and make reasonable profits. It requires an equally tough minded recognition by consultants, contractors and specialists that they prosper best when clients get excellent value, good buildings or infrastructure and no hassle. This focus on mutual objectives gives expression to the idea that when people cooperate, they can produce more than enough to give everyone what they reasonably want. This is often described as a 'win-win' attitude in contrast to the traditional zero sum assumption that if one person gains, someone else must lose.

Clients should ensure that agreed mutual objectives take account of the interests of everyone affected by the project, so time and resources are not wasted on designs that will create problems. It may take time to deal with everyone's concerns. Inevitably the client, designers, managers, specialist contractors and manufacturers have different views about what constitutes success. And people tend to worry that in someway they will lose out if they cooperate in meeting other peoples' needs. Despite these perhaps natural reservations, experience shows that when project teams are brought together to discuss their individual interests they can find mutual objectives.

Mutual objectives may deal with many process and product related issues but common subjects include:

value for money
guaranteed profits
reliable quality
fast construction
handover to owner on time
cost reduction
costs within agreed budget
operating and maintenance efficiency
improved efficiency for users
architectural quality
a specific technical innovation
excellent site facilities
safe construction
shared risks
timely design information
reliable flow of design information
shared use of computer systems
effective meetings
training in decision making skills
training in management control systems
no claims

In agreeing mutual objectives it is essential to sort out the financial arrangements so that everyone gets a fair return in business terms. The worst situations in construction projects arise when any of the consultants or contractors are losing money. Contractual arrangements should ensure that none of the firms, if they contribute their best efforts, will lose out relative to the others. The essential equity of good value for clients and fair profits for consultants, contractors and specialists provides the platform on which partnering flourishes.

DECISION MAKING

Construction projects bring together many work teams drawn from many different firms. These firms need to agree how decisions will be made. The aim should be to capture the good ideas and since most projects have to be completed quickly, a balance has to be found between accepting the available satisfactory answers and continuing to search for something better.

The nature of the decision making systems is directly influenced by whether the client needs the project to produce a standard answer or an original design. An important consequence of this choice is the amount of time the client and his staff will need to spend in making decisions. Original designs take more time but should result in buildings and infrastructure that support the users' activities and delight everyone who sees them. Standard answers make fewer calls on the client's time, are quicker and cheaper but impose more compromises on users and may look dull.

The project team need to agree the information and communication systems they will use. They also need to decide the quality, time and cost control systems they will use. Who will operate these systems and who will get the various outputs. They decide on the form and frequency of face-to-face meetings. They consider the use of task forces, workshops, common project offices, social events and other ways of bringing teams closer together.

Whatever decision making systems are agreed, they should include robust procedures to ensure that problems are resolved quickly in ways that encourage cooperative teamwork. This means most problems are resolved by the work teams directly involved. When a problem cannot be resolved in this way, it should be referred immediately to the project's core team and in exceptional cases to senior managers.

PERFORMANCE IMPROVEMENT

The main emphasis of partnering is to improve project teams' performance and Partnering that merely provides mutual objectives and agreed ways of making decisions will drift into inefficient ways of working. Partnering requires project teams to search for better answers.

Project teams new to partnering should aim at one modest improvement that all members of the team regard as important. As experience of partnering grows, the scale and range of improvements will increase.

It is important that performance improvements in one area do not distract work teams from continuing to deliver their established normal performance in all other areas. This is an easy trap to fall into as attention is focused on the improvements and quality elsewhere slips without anyone noticing. This is why partnering procedures give explicit attention to the constraints of achieving normal performance as well as delivering performance improvements.

There is much discussion about the best ways of encouraging work teams to improve their
performance. Many economists argue that competition best to improve performance. However, competition in the construction industry can easily become cut throat and bid prices, quality and safety are driven down to levels that are hopelessly inefficient. The outcomes include claims, disputes, defects, late completions and good firms being driven out of business.

Competition has a place in partnering to encourage consultants, contractors and specialists to invest in training and innovation to improve their own performance. This can be achieved even when there are long term relationships between firms. By having two, three or four options available for key relationships, all the partners are motivated to continuously improve their performance.

Benchmarking provides another weapon in the search for improved performance. Carefully researched information about best international practice is often used by experienced clients to guide the choice of targets. A good approach is to concentrate on whatever the client, consultants or contractors regard as their biggest problem.

There are advantages in project teams setting their own targets. When teams are given good information about the performance achieved by leading practice, they often set tougher targets than any they would accept from their managers.

Having agreed the performance improvements they will aim for, the best partnering teams try various ideas; continue with actions that work and change those that deliver no improvements. They often set up a task force to help find ways of meeting targets. This is a small group of people with relevant knowledge selected from within the project team and it may include external experts. Task forces should be given a short time to find an innovative answer that will deliver significant performance improvements.

The first partnering workshop should ensure that actions found to deliver improvements will be built into standards and procedures for the benefit of the current and future projects.

FEEDBACK

Teams need to be guided by feedback about their own performance if they are to deliver the substantial benefits that partnering can provide.

Achieving performance improvements depends on project teams being provided with up-to-date and objectively measured feedback. Teams should measure their own performance and plot the results on control charts that show graphically how they are doing against their targets. Teams believe feedback they have produced themselves and use it to search for better ways of working. Feedback is most effective when it is expressed in positive terms. For example, quality should be measured by recording how often quality standards are achieved, not the number of failures.

Performance improves faster when successes are publicised and celebrated. It is vital that senior managers know when targets are being achieved and make a point of congratulating and rewarding the people involved. The rewards can be token but a dozen cans of lager presented at a light hearted ceremony to the week's best work team can ensure that all the teams strive to be winners next week.

Failures must not be ignored. This is not to allocate blame which is counter productive. Failures should be used to guide teams in looking for robust answers to problems so that performance is back on target quickly. Some effective teams make a point of celebrating failures because they provide opportunities to find more effective ways of working. When a failure arises, they have a party and then, with renewed enthusiasm, concentrate on finding a robust answer.

It is important that senior managers are kept up-to-date about improvements in performance. This is essential if they are to remain committed to partnering. At least some managers in most organizations take a pride in being highly competitive and are sceptical of the idea that the cooperative methods used in partnering can possibly be effective. Without regular, well founded feedback on the performance improvements delivered by partnering, there is always a risk that adversarial methods will be reintroduced.

Feedback should flow from project to project. Too many innovative ideas are lost because construction generally has weak feedback systems. Lessons need to be captured so that good ideas are applied on future projects and problems and defects do not re-occur. Leading firms involved in partnering have developed standards and procedures that systematically capture best practice as it emerges from their projects. The feedback based standards and procedures help all their project teams concentrate on efficient work

MAINTAINING PARTNERING THROUGHOUT PROJECTS

Progress towards mutual objectives and performance improvements using agreed decision making processes is reinforced by partnering workshops throughout projects. A final partnering workshop captures lessons for use on future projects.

Best practice includes workshops throughout projects to review progress and if necessary change things agreed at the first partnering workshop. Change may be in response to the project going better than expected and the team realising they can aim for bigger performance improvements. It is perhaps more common for projects to face problems. These should be discussed at a workshop, which if the problem is sufficiently serious, should be called specially. The workshop should look for and agree actions that deal with persistent problems once and for all. Partnering is action oriented and dealing with problems quickly is central to its success.

A final workshop is used to identify good ideas and lessons identified during the project so they can be recorded and made available for use on future projects.

All partnering workshops are organized in a similar way to the first partnering workshop and should be taken just as seriously. Partnering is an ongoing activity guided by workshops. The potential benefits are large and they are earned by concentrating on and continually reinforcing cooperative teamwork.

CHAPTER 3

WHY CHOOSE PARTNERING

WHAT PARTNERING IS

Partnering requires all the individuals and firms involved in a construction project to agree mutual objectives that they are fully committed to achieving. It requires them to agree how they will make decisions, including how they will resolve problems. It requires them to agree specific improvements to their normal performance that they will seek to achieve. It is good practice to produce a written record of the agreed actions in clear punchy statements that form what is called a Partnering Charter.

Partnering empowers designers, managers and specialists to do their best work by establishing communication links and feedback systems. This mirrors developments in other major industries where information technology and highly developed forms of face-to-face meetings are revolutionising work and business practices.

Partnering delivers significant improvements in performance by empowering designers and specialists to do their best work. Partnering grew out of revolutionary changes in other industries, notably the car industry. These other industries found ways of retaining the greater efficiency of work teams resulting from the use of management techniques whilst ruthlessly cutting management costs. They have been considerably helped in this so called downsizing by rapid developments in information and communication technologies. The changes have radically altered the work of senior managers. They now concentrate on providing leadership, communicating internally and externally, and acting as coaches and mentors to their subordinates. UK construction began adopting these ideas in the 1990's largely in response to demands from major clients who could see the benefits in their own organizations.

Partnering in construction begins with very careful selection procedures. These rely on questionnaires, interviews and negotiations designed to ensure that the work teams forming a project team are competent and will work cooperatively. Price and cost play a minor role. The aim is to select an effective project team able to concentrate on doing its best work. It is possible to use competitive bids, if the client insists on this, without undermining the basis of partnering.

Partnering empowers designers and specialists to use cooperative teamwork in making their own decisions through networks of well developed communication links. A project manager may be included in the team to ensure that quality, time and cost control systems are used effectively. As in other industries, information and communication technologies provide essential support. These modern developments often require firms to reorganise themselves internally to actively support work teams using partnering.

The changes deliver benefits relatively quickly in construction because they build on natural ways of working used throughout the industry. People generally choose to cooperate with others who make their work easier and more successful. Small builders use the same tradesmen, architects use the same consultants, site managers use the same specialist contractors because they work reliably and when there are problems, they help solve them. These natural ways of working are efficient and always have been. The industry's poor performance is caused by work teams being forced into an adversarial defence of their own interests by competitive tendering, tough contracts or outdated management ideas.

Partnering builds on these natural and efficient ways of working. Clients discuss their projects with consultants, contractors and specialists to agree the best ways of achieving agreed objectives. Designers look to specialist contractors and manufacturers as a wonderful source of new ideas and solutions to problems. Contractors integrate their supply chains. They are all helped in this by forms of contract that deal explicitly with cooperative teamwork.

The benefits produced by these developments have encouraged leading clients, consultants, contractors and specialists to work together on a long term basis. This gives rise to strategic collaborative working which is usually based on the work of one major client. It develops further into strategic collaborative working which is providing the basis for genuinely modern construction industry that reliably delivers exceptional value for clients and robust profits for the construction firms involved.

BENEFITS OF PARTNERING

Partnering can provide large benefits for everyone involved in construction projects. Case studies show that compared to established approaches, projects that use partnering can achieve high levels of efficiency and the resulting savings can be used to provide whatever specific improvements in performance the project team agree.

The initial costs of establishing partnering are rapidly outweighed by the benefits which include lower prices for clients, higher profits for consultants, contractors and specialists, faster completions, greater certainty and zero defects. Project partnering can reduce costs by 30% and time by 40%, while strategic collaborative working over a series of projects can reduce costs by 50% and time by 80%.

Research shows beyond reasonable doubt that, properly applied, partnering reduces the price clients pay for a given building. At the same time consultants, contractors and specialists earn better than normal profits and the industry's workforce find their work more rewarding in every sense.

Case studies show that project teams partnering for the first time can deliver substantial benefits but it takes time and the experience of several projects for the full benefits to be realised. The benefits have been measured by comparing the performance of project teams using traditional and project management methods with those using partnering at various stages of development.

Performance Improvements over Traditional and Management Approaches by Project Teams using Partnering successfully

	Construction Costs	**Construction Times**
Traditional approaches	100	100
Management approaches	85	70
Project partnering	70	60
Strategic collaborative working	60	50
Strategic collaborative working	50	20

Note: a representative sample of projects using traditional approaches were used to establish the datum of 100 for construction costs and times. Samples of projects using management approaches and partnering at three distinct stages of development were used to establish the reductions in construction costs and times shown.

Project partnering means a project team partnering on an individual project. Strategic collaborative working means firms supporting project teams in partnering over a series of projects. Given time and experience it develops into the most efficient forms of partnering which we call strategic collaborative working. The greater efficiency delivered by partnering is used by experienced clients to improve the performance of the end product, provide higher quality, more sophisticated controls, lower life cycle costs, greater sustainability or other improvements of value to the client.

WHY IT DELIVERS BENEFITS

Partnering helps project teams to provide more than normal competence and a decision should be made about the specific performance improvement that the project team will aim to achieve.

CRITICISMS OF PARTNERING

It is always important to explore and understand the criticisms of the partnering approach and many of these are centred around commercial realties and companies paying lip service to the concept. These criticisms can serve to reinforce the fact that partnering is not an easy option. The project team has to work hard to achieve the full benefits.

Like all major changes, partnering provokes criticism from practitioners and academics. This provides a basis for a partnering check list for senior managers.

Given the nature of the changes required to put partnering into effect, it is inevitable that some practitioners voice criticisms of the approach. It is equally inevitable that some academics respond to these criticisms by searching for problems and weaknesses. The following criticisms were identified by a review of the partnering literature.

- Organizations trying to establish a partnering culture for specific projects face severe problems when they have to use cut-throat competition to win other projects.
- Modern forms of decentralised decision making undermine partnering as decisions by one department are contradicted elsewhere.
- Commercial realities that require firms to have alternative suppliers and many customers inhibit the development of deep partnering relationships.
- The open communication required by partnering is inhibited when one partner also works with another partner's competitors.
- Partnering relationships inhibit firms from developing more profitable new businesses.
- Teams responsible for individual projects achieve shallow forms of partnering because the approach takes time to develop.
- Forming teams from people who fit the partnering ideal excludes creative individuals, new ideas and distinctive skills.
- Powerful partners dictate terms and conditions to weaker partners who depend on them for future work and so cooperative teamwork is impossible.
- Senior managers retain detailed control so that work teams lack the freedom to become cooperative team players.
- Partnering is undermined by targets that focus on aspects of performance that are easy to measure.
- Partnering is undermined by targets that expect too much too soon.
- Partnering is undermined by targets that can be achieved only at the expense of those further down the supply chain.
- Attempts to standardize on the most efficient processes and designs undermine quality and value.
- Construction professionals only provide feedback that is directly relevant to their own firms' projects.

- Feedback is used in different ways at different levels in organizations and gets distorted and important background information is lost.
- Partnering is undermined when commercial and organizational conditions change.
- Strategic collaborative working relationships too often mean that individual projects are sacrificed in the interests of long term development.
- Some benefits attributed to partnering are equally well provided by different arrangements.

These various criticisms of partnering serve as a reminder that partnering is not an easy option. It is tough. It has to be worked at by everyone involved to achieve the full benefits. The lessons identified by this review of common criticisms of partnering provide a check list for senior managers.

The changes required to put project partnering into effect give rise to some initial costs for all the firms involved.

Partnering involves costs which represent an initial investment that has to be met before the benefits emerge. The costs include time spent by senior mangers in establishing the approach, careful team selection procedures, training and partnering workshops.

These investments can be made gradually as the benefits emerge. It takes time for project teams to develop the abilities needed to use partnering effectively, so it makes sense to begin with small steps. Partnering can be developed by giving the same team a series of small projects. Some clients wanting to use partnering on a large project give the project team a small project first so they learn how to work together. If these arrangements are not possible, partnering can still be used by allowing time for the project team to discuss and agree how they will work.

DECISION'S TO USE PARTNERING

All construction projects can benefit from best practice partnering. However many factors need to be taken into account when investing in construction. Key decisions need to be made about the building and the project team. A decision to use partnering means selecting a project team in which all the members are willing to use cooperative teamwork.

CHAPTER 4

SELECTING FIRMS FOR PARTNERING

INTRODUCTION

This chapter provides advice on selecting firms for construction projects that use partnering. In many cases, clients take the initiative in establishing project partnering and this chapter describes that common situation. However, there are cases where consultants or contractors make the first move. This should be encouraged and the guidance in this chapter applies equally to clients, consultants, contractors and specialists.

Clients experienced in partnering tend to work with consultants, contractors and specialists they know and trust. However, at some earlier point they had to select firms carefully and this chapter begins with guidance on these initial decisions. This leads into a description of the use of framework arrangements and other features of more developed partnering.

To making partnering work it is important to choose the right partners. The first step in this is essentially a process of self selection. Clients, consultants, contractors and specialists contemplating getting involved in partnering should first check that their own firm meets the selection criteria they subsequently apply to potential partners. This applies particularly to the client's internal team which should have a confident partnering ethos.

Depending on the nature of the project and the client's objectives, consultants, contractors and specialists need to be selected at various stages of projects. The same principles of best practice selection should be used at all stages.

Firms considering the use of partnering should clearly accept the principle aim of partnering. This means they can answer a confident 'Yes' to the following questions:

- Do you accept that working in cooperation with the firms that form a project team can provide more benefits for you than if everyone concentrates narrowly on looking after their own interests?

- Do you want the firms you work with to make a fair return for their involvement in the project?

It is prudent to check that the answers are supported by the firm's internal policies and actions on previous projects. Having confirmed in this way that they are able to use partnering, firms should chose their partners on the basis of their performance on projects similar to the one being considered. This means the selection processes should take account of their technical competence, their experience of the specific role they are required to undertake and their partnering attitudes and skills.

These criteria should be expressed in clearly defined minimum standards that the client and all the consultants, contractors and specialists involved must achieve. The selection criteria should be ambitious in including targets for better than normal performance.

The specific selection criteria used on individual projects should be established by the client's internal team together with any key members of the project team that have already been appointed.

In addition to defining the selection criteria, the internal team need to develop selection processes that address the following issues:

- The number and type of consultants, contractors and specialists needed for the partnering arrangement to achieve the client's objectives. This depends on the nature of the project and the availability of suitable candidates.
- Ensuring there are no major weaknesses in the partnering firms and they provide complimentary skills and knowledge.

Internal teams may be told that certain legislation or official policies inhibit the use of partnering. Experience shows conclusively that no such restrictions exist in legislation or official policies. Partnering is being used successfully in all sectors of the construction industry by all types of clients. Government at all levels is concerned to obtain best value for public money and accepts that partnering has a key role to play in construction projects. Therefore internal teams should not be deflected by suggestions that partnering is illegal or against public policy. Any such suggestions should be checked but this report takes the view that partnering can be used, it should be used and it can provide substantial benefits for everyone involved.

COMPETENCE

The selection process must ensure that the selected firms are able to provide the key products and services required for the project.

The selection processes need to ensure that selected consultants, contractors and specialists will provide technically competent work teams. The processes need to recognise that work teams good at producing well established answers are different from those skilled at producing original answers. Selection should be based on firms' performance in delivering quality and completing projects on time.

The selection processes need to ensure that the selected consultants, contractors and specialists are able to provide the key products and services required for the project. The most important factor in this is experience in successfully carrying out similar projects to the one the client wants. The performance criteria should check the skill levels of the firm's work teams and the quality of support they get. It is important to ensure that the technical answers the firms will provide are consistent with the client's operating and maintenance policies for their constructed facilities.

The selection criteria should take account of the essential character of the project. Where an established or standardised solution is appropriate, firms selected should have a track record in delivering the answer successfully. They should have a long list of satisfied customers. They should provide detailed information about exactly what the client will get. They should be able to arrange visits to similar buildings or infrastructure including discussions with clients, local community leaders, neighbours and others likely to have been influenced by these previous projects. They should provide convincing evidence that they deliver on their promises about quality, time and cost. They should describe efficient control systems and show how they are supported by well developed procedures. The firm should give an overall impression of solid competence and reliable efficiency.

For projects that pose unusual challenges, the firms selected need to be skilled at producing original answers to job specific problems. Their work teams should be creative. They should demonstrate that they respond creatively to challenges and opportunities by providing examples of their own innovative designs. They should have clear evidence that they can work cooperatively with other project team members. They should have a track record of finding new answers that delight their clients and meeting agreed deadlines and budgets.

Many of today's construction projects involve working in situations where the general public, staff, customers or others must have access. If this is the case, firms' previous successful experience of dealing with such projects should be an essential aspect of the selection processes. This is an area that produces significant risks for the uninitiated.

These criteria apply at the level of the firm but in many ways it is more important to ensure that they apply equally to work teams and individuals. This means the people who will form the project team are experienced professionals used to working together. They have the knowledge and skills needed to ensure their own firm's interests are fully taken into account in reaching project decisions. It means they have the authority to commit their firm to actions without needing to refer back to senior managers.

This last requirement may conflict with a firm's well establish procedures. Some firms protect their reputations by having decisions reviewed by a panel of senior and experienced designers. This safeguard may provide an important part of ensuring the project meets all its objectives. Provided any such arrangements are discussed during the selection processes, they can be built into the project team's agreed ways of working.

Partnering requires the levels of technical competence described above but the performance criteria should go further. Partnering often requires a change to a firm's working ethos to achieve its main purpose of delivering performance improvements. This requires firms to encourage flexible attitudes throughout the workforce and should be evident in the way they welcome and enjoy change. Ideally they should be involved in research, development and innovation.

BALANCING QUALITY AND PRICE

The selection criteria dealing with technical competence, project organisation and cooperative teamwork should be balanced against the price. The total life cycle costs and environmental impacts should be fully taken into account.

The selection criteria dealing with technical competence, project organization and cooperative teamwork should be balanced against the price.

Having determined the performance criteria that selected firms need to satisfy, the client's internal team needs to decide how they should be balanced against the price. In making this judgment the total life cycle costs and environmental impacts should be fully taken into account. The team should also keep in mind that it is a false economy to compromise on performance or attitudes in order to get a low initial price.

Partnering can and does deliver low prices by employing competent work teams, ensuring their financial position is secure and enabling them to work to tough objectives as a cooperative team. Low prices that represent good value are not achieved by ruthless competitive tendering backed up by tough contracts. Time and time again selecting firms offering the lowest initial price has turned out to be a costly way of buying a building or infrastructure. A much more balanced approach is needed to give clients best value.

The client's internal team never-the-less has a key choice to make. This is whether to establish a fixed price or a fixed budget that they want the project team to work within.

A fixed price is the right approach when the constructed facility can be fully defined. This means that a full and clear statement of the client's needs can be produced that will not be altered during the project. It means that the site and ground conditions are fully surveyed and understood by the construction firms employed to produce the required building or infrastructure. It means there are no major non-construction risks likely to influence the project. In these ideal circumstances, it makes sense to agree a fixed price. Where a fixed price is appropriate, best practice tends to give equal weight to performance and price in evaluating potential partners.

Where the project team will develop the design of the required building or infrastructure during the project, it is best practice to agree a fixed budget based on the client's business case. The client's internal team need to check the feasibility of this. Given that the project is feasible, the selection processes need to establish the way the actual costs will be calculated as the design is produced. They also need to ensure that the chosen firms have effective cost control systems in place and a good track record of completing projects within budget. It is usual to allocate a weighting of 70 to 80% to performance criteria and 20 to 30 % to price criteria.

SELECTION PROCESSES

The selection process is of paramount importance in making sure that the partnering arrangement delivers benefits. Selection processes normally use questionnaires, interviews and negotiation. The selection criteria must balance performance and price.

Selection processes normally use questionnaires, interviews and negotiation. These are used to establish firms' track records in completing projects successfully and their established or potential abilities at partnering.

The selection and appointment of construction firms is one of the most important steps the client's internal team take to ensure a projects success. Partnering provides clients with their best chance of getting excellent value for money and the lowest sensible final price. These are unlikely to be achieved by traditional selection processes based on competitive tenders designed to find the lowest bid price.

Once selection criteria that balance performance and price are agreed, the client's internal team need to design the selection processes. Partnering projects normally use questionnaires, interviews and negotiations. It may require help from external consultants to design selection processes that are new to the client's internal team. Advice may come from independent experts on partnering or clients already using partnering for similar projects.

European Union procurement rules may influence some aspects of the selection processes. Most firms subject to these rules are aware of the implications but new clients should check whether they are affected and if so seek legal advice before finalising their processes.

Selection processes should take into account the amount of work involved in the project, the nature of the necessary technologies and the possibility of future projects. A small one off project using traditional construction technologies can use relatively simple processes. Large, complex, difficult projects facing considerable uncertainties and requiring capital intensive prefabrication and other sophisticated technologies need more formal and thorough selection processes.

The first stage in the processes is to identify suitable firms and provide them with information about the project. Having identified firms that appear to be suitably qualified and enthusiastic about the project they should be asked to complete a questionnaire based on the selection criteria. The answers should be evaluated objectively to identify two or three suitable firms. They should be invited to a formal interview carried out by the client's internal team and any key members of the project team already appointed. The interviews should be evaluated systematically with the aim of making an objective decision about the firm that provides the best overall value for money.

The selected firm should be invited to negotiate the terms on which they will be employed. If the negotiation achieves a mutually satisfactory outcome, the firm should be appointed. If this is not possible, the client's internal team must decide what to do next. This may be to invite the second best firm for interview or to go back to an earlier stage and repeat the process from that point.

At each stage a written account of the selection process should be kept on file to provide transparency for auditors. Also detailed feedback should be offered to unsuccessful firms.

SUPPLY CHAINS

It is of great importance that firms partnering develop efficient and cooperative relationships with their main suppliers. This is also key in the selection criteria. The maximum benefits will come from integrated project teams that fully integrate their supply chains.

Selecting firms for project partnering should take account of the competence of their supply chains and the extent to which they make use of partnering.

An important characteristic of firms experienced in partnering is that they develop efficient and cooperative relationships with their main suppliers. Leading firms in the construction industry have adopted supply chain management and their key suppliers contribute to project decisions as full members of a partnering team. Client's internal teams should look for evidence that the firms they select have well developed supply chains. This should be one of the most important selection criteria particularly where framework arrangements are used.

Well established supply chains have robust processes aimed at improving the efficiency of the supply chain. These should cover every aspect of the supply chain processes including procurement, design, manufacturing and installation.

They should aim to streamline each component of the supply chain and improve all aspects of quality.

When a project uses a well developed design, there should be well developed supply chains in place for all the major elements and systems. The lead firms in each supply chain should be appointed early and fully involved in the partnering arrangement.

The situation is more complicated when the project requires an individual design. It is always sensible for the members of the project's core team to be appointed early so that they can agree with the client's internal team the supply chains most likely to be needed. Suitable firms can be appointed on the basis of flexible contracts that can be terminated if it becomes clear that the decisions about supply chains have been invalidated by subsequent design decisions. The lead firms in each supply chain should be fully involved in the partnering arrangements. There are many advantages in this approach, not least in ensuring that project costs and risks can be identified early. It allows the whole team including those responsible for the design and construction processes to be integrated from the outset. These are substantial benefits that help ensure the successful completion of projects even if some of the firms have to be changed because the design develops in unexpected ways.

The early appointment of the lead firms in key supply chains is particularly important where the project work includes altering an existing building or infrastructure. Direct communications between representatives of local people and those undertaking construction projects can deliver dramatic improvements in the overall level of satisfaction. Experience shows that early appointments allow local people and organizations to discuss issues of access and safety. The discussions are particularly beneficial in determining how work can be done in or around occupied premises.

The involvement of construction firms from an early stage gives clients time to encourage them to invest in local employment, training and development. Many major clients and construction firms see it as important that they foster local communities in this way.
The maximum benefits and efficiency come from integrated project teams comprising fully integrated supply chains selected to meet the specific requirements of the project. This should be the aim of the selection processes whenever such supply chains exist. However, the dynamics and diversity of the construction market and its tendency to use individual designs even when perfectly good answers already exist inhibit the natural emergence of fully

integrated supply chains. An increasing use of partnering has made the emergence of permanent supply chains more likely and this needs to be encouraged in the interests of the industry and its clients.

In the meantime, the answer for many project lies in recognising the existence of supply chain modules and mix and match mini-supply chains. These allow project teams to be assembled from a matrix of modules and mini-supply chains to meet specific project needs. In many cases lead firms in sectors of the construction industry structured in this flexible way work through what are in effect flexible long term partnering arrangements. Selection processes need to take account of these developments and encourage the lead firms to search for innovative ways of improving the industry's performance.

CHAPTER 5

PARTNERING IN PRACTICE

ACTIONS BY CONSTRUCTION INDUSTRY FIRMS

Key choices have to be made about the project organisation. This is to reflect current best practice. The first key decisions about partnering on the project will be discussed at the first partnering workshop.

The client sets up an internal team responsible for ensuring the client's interests are taken into account throughout the project. This is led by the project sponsor who has the authority to make decisions and take actions on behalf of the client. It includes people who understand the relevant business issues and construction implications.

The internal team turns the business case into a formal statement of the client's objectives for the required building or infrastructure. This should describe the building or infrastructure in the client's own terms.

The client's internal team make three key choices which affect the actions that will need to be taken by the project team as they put partnering into practice.

Once the statement of the client's objectives is formally agreed, the internal team should make the key choices in determining the nature and quality of the building or infrastructure to be produced and the overall strategy of the project team. It is therefore essential that the key choices are considered carefully and robust decisions made, especially if the project team subsequently appointed is new to partnering. Project partnering is tough and if the project team has the wrong overall strategy, partnering may well be an early casualty of the ensuing confusion.

Producing an efficient standardised solution or an innovative original design requires different work teams and ways of working. They provide clients with different facilities and levels of value and risk.

The construction industry uses different forms of project organization. The essential choice is whether the client employs one firm to take overall responsibility for their project or employs separate consultants, contractors and specialists to take responsibility for specific aspects of their project. The choice affects the time and resources clients have to devote to their projects.

The client's internal team selects consultants, contractors and specialists to provide work teams that form the project team. The first firms appointed are those that provide members of the core team. This small team of key individuals gives the project its overall direction. They guide the appointment of all the other work teams needed.

MUTUAL OBJECTIVES

The first partnering workshop agrees what the members of the project team will achieve from the project. It is important that this includes financial arrangements that will encourage all involved to the concentrate on the overall success of the project.

Project partnering is guided by partnering workshops. The first partnering workshop shapes the project's inputs, processes and outputs by agreeing mutual objectives, decision making processes and performance improvements.

The way project partnering will be applied is reviewed, clarified and agreed at the first partnering workshop. This is normally a two day meeting of the project team at a neutral venue run by a partnering facilitator.

Workshops have become a crucial part of a number of widely used management techniques including value management, risk management and teambuilding. These techniques supplement established project management and show that something more than management is needed for construction projects to deal with the complex issues that clients, technology and the wider community throw up. Partnering goes much further in using workshops to radically alter the way projects are undertaken. Partnering uses workshops to shape all the project inputs, processes and outputs by concentrating on three sets of primary decisions:

- **Mutual objectives** which define the project ***outputs***
- **Decision making** which shapes the project team's ***processes***
- **Performance improvement** which aims to reduce the ***inputs***

The box below provides a quick check list of issues that project teams should consider in identifying and agreeing a set of actions that will ensure their project's success.

Inputs	**Processes**	**Outputs**
Cost Time Quality Safety	Risks	Capital value Operating efficiency Life cycle costs Environmental impact Profits Experience

Tab. 5.1 List of issues which must be considered to make project successful.
In addition the first partnering workshop makes sure the project has good feedback systems. They turn the basic model of inputs, processes, outputs into a controlled system. Feedback is an important aspect of the construction industry's work that is often neglected, which is why it needs to be explicitly considered at the first partnering workshop.

The first partnering workshop takes two days to allow participants to consider a great deal of information, generate ideas and make tentative decisions on the first day. Overnight all this is worked on subconsciously as they sleep. Next morning at least some of the participants will see new ideas, better answers and everyone is likely to feel more confident in making decisions. Two day workshops build on the basic human phenomenon that our brains continue to work while we are asleep. It may be possible for workshop held on one day to be effective if the team has worked together before on similar projects but in general, the first partnering workshop should take two days.

The first partnering workshop agrees what the client, consultants, contractors and specialists will get from the project. This is achieved by searching for win:win agreements using value management techniques. The resulting mutual objectives are further developed following the workshop into precise descriptions of the project outputs.

The first main task for the first partnering workshop is to agree the project's mutual objectives that specify the value delivered to the client and the profits earned by consultants, contractors and specialists. This does not mean that the only important outputs are financial. The project's main output will be a building or infrastructure that may well enable the client's organization to operate more efficiently, provide a better service to its customers, provide healthier working conditions for staff and delight neighbours. The workshop takes account of all these capital, life cycle and operating issues in defining the value delivered to the client.

Similarly the project may provide important lessons, experience and contacts for the consultants, contractors and specialists involved. These non-financial benefits should be taken into account as well as the profits generated by the project. In other words all the potential benefits should be considered before defining the value and profits the project team aims to deliver.

It is never-the-less important to agree financial arrangements that encourage everyone involved to concentrate on the overall success of the project. It is energising when people agree that they want to make money and understand the only way to do this is to cooperate with each other.

Early use of partnering often relied on profit sharing schemes but it proved difficult to avoid these degenerating into disputes when problems arose. It is much simpler to guarantee the cost to the customer of a defined product and to guarantee each construction firm an agreed, fair profit plus all their properly incurred costs. This financial security allows everyone to concentrate on doing their best work and completing the project to the very best of their ability.

These mature financial arrangements support a growing understanding in the construction industry that long term success depends on win:win agreements. Construction projects can provide sufficient for everyone to have all they need if they work together to create it. Win: win is based on the idea that 'There are better ways of working than my ways or your ways if we take the trouble to look for them. The better ways enable everyone to win.'

It is therefore sensible for first partnering workshops to keep talking until agreement is reached on mutual objectives that everyone can fully accept. Indeed if this turns out to be impossible, it may well be that partnering is the wrong approach for the project or the particular project team. Mutual objectives that give everyone more than they could get from concentrating narrowly on their own interests are fundamental to project partnering.

In searching for mutual objectives, it is unhelpful for people to have fixed, predetermined answers. This can be avoided by getting everyone at the workshop to describe their own interests in specific, practical terms. It helps if they talk in detail about what they want from the project and how it will help their business. An essential basis for good mutual objectives is that all parties are clear and open about their own interests. Getting people to describe what they want in front of the rest of the team helps ensure they are reasonable in what they ask for. It often helps for people to state what they see as an ideal outcome, what they reasonably hope for if the project goes well and their minimum requirements.

Once everyone at the workshop has described their own interests, the next step is to generate a range of possible mutual objectives. The aim is to look for solutions that satisfy as much as possible of everyone's interests. This is helped by using creative techniques like brainstorming, adopting the point of view of different professions, or suggesting newspaper headlines to describe the outputs. Working together creatively can produce a relaxed frame of mind that opens the discussion to a search for answers that provide mutual benefits that meet everyone's vital interests and can give them more than they expected. This approach draws on techniques developed in value management based on the general framework in the box below.

Value Management Framework

- What are we trying to achieve?
- What must we get right to achieve it?
- What constraints apply that we must take into account?
- What is the relative weight of each of these factors?
- How do the available options contribute to achieving our aims?
- How can more value be delivered?
- Which are the best ideas for adding value?
- How can they be implemented?

The agreed mutual objectives should be further developed in the weeks following the first partnering workshop into a detailed statement. This should define the agreed outputs in terms of what is to be done and by when; the constraints within which the results are to be achieved; the standards to be used in evaluating the outputs; the timing of evaluations; and the actions that will flow from evaluations.

DECISION MAKING

The project team needs to establish how decisions will be made on the project and how problems will be resolved. Procedures and standards need to be established.

The first partnering workshop agrees the processes and organization framework to be used in running the project. This establishes how decisions will be made and problems resolved. It often includes risk management techniques. It provides procedures and standards, identifies constraints, establishes targets and control systems, and ensures that information systems support the agreed approach.

The second main task for the first partnering workshop is to agree the processes to be used in running the project. The agreement should provide an organizational framework for making decisions and guiding the behaviour of the people involved.

In deciding on the specific decision making system to be used, the broad aims should be to concentrate the project team's efforts on achieving the agreed mutual objectives, to ensure that few problems arise and those that do are dealt with in ways that do not threaten the partnering relationship.

The first partnering workshop needs to agree how decisions will be made. It is particularly important to agree how the client's internal team will be involved so they are able to influence all decisions that may affect the value delivered by the end product. This is particularly important when an original design is needed. It is also very important to agree procedures that ensure the client's internal team is fully informed about all aspects of progress. The aim should be that they do not have any negative surprises.

It is also important to agree where the project team will be based. Traditionally people work in their own firm's offices. This is cheap but tends to inhibit communications between work teams and cause people to fall back on routine decisions rather than search creatively for a better answer. Recognising these limitations, a growing number of successful projects set up a common project office where all the professions and specialisms can work closely together. This makes communications fast and accurate, allows people to discuss innovative ideas and encourages open decision making. There are costs involved in setting up and managing a common project office and in people working away from their home base. These should be balanced against the potentially large benefits from a physically, intellectually and emotionally united project team.

Having considered where the project team will be based, the workshop should agree what decision making tools they will use. The first type of decision making tool is procedures and standards. Procedures are predetermined actions for workers to take in given situations and so in effect procedures define standardised processes. They are closely linked to standardised products and services, commonly referred to as standards. Many well established procedures and standards exist and save time and resources by providing predetermined answers to many of the issues that face project teams. It is normal for work teams to have their own preferred procedures and standards and so the first partnering workshop should ensure these are mutually compatible.

In doing this it has to be remembered that procedures and standards may be formally written and approved by firms, industry bodies or government. Or they may merely be implicit in teams' work. In whatever form they are recorded, procedures and standards tell teams how to undertake their work and how others should behave in given situations. Knowing other teams' procedures and standards gives everyone the confidence to concentrate on doing their own best work because they understand what other work teams are doing and why. As a result they know what needs to be done for the project as a whole to be effective.

Procedures and standards usually deal with a range of situations and so teams need to determine the precise constraints that apply to their particular work. It is worth spending a few minutes at the first partnering workshop ensuring that there is a common understanding of the constraints that define the levels of performance that have to be met. Construction constraints include official regulations about the forms of construction that are permitted, the methods that can be used, safety requirements and quality standards. Best practice makes constraints an integral part of processes but where the work is relatively new to the teams undertaking it, they may need control systems to ensure they are working within all the constraints that apply.

The targets and control systems which teams use in organizing their own work are another essential part of project decision making. Targets provide a measure of performance that teams aim to match or beat. The existence of targets means teams require control systems. At their best, control systems rely on teams aiming at their target as an integral part of their work. The nature and extent of the control systems needed depends on the team's normal performance and how close the target is to this norm. When a target is comfortably with a team's normal performance, control can be simple and infrequent. When a target is challenging, teams need detailed control systems that work in real time to provide feedback that tells them how close they are to meeting their targets.

The first partnering workshop should review the targets and control systems used by each of the work teams to ensure they are compatible with each other and with the agreed mutual objectives and performance improvements. It is normal for there to be gaps and overlaps between the normal approach of the work teams that make up a project team so the workshop needs to agree overall targets and project control systems.

It is particularly important for the first partnering workshop to agree how the project team should deal with crisis or problems. The agreed approach may include informal meetings, formal meetings, workshops or task forces. The nature, timing and form of these should be agreed.

These arrangements for dealing with problems and crises should be based on the fundamental principle that people must look at their own responsibility, not blame others. Solutions come from everyone involved concentrating on what they can do to help solve the problem, not worrying about what others should do. Focusing on what other people should do creates conflicts, implies blame and produces suboptimal solutions. The aim in dealing with problems and crises should be to find permanent answers that allow the project to resume normal planned and controlled work quickly.

In considering these general arrangements for dealing with problems and crises, the workshop should ensure that they deal with problems caused by individuals who do not accept the disciplines of cooperative teamwork. It is important that the whole team recognises that such behaviour must not be accepted. This means that it is accepted as normal for anyone faced with an uncooperative team member to discuss it with the offending individual face-to-face. If this fails, it must be raised as a problem and dealt with using the agreed procedures. They should provide a range of solutions including coaching, mentoring, training or replacing the individual.

The various tools described above are supported by information systems which provide the final decision making tool for the workshop to consider. Good information systems ensure that everyone involved with the project in whatever capacity is using current information in a convenient and relevant form. Information systems feed into and draw from the other decision making tools to provide the feedback that gives project teams an essential basis for controlling their projects.

The workshop should ensure that the overall framework of decision making is consistent with techniques developed in risk management and takes account of the general risk management framework in the box below.

Risk Management Framework
What is at risk and why? What are the specific risks and where and when could they occur? What are the consequences of each risk if it occurs? What is the likelihood of each risk occurring? How will each significant risk be dealt with? What specific actions need to be taken?

PERFORMANCE IMPROVEMENT

One or two specific agreed improvements need to be identified. These improvements need to be measured. It is vital that feedback is captured.

The first partnering workshop agrees one or two specific performance improvements. Agreed improvements often aim to increase the value delivered to the client. The workshop agrees how the improvements will be measured. It agrees actions to achieve the improvements which are further developed following the workshop.

The third main task for the first partnering workshop is to identify the one or at the most two performance improvements they will make. This requires them to make specific savings in the inputs used in achieving the agreed outputs using the agreed processes.

Savings in inputs should be related to some measurable standard. This may be the normal performance achieved by the local construction industry, the team's previous best performance or some other agreed standard.

In undertaking this part of its work, the first partnering workshop should keep in mind that the whole point of partnering is to deliver performance improvements. In recognition of this the first partnering workshop should spend a significant proportion of its time agreeing the specific performance improvements they will achieve. These must be consistent with the agreed mutual objectives and be clearly reflected in the targets the project team set for themselves.

A good starting point for agreeing a specific performance improvement is to identify a problem that limits the value delivered to the client. This is because the long term health of consultants, contractors and specialists is benefited more by solving problems that inconvenience clients than by tackling internal problems. In practice delivering better and more reliable value for clients usually requires some internal processes to be improved. The point is that the long term interests of all construction firms are best served by internal improvements likely to have the largest beneficial impacts on the value delivered to clients.

Once a problem is identified, the sequence of actions which gives rise to the problem and its consequences should be analysed. This means identifying for each action all the inputs, constraints and outputs. The purpose of the analysis is to help identify the causes and effects that determine performance. Having identified the key features of the actions surrounding the problem, the next step is to measure them so as to establish the extent and location of the problem. The measurements also help set a measurable target for improving the existing situation. This should be an ambitious target set by the project team itself.

Following the workshop a nominated individual or task force should define specific actions designed to achieve the planned improvement. This may need help from experts or researchers from inside or outside the firms involved in the project. Possible answers should be discussed with everyone in the project team likely to be affected by possible changes. The aim is to agree a robust way of achieving the agreed performance improvement that the team feels confident about.

Benchmarking provides a well developed approach to finding ways of improving performance that can be used in partnering workshops and the follow up actions.

FEEDBACK

The first partnering workshop agrees feedback systems to provide work teams with reliable information on progress and early warnings of problems. It also establishes the basis for lessons to be captured for use on future projects.

All controlled systems, including construction projects, depend on feedback. Feedback is crucially important in enabling teams to achieve their mutual objectives and deliver agreed performance improvements. It enables teams to exercise control on the basis of their actual outputs rather than on their planned performance.

It is therefore important for the first partnering workshop to check that the agreed processes provide robust feedback. The most effective feedback comes when teams measure their own performance and compare it to their targets. Depending on the outcome the project team can:

- Continue with the same actions because they are producing acceptable results
- Make changes to bring performance back into the range of acceptable answers
- Set a new and more ambitious target if the project is going exceptionally well

The workshop needs to recognise that there are considerable differences in the time-scale of construction feedback. There is a great deal of immediate feedback. The craftsman working with a material obtains second-by-second feedback on the effect of his actions. He can see the effect of his actions on the material and he can feel the effect through his hands as he works. However, feedback on the performance in use of the part he is making will take time to become available. Similarly, an architect sketching the first designs for a building may have to wait years before his actions are joined in a feedback loop by knowledge about the appearance of the actual building.

Project teams are generally concerned with short term feedback; that is, feedback which arrives in time for it to influence their behaviour while they are still working on the project. Longer term feedback is valuable in that it provides knowledge which helps future projects. This is an important reason for construction to use well established answers wherever possible. Standards and procedures developed on the basis of feedback over many projects provide a robust basis for new projects.

When teams depart from well established answers, it is especially important to ensure they have reliable feedback to provide early warnings of problems. This is crucial in helping them know where to concentrate their efforts.

Project teams should regularly report their achievements to senior managers so they know partnering is delivering real performance improvements. It is vital that this includes senior managers in the client's organization so that chief executives in all sectors of the economy can speak confidently about the success of their construction projects.

With good decisions about feedback in place, the workshop can reasonably expect their project to behave as a controlled system that achieves their mutual objectives. Also they will be well prepared for the final partnering workshop which captures lessons for use on future projects.

PARTNERING CHARTER

It is important to draw up a partnering charter that reflects the decisions made at the first partnering workshop. All members of the project team are required to sign up to this arrangement (see sample charter below):

Partnering Charter

Our Mission

To Complete the project on time, within budget, to specified standards and to the satisfaction of all key stakeholders.

Common Objectives:

- Complete on time
- Complete on or below budget
- Fair return to Contractors
- Customer satisfaction
- No disputes
- Work together in the future

Supported by

Fig. 5.1 Exemplary Partnering Charter.

The decisions made at the first partnering workshop can be promoted in a partnering charter produced at the workshop. The decisions also provide the basis for the Project Execution Plan and Project Handbook. These key control documents are produced following the workshop and kept up-to-date throughout the project.

The first partnering workshop should review its main decisions to ensure they are mutually compatible. A sensible check is to consider whether the workshop's decisions will result in too many meetings. This may indicate that too many new decisions are required and the workshop should reconsider the potential benefits of new decisions against the established benefits of using good standardised solutions. The box below lists key characteristics of the decisions for projects using a standardised solution or an original design.

	Standardised solution	**Original Design**
Mutual Objectives	Well established design delivering predictable value for the client and certain profits for the consultants, contractors and specialists.	An innovative design that will take account of everyone's interests and use value management techniques to deliver exceptional value for the client and guarantee consultants, contractors and specialists' profits.
Decision Making	Predetermined structure of relationships, meetings and processes that take account of the risks likely to be faced.	A structure that develops in response to project decisions guided by a strong core team and an overall pattern of meetings. The project team uses a wide range of decision making tools flexibly, including risk management.
Performance Improvement	Use of inputs that match current best performance plus one specific improvement developed by a task force outside of any project.	Use of inputs is based on current industry norms plus one specific improvement agreed by the project team.
Feedback	Well established and effective feedback within projects and from project to project.	Feedback systems are tailored to the needs and methods of the work teams that form the project team. They are reviewed regularly and if necessary adjusted especially when new teams are appointed.

Tab. 5.2 Characteristics of the key decisions for projects using a standardized solution and original design.

Ideally all decisions will be agreed at the workshop but on many projects this is not possible. In these circumstances the workshop should agree how and when final decisions will be made. It may need to define further work for specific individuals, arrange special meetings to consider unresolved issues or set up task forces to tackle difficult issues. Sometimes the best course of action is to reconvene the workshop within a few days or at the most a few weeks. The workshop should agree a timetable for the follow up actions stating who is to do what by specific dates. The need for follow up actions should not be interpreted as a failure by the workshop, it simply makes sense to take the time needed to develop proposals thoroughly.

In addition to the decisions directly relating the project, the workshop may identify a need for training. With firms new to partnering this may include training in cooperative decision making and teamwork. On projects facing tough targets, this may include training in the application of quality control systems or cost control systems based on open book accounting or flexible time control systems with fixed completion dates. Particular safety concerns may give rise to the need for training. On projects that have aroused the interest of the media for whatever reason, it may be necessary to provide training in public relations.

When the decisions have been made they should be recorded. Good practice includes preparing a clear, punchy statement of the agreed basis for project partnering and publishing it as what is often called the partnering charter. This can be displayed in offices and site accommodation, presented on cards that can be kept in a wallet, and used as an introduction in electronic information systems to remind project team members of what they are cooperating to achieve and how they have agreed to work.

Finally, it is sensible to consider whether the project may benefit from an independent review of its approach and performance. It can be very beneficial to commission an ongoing case study during the early stages of a project. Then interim results can inform milestone workshops and the final results provide an important input to a final workshop. There are a growing number of well researched case studies of partnering projects that help define and establish best practice. They also help project teams develop by identifying weaknesses and problems.

MAINTAINING PARTNERING THROUGHOUT PROJECTS

The progress made towards mutual objectives and performance improvements using agreed decision making processes are reinforced throughout projects via further partnering workshops.

CHAPTER 6

PARTNERING SKILLS

SKILLS AND ATTITUDE NEEDED

Partnering requires a substantial change of attitude for many people. Cooperative teamwork requires people to be open to new possibilities and new options. This is not easy and can take time.

Partnering requires consultants, contractors and specialists to organize themselves internally to support individuals and teams in using cooperative teamwork. This internal partnering is necessary to obtain the full benefits of partnering.

Partnering begins by concentrating on external relationships. It requires consultants, contractors and specialists to work in cooperation with others and take account of their interests and concerns much more than is normal in traditional business relationships. Firms make this change because working in cooperation with others helps them achieve high levels of performance and innovation.

However, the external focus causes internal changes which initially tend to happen in relatively unplanned ways. Once a firm is seriously involved in partnering, they reach a point where the new way of working needs to be supported by internal changes. This means using cooperative teamwork internally to support partnering arrangements. The new way of working is called internal partnering.

Internal partnering means all the internal arrangements needed to encourage and support work teams in cooperative teamwork. More than this it means bringing any internal support services such as finance, accounting, audit, legal, marketing, purchasing and human resources into partnering arrangements. Helping specialists to understand partnering and its benefits and involving them in cooperative teamwork brings several important benefits. At the very least specialist do not feel threatened by the need to become part of cooperative teams and so are unlikely obstruct the changes that partnering requires. Ideally they will help work teams search for more efficient ways of working.

Internal partnering requires commitment from top management and considerable delegation of authority over decisions and actions. These changes can be difficult in large organizations whether they are clients, consultants or contractors. The variety of specialist roles and responsibilities within traditional organization structures make it difficult to act consistently in working in cooperation with other organisations. Smaller organizations face different barriers to change. Power and authority may be too centralised. People may claim to be too busy to think about change. So most senior managers charged with implementing internal partnering face a tough challenge.

Consultants, contractors and specialists should establish a strong internal partnering team that provides leadership in using partnering and making the organizational changes needed to support partnering.

DEVELOPMENT OF THESE SKILLS

There is a great need to review and in some circumstances change their structures and policies to support partnering.

Internal partnering usually begins with a business case in financial and other benefit terms. This should as far as possible fit the firm's existing strategy. It should set clear, achievable targets that start modestly. Frequent small steps are better than great leaps.

The internal partnering team should arrange for a business case to be prepared based on wide consultation throughout all levels of the firm. It is also sensible to bring suppliers and customers into early discussions, either singly or as a group. Some companies use open days to explain partnering and answer questions. These sessions help the internal partnering team to assess the interest and commitment amongst key partners and potential partners.

The business case should provide a description of the firm in five years time if it fully adopts partnering in all its external relationships. It often helps to compare this to several alternative scenarios so the costs and benefits of partnering are clearly stated. The business case should describe the changes needed to realise the full partnering model of the firm. This should be seen as a series of distinct stages. Overall this plan should aim at ambitious objectives but should not expect too much too quickly. It is often the case that small, frequent steps are preferable to giant leaps. The following should be taken into account in setting targets.

- The firm's strengths and weaknesses
- The competence of the firm's personnel and their success in working together and with outsiders
- The demand for construction and the nature of the local construction industry
- The attitude of clients, consultants, contractors and specialists to partnering

The business case should emphasise that internal partnering requires considerable effort, especially in the formative months. It is tough for people to stop using an adversarial approach in which they hide problems, evade responsibility and blame others. It takes courage to expose problems, accept joint responsibility for solving them and let others take the credit for good ideas. The fundamental nature of these changes make it inevitable that there will be at least some opposition at all levels so the business case needs to be robust. It should take account of the essential ingredients of successful partnering relationships including the following.

- Genuine commitment from top management to the use of partnering in the firm's external relationships
- Clear communication of the objectives and long-term goals throughout the organization
- A partnering ethos that ensures partners will not act against each other's interests
- Open financial arrangements that share rewards in a manner perceived to be fair
- Sufficient resources, especially in terms of the quality and number of competent specialists
- Full, candid, frequent and open communication and exchange of information internally and externally including open book accounting
- Procedures to support the discussion, understanding and addressing of partners' needs, expectations and problems
- Procedures and systems integrated with those used by partners
- Procedures to encourage innovative ideas and solutions including working with research and development specialists and other organizations able to provide original ideas

- Effective mechanisms for resolving problems at the appropriate level
- Agreed, measurable and realistic performance indicators and effective feedback systems
- A basis for establishing best practice and then improving it year on year

The business case must be supported by a detailed and rigorous financial analysis that takes into account all the costs and benefits. Partnering makes consultants, contractors and specialists more competitive, so benefits can be measured in terms of increased profit. It is usual for the financial benefits to become evident early in partnering arrangements. However, the full benefits are more likely to emerge in the medium and long term. Like all processes of continuous improvement, rewards accumulate progressively.

The business case should not rely only on financial figures. Doing so seriously understates the full benefits and can produce weak or even wrong conclusions. Partnering provides many benefits that cannot be measured exactly and so the business case inevitably includes some qualitative measurements. Value and risk management studies may help ensure that all the benefits are taken into account.

The changes proposed in the business case to put internal partnering into effect must fit the firm's overall strategic plan. This may mean changing the overall strategy but whatever is needed, the two must complement each other.

TRAINING

Individuals may need training in communication, cooperative decision making and technical issues to ensure that partnering is successful. Training schemes should provide positive incentives for people to ask for training and reward them when they complete a course.

Cooperative teamwork requires people to be open to new possibilities, new alternatives and new options. Cooperative teams value differences, they build on strengths and compensate for weaknesses. This means fundamental changes for people used to traditional practice.

Partnering requires a substantial change of attitude for many people. Many people have grown up in the belief that individual companies must compete. They must concentrate on looking after their own interests. The way to stay in business and make profits is beat other companies. These traditional attitudes breed adversarial attitudes which are deeply ingrained in many parts of the construction industry. The most effective way for the internal partnering team to help people adopt a cooperative attitude is to focus on success. This means encouraging discussions throughout the firm about what is needed for construction projects to be successful for everyone involved. When there is some agreement on what needs to be done, the discussion can be widened to identify and agree the most effective way of making the necessary changes.

It is not easy for an entire company, however small, to make a full commitment to cooperative working. 'Them and us' attitudes have to be identified and discussed so they can be replaced by agreed objectives and cooperative ways of working. This involves:

- understanding that all customer and supplier relationships, internally and externally, benefit from using partnering
- developing a new culture that supports cooperative teamwork, open communication and win/win attitudes
- encouraging open and honest communications, internally and externally
- welcoming changes that improve performance
- giving and receiving feedback

Cooperation is gradually being understood and its benefits recognised. People recognise that through work and social interactions some relationships grow so close that they become highly interdependent. The people involved trust each other to behave in specific ways so each individual does not have to develop all the skills and collect all the information needed for joint activities because it is available through their relationship. This makes them stronger, wiser and able to achieve more. People come to realise that as they help their partners become more successful, they benefit themselves. Eventually, mature people grow to realise that all their interdependencies are interconnected. They achieve most when they are all successful and they lose most when they all fail.

Leading practice in the construction industry now recognises that self-centred, independent behaviour is unsuccessful. It has established some effective partnering arrangements and is now extending these fledgling interdependencies into long term, strategic arrangements. These have the potential to create a hugely rewarding environment, offering the opportunity of success for everyone involved. It requires the sustained and committed effort of clients, consultants, contractors and specialists over a significant period of time to reach this world class performance.

The task is daunting because, like many other major industries, construction faces an ever accelerating rate of change. This has caused society in general and the construction industry in particular to fragment into narrow specialisms. Modern life is so complex that it is impossible for any individual to be able to see the whole picture involved in any modern industrial activity. It is hard to keep track of the people they interact with directly, let alone those that do not have an immediate impact on their work. Leading consultants, contractors and specialists increasingly recognise the need to constantly review and change their structures and policies to support partnering. They understand this is essential for their own long term survival.

Individuals may need training in communication, cooperative decision making and technical issues to ensure that work teams are competent.

It is not easy for people who have learnt how to survive in the traditional industry to suddenly change. They often need training in cooperative teamwork. This can begin at partnering workshops and induction courses but needs to be reinforced by training.

The first step is to raise awareness of the benefits of training among senior managers. Their support should lead to a greater understanding and acceptance of the initiative throughout the firm. It often helps for the internal partnering team to appoint a senior manager experienced in and committed to using partnering to develop a training scheme.

The first step is to identify the need. This should include spending time with key people involved day-to-day in partnering relationships to identify areas of skills or knowledge that need to be fine-tuned or changed. At the same time the senior manager should market the benefits of partnering training by explaining how it will make work more successful and easier.

The next step is to discuss the apparent need with training organizations. Partnering facilitators can usually suggest suitable organizations. Training colleges and other academic institutions involved in construction management teaching and research should also be able to suggest suitable organizations. The aim is to establish what can be provided and the costs.

In devising the partnering training scheme, it needs to be understood that there are limits to training. Perhaps the most important limitation arises because highly developed skills are difficult to understand and copy because at least some of the knowledge involved is tacit. That is embodied in the heads and hands of people, in teams, organizational structure, processes and culture. We know a certain practice works but we cannot explain and prescribe how. It has to be learnt from practice. There are even tougher barriers when an innovation is systematic so that a number of activities need to be changed in a coordinated manner.

For all these reasons training linked to work activities is usually most effective. It should be reinforced at induction courses and workshops. The training scheme should provide positive incentives for people to ask for training and reward them when they complete a course.

It is important that the scheme takes account of the general attitude towards training in the firm and fits into normal work patterns. In most consultants, contractors and specialists the internal partnering team will need to produce a business case that sets out the costs and benefits. Once the scheme is agreed and funded, the next step is to spread awareness of the partnering training scheme throughout the firm.

There is some merit in waiting until people are involved a partnering relationship before they are given training. This is because many people find it easier to learn new concepts and attitudes when they can see the direct relevance to their work on a specific project. Never-the-less it helps if key people have appropriate training right from the start. They should be encouraged to talk about the benefits of the training and to take every opportunity to demonstrate what they have learnt. This tests the training scheme, gives others confidence in the benefits and encourages key people to look for training needs.

STABILITY AND FLEXIBILITY

Partnering needs stability aimed at efficiency. Construction projects demand flexibility. Flexibility enables firms to support staff working in cooperation with people from other firms in a variety of teams.

Consultants, contractors and specialists need to combine stability with flexibility. Stability provides a basis for delivering efficiency. Flexibility enables the firm to support staff working in cooperation with people from other firms in a variety of partnering teams.

Construction projects require consultants, contractors and specialists to be flexible. Most projects have distinct characteristics that prevent a straight forward use of standardised solutions. So firms either develop a range of answers or concentrate on becoming skilled at dealing with one-off situations.

Partnering aims to help consultants, contractors and specialists improve their performance and so encourages the use of standards wherever they provide satisfactory answers because this leads to high levels of efficiency. Even when a firm can use standard technical answers, many project teams bring together at least some work teams that have not worked together before.

Many construction projects need original designs that give rise to many new relationships between work teams. Consultants, contractors and specialists specialising on such projects have to be flexible to support their senior managers and work teams working with what may be very different project teams. Partnering encourages the development of consistent processes and systems that support creativity and innovation.

This all means that consultants, contractors and specialists using partnering need to combine stability aimed at efficiency with sufficient flexibility to provide effective members of all the kinds of teams required by partnering.

Stability and flexibility requires the directors to work with the internal partnering team to provide committed leadership. An absolutely key decision is which services are provided by specialist departments and which are part of work teams. It often makes sense for marketing, finance and human resources to be dealt with centrally. The rest of the organization should be a self-organizing network of teams. Using this form of organization internally helps work teams to fit easily into project teams that form part of a strategic arrangement.

Cooperation should be encouraged throughout the organization. Work teams, specialists, managers, suppliers and customers should be encouraged to suggest ways of improving performance. Anyone may suggest ways of improving quality, safety, time or productivity. Anyone may have ideas for technological or product developments or providing a better service to customers.

CHAPTER 7

PARTNERING TEAMS

STRATEGIC APPROACHES

Strategic collaborative working involves a set of actions groups of firms take to improve their joint performance on a long term basis.

Project partnering delivers increasingly large benefits when it is developed long term. Strategic collaborative working is cooperative actions by a group of clients, consultants, contractors and specialists aiming to improve their joint performance over a series of projects. Strategic collaborative working is actions by a group of construction firms cooperating to develop a long term business.

This chapter describes the emergence of strategic collaborative working and its further development. The various strategic approaches are sometimes described as a strategic alliance or an inter-firm alliance. The term strategic collaborative working is taken to include these other terms.

Strategic collaborative working takes consultants, contractors and specialists beyond their traditional concentration on individual projects. Its purpose is to enable them to carry out projects effectively by acting and thinking long term. It provides more benefits than simple project partnering and enables consultants, contractors and specialists to deliver greater value to clients and earn larger and more secure profits.

It takes time to establish strategic collaborative working starting from traditional practice. Some groups of consultants, contractors and specialists have gone further and continue to find even more performance improvements. There is no obvious limit to the search for ever greater benefits. However, it may take ten years and many projects to move away from traditional approaches through project management, project partnering to strategic collaborative working and achieve the larger benefits.

Construction's traditional approach which requires individual clients to assemble a project team to produce a new facility and then make their own facilities management arrangements is inefficient and outdated. Yet moving away from project based methods provides severe challenges for many consultants, contractors and specialists. Most are small and many are run by individuals who value their independence, are naturally competitive and believe it is important to guard their knowledge and contacts. They tend to be suspicious of others and only cooperate defensively to fight off common threats.

Despite these conservative attitudes, the scale of change in demand, technology and business methods is forcing all consultants, contractors and specialists to rethink how they work. Some use informal local networks to think together about the best ways of tackling projects, solving problems and exploiting future opportunities. These tend to provide short term answers but also identify longer term problems. In searching for answers they often bring in external experts to help define and respond to longer term needs. The external organizations typically include education, training and research organizations, various organs of local government, professional bodies and trade associations. As confidence grows some members become more creative in finding solutions to problems and grasping opportunities. Some of the informal links strengthen and develop into strategic collaborative working.

Most strategic arrangements emerge as a natural development of successful project partnering arrangements. The consultants, contractors and specialists involved begin to feel inhibited by the limitations of project partnering. They value the benefits it provides and want to build on them. So they set up a strategic collaborative working arrangement that usually includes the client. However, some clients are not able to provide a sufficient flow of work to justify investing in strategic collaborative working. They may allow the consultants, contractors and specialists involved to extend the project partnering arrangements to other clients particularly if they are not direct competitors. In other situations consultants or contractors decide there are more benefits in breaking away from the original arrangement and using strategic collaborative working to provide a better service to a range of clients.

Another common trigger for consultants, contractors and specialists to adopt a strategic approach is pressure from a major client to work in a new region or overseas. This forces consultants, contractors and specialists to cooperate with firms that can provide the local knowledge needed in dealing with local regulations, local officials and local work practices. In return they introduce well developed designs and processes into the local construction market. Such arrangements can have considerable potential for building new businesses and the consultants, contractors and specialists involved may decide that strategic collaborative working provides the best way of seizing the opportunity.

Whatever the initial reasons for adopting strategic collaborative working, it is leading to the emergence of two distinct and highly efficient construction industries. The first is based on groups of consultants, contractors and specialists that together are very competent at tackling difficult projects. These tend to be large projects which require individual designs, a creative use of new technologies and original construction methods. Many of them are further complicated by having to deal with challenging environmental conditions. These groups of consultants, contractors and specialists become skilled at dealing with the multitude of separate organizations involved in these major projects. The groups learn how to organize all the diverse knowledge needed to design and deliver innovative answers. They use strategic collaborative working to enable them to set up cooperative project teams that enable a client, all the stakeholders and a broad range of construction skills and knowledge to work together creatively and efficiently. They carry out these challenging projects with a confidence and certainty that is remarkable. The UK's Channel Tunnel Rail Link and Heathrow's Terminal 5 are important examples of the progress already achieved by groups of clients, consultants, contractors and specialists using strategic collaborative working.

The second distinct form of organization based on strategic collaborative working is groups of consultants, contractors and specialists that produce ranges of buildings or infrastructure facilities backed up by sophisticated client support services and marketed under brand names. The support services typically include finding land, providing finance, clever ways of helping clients understand design options and facilities management services. These groups of consultants, contractors and specialists reliably deliver good value products quickly and on time. These firms are building distinct sectors of the construction industry that have most of the characteristics of other consumer product industries.

These two distinct forms of strategic collaborative working are crucially important for construction. They have the potential to transform the industry and its reputation.

Strategic approaches to partnering involve a set of actions groups of firms take to improve their joint performance long term. It develops step by step as the benefits to the firms involved steadily increase.

Strategic collaborative working exists when two or more organizations develop a close, long term relationship based on working together to enable them all to secure the greatest benefits. The organizations accept that cooperative teamwork is more effective and efficient than competition. It works because the parties have an interest in each other's success. It works because it is based the most fundamental reason for people to cooperate. This is not as so many suggest that they trust each other, it is because they expect to work together again in the future. It is entirely natural for people who expect to interact in the future, to cooperate. When people expect not to interact again, they look after their own interests. It is safe to trust people to behave in that fundamentally human way.

Strategic collaborative working defined

Strategic collaborative working is a set of actions taken by a group of clients, consultants, contractors and specialists to help them cooperate in improving their joint performance over a series of projects. The actions aim to agree an overall strategy, ensure the right firms are included, financial arrangements support partnering, firms' cultures, processes and systems are integrated, the most effective project processes are used, measured performance continuously improves and the whole arrangement is guided by feedback.

Strategic collaborative working develops over repeated interactions between firms as the people they employ learn to cooperate. It usually develops as an extension of project partnering. The actions taken by the people involved are guided by an agreed strategy and use feedback to ensure they continually improve their performance.

Further developments come when consultants, contractors and specialists already using strategic collaborative working decide to build a business on the basis of their collective strengths. They undertake market research to discover what clients in the particular market sector want, they research the relevant development processes and produce products and services to exploit the opportunities identified by these investigations.

All strategic arrangements have a life of their own. They are guided not by detailed planning and control but by debate, tackling problems, seizing opportunities, trial and error, building on success and making changes over time in response to whatever seem to be the most important issues.

This chapter describes actions clients, consultants, contractors and specialists take to give themselves a realistic chance of making a success of strategic collaborative working and developing it. This begins by describing the benefits that can be delivered to explain why firms are prepared to make fundamental alterations to the way they work to create a strong strategic arrangement.

The benefits grow as partnering moves through distinct stages. Project partnering can reduce costs by 30% and times by 40% compared to traditional approaches. Strategic collaborative partnering which means a group of firms partnering over a series of projects can reduce costs by 40% and times by 50%. Further development of strategic collaborative working which means consultants, contractors and specialists developing and marketing brand named ranges of constructed products and services can reduce costs by 50% and times by 80%.

Strategic approaches bring together complimentary enterprises so that expertise, knowledge and skills are pooled. Communication between the partnering organizations is improved and duplication is reduced. Consultants, contractors and specialists share information and technical resources with clients and suppliers which reduces uncertainty. This provides a framework that allows project teams to be kept together so they have time to improve the way they work, the facilities they produce and the services they provide. Costs and times are reduced, quality is boosted and responsiveness to clients' needs is improved.

Strategic approaches help consultants, contractors and specialists monitor and adapt to changing circumstances by identifying new services and products and responding quickly to market opportunities. It makes greater resources available to tackle large and difficult projects and new types of projects. Innovative ideas are more likely to be developed and used in new situations. As a result of all these benefits, consultants, contractors and specialists using strategic collaborative working have the strength and flexibility needed to expand into new markets, including international markets.

Clients involved in strategic approaches benefit from improved value for money and greater certainty. Cost and time overruns are a thing of the past because problems are addressed early and dealt with before they escalate into confrontation or claims. Quality is improved because project teams concentrate on eliminating defects. Projects are finished faster because lead times and production down time are reduced and project teams find better ways of working. Costs are reduced by eliminating duplicated activities, reducing administration costs, improving cash flow as well as greater efficiency at all stages of the project process. Risks are identified and allocated appropriately. In addition clients increasingly get the benefit of world class facilities as the consultants, contractors and specialists they partner with help them find innovative responses to market opportunities and changes. This can provide a basis for a great variety of business benefits including more efficient production, lower running costs and better service to customers.

The benefits appear quickly for clients that need a series of similar facilities where there are known opportunities to drive out waste and inefficiency. In these circumstances strategic collaborative working can deliver massive reductions in time and cost while the quality and performance of the facilities produced is steadily improved.

Large or innovative projects where user requirements are difficult to specify and construction conditions difficult to foresee provide a very different challenge. Resources have to be assembled from a wide base. The resulting project teams have to learn to work together at creative problem solving. Historically such projects run late, overspend and sometimes produce disappointing buildings or infrastructure. Clients, consultants, contractors and specialists that tackle these difficult projects can benefit from strategic approaches by developing techniques from project to project that provide greater certainty. The techniques help consultants, contractors and specialists set and achieve realistic budgets and programmes. This encourages clients to allow them the time and resources needed to produce outstanding buildings and infrastructure.

The data in this report about the benefits of strategic approaches increase over time as partners continuously search for better ways of working and improve their products and services.

The first step beyond simple project partnering is a group of firms deciding to partner over a series of projects. The firms may be assembled by a major client or simply be consultants, contractors and specialists who have worked together successfully. The partnering firms set up a strategic team to lead the joint organization guided by the seven pillars of partnering.

Common reasons for deciding to use strategic collaborative working include:

- An experienced client wants to work with selected consultants, contractors and specialists to improve their performance.
- A consultant or contractor has worked with other firms on several projects and decides that a deeper relationship could deliver more value.

- Someone spots a market opportunity and decides that working with other organizations provides the best way of producing the products and services needed to exploit it.
- Someone decides that their products and services need to be improved and this can best be achieved using the increased strength and flexibility that comes from working with other organizations.

Having taken the decision to consider cooperating long term, a strategic team comprising representatives from each organization needs to be set up to lead the use of strategic collaborative working. The team decides the first actions and ensures that arrangements are in place for them to be successful. It then monitors progress and decides on new actions and so on for as long as the arrangement continues. The strategic team's ongoing role is to keep driving the joint organization to higher levels of efficiency.

The strategic team's discussions should not be treated as contract negotiations where the parties take legal advice on detailed terms and conditions and embody the outcomes in formal legal documents. What is needed is an ongoing series of discussions amongst partners to agree joint actions that benefit them all. The outcomes should be recorded as a non-binding framework of principles that is regularly reviewed and updated. This provides the governing document which describes how they all agree to act together in cooperation. It should not be turned into nor treated as a formal legal contract.

ACTIONS THAT HELP PROJECT TEAMS IMPROVE THEIR PERFORMANCE

The following sections provide a check list of actions that strategic teams need to consider. The seven sets of actions, are sometimes called the seven pillars of partnering (see diagram below). Each describes a related set of actions that helps ensure second generation partnering is successful.

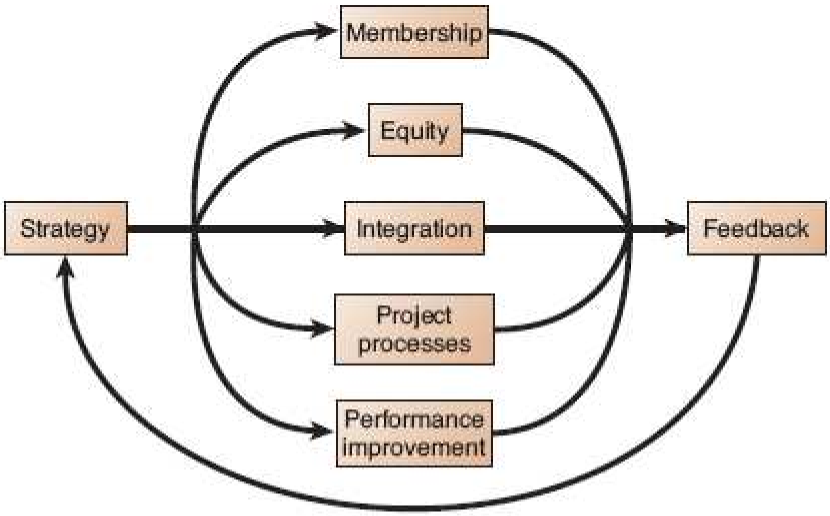

Fig. 7.1 Seven pillars of partnering.

STRATEGY

An explicit strategy guides the arrangement. It describes the type of buildings or infrastructure and services that will be produced.

Strategic collaborative working is guided by an explicit strategy. It describes the type of buildings or infrastructure and services that will be produced and marketed. The strategy needs to fit the partners' internal organizations and be flexible to cope with change.

It is important that a strategic collaborative working arrangement has an explicit strategy which describes a clear purpose and how it is intended to be achieved. This first pillar should identify the benefits each organization can expect to get out of the arrangement and describe how they will recognise and measure success.

A good way to start developing the strategy is for each of the organizations to think in terms of building on their own strengths and using partners' strengths to extend and reinforce their own capabilities. The questions in the box below may help the clients, consultants, contractors and specialists involved prepare for the strategic team's initial discussions.

Questions to help prepare for the Strategic Team's initial discussions
What is your organization good at? Can any of these strengths be developed? What new strengths can be developed? Which existing or new strengths provide a promising basis for a new venture? Does the new venture fit your existing strategy? Will there be problems getting your organization to agree to the new venture? Will there be problems developing your organization to suit the new venture? Will the new venture strengthen your position in an existing market? Will it secure new business? Will it protect you from adverse trading conditions or increased competition? Will it improve profitability? Which of these issues can the other strategic partners contribute towards?

The strategic team should begin by discussing the expectations of all the organizations involved. A good way of starting is to check that there is some agreement about the buildings or infrastructure it is intended to produce. It often helps to discuss how the new facilities will be used and how they may be used in the future. These discussions should take account of total life cycle costs and environmental impacts. They should consider the benefits of flexibility that allows facilities to be used in different ways. New ideas can be generated by considering developments in technology including the use of prefabrication and standardised components and their potential to improve quality, time and cost.

Once they have agreed the kind of buildings or infrastructure to be produced, the strategic team can consider the clients it intends to attract. They should particularly consider how clients' interests will be taken into account. It helps to focus on quality and certainty of delivery.

This sets the framework for the strategic team to agree the marketing activities to be undertaken. It is sensible to consider which markets provide opportunities for developing existing products or services and which provide opportunities for new ventures. It is important to consider whether the strategy exposes partners to more intensive competition and if so how they should prepare.

The strategic team should consider the joint organization's market image. This is inevitably influenced by its attitude towards corporate social responsibility including the way human resources are treated. This means considering employment terms, training and development policies and pension provisions. The market image is also influenced by the environmental impacts of the joint organization's activities. This means considering attitudes to waste disposal, especially hazardous waste, the impact on vulnerable ecologies, local communities and economies. It may well be sensible to support local development programmes that help the community. Amongst other benefits this may bring goodwill for future projects.

In all this the strategic team should consider how their ideas fit the partners' existing strategies and objectives. They should consider whether a strategy being considered will strengthen the organizations or make them vulnerable to external forces or threats. This strategic risk analysis provides information that is vital in persuading senior managers to provide time and resources for the strategy to be produced, discussed, improved and agreed.

As the strategy is developed it should be discussed widely inside all the organizations involved to build support at every level. It is sensible to bring suppliers and clients into the discussions to explain the emerging ideas, discuss any queries they have and to assess their interest and commitment. When the strategy impacts an existing business it is likely to be greeted sceptically and may well generate opposition. So selling it can be tough.

The formal decision usually depends on identifying clear savings and performance improvements. These may come from design and construction innovations, organizational changes including reducing the number of suppliers, simplifying project processes and outsourcing activities to stronger partners. Risk can be reduced by allocating and managing it appropriately. Firms may be able to increase the scale of their operations in ways that deliver greater efficiency and profitability.

Strategic collaborative working also has costs, the majority of which arise in the early stages. Costs may rise due to increased complexity if partners with different cultures and business practices are asked to cooperate. Communications may need training and new technology particularly if the new approach faces some firms with a scale and intensity of competition different from what they used to. Rapid growth, or new methods of working can give rise to unusual costs. In the long term the benefits outweigh the costs but they must all be taken into account in developing a viable strategy.

The agreed strategy should set specific short term goals and objectives. It should identify what needs to be done and how it will be done in detailed step by step processes. The plans should also take account of the long term and at an early stage the strategic team should establish more ambitious goals and objectives. In this way the strategy provides some quick 'wins' as well as promising much more in the future.

The strategy needs to be sufficiently flexible to cope with changes. Different economic or market conditions, new technologies, or more demanding clients may mean the strategy has to be changed. More fundamentally as the joint organization achieves its early goals it is likely to become more ambitious and want to go further and faster. To provide for this the strategy is reviewed regularly by the strategic team to ensure it remains relevant and still challenges the partners to find ever better ways of working.

MEMBERSHIP

Potential partners are chosen on the basis of their track record in providing the technological skills and knowledge and the business characteristic needed to pursue the strategy.

Partners are chosen because they want to work together. Partners are chosen on the basis of their track record in providing the technological skills and knowledge and the business characteristics needed to pursue the strategy. Membership is reviewed regularly and necessary changes made openly, generously and sympathetically.

The membership pillar is concerned with the choice of partners.

The process of selecting partners can be initiated by any of the partners although most arrangements are started by experienced clients. It should be kept in mind that partners choose each other because they want to work together.

The choice of partners should be based on a clear understanding of each others' expectations and goals. This develops throughout the process of choosing the members of a strategic collaborative working arrangement which inevitably takes place in parallel with developing the strategy. This is because the strategy establishes the kind of organizations needed as members, and the partners' aims and ambitions determine the strategy they will buy into. This in turn determines the technological skills and knowledge, and business characteristics that partners must have. As well as design, manufacturing and construction, mature strategies usually require partners to provide operational and maintenance capabilities.

All decisions about membership should be based on carefully researched information about potential partners' track record.

The information used to select partners should identify whether the people who will be involved can manage relationships as well as deal with paperwork. They need cooperative attitudes. They should be more skilled at forging agreements than dealing with disputes. Getting the right people in place and well motivated may mean some of the organizations need to find new recruits, invest in training or adopt better salary and reward systems. They may need to plan distinctive career patterns for people skilled in partnering if their main business is based on traditional, adversarial contracts.

Ideally partners' strengths compliment rather than duplicate each other so the joint enterprise can build on existing strengths. It is important that the organizations' growth and other strategies match each other. Size and turnover are irrelevant if the organization is the right partner. Many of the best consultants, contractors and specialists are small. They can be very effective partners and will develop and grow given the opportunity of working on large projects.

As the partners gain experience of working together, the strategic team should regularly review the contribution of each organization and actions taken to encourage a continued commitment to improving joint performance.

Even when this is all done well, there may come times when partners have to be changed. The change may result from any one of many possible reasons. A key partner may decide to expand a successful UK based business overseas. They may be taken over by a major company with different ideas about how the business should be run. They may want to make more effective use of information and communication technologies. They may want to replace site based construction processes with manufactured modules so that completion times can be reduced.

When a partner decides a change is needed this is nearly always a major shock leaving some individuals feeling badly let down. It is important that changes are handled in ways that avoid bad outcomes.

The first requirement is that everyone involved recognises that strategic collaborative working is effective only as long as it is in the partners' best interests to cooperate. When that is no longer the case, changes will be made.

The second requirement is that partners are alive to changes in partners' strategies, clients' demands, competitors' initiatives and developments in relevant technologies. These should be responded to positively so the strategic collaborative working arrangement is strengthened. Then if changes are needed, they do not come as a surprise.

The third requirement is that when a change requires new skills and knowledge, the partners realise that those unable to respond will be replaced. This very tough decision should be based on a rigorous evaluation of partners and potential partners.

The fourth requirement is that the need for change is discussed openly and any partner required to leave treated generously. All their real concerns and problems should be dealt with sympathetically. It is in everyone's best interest for changes to be agreed as amicably as possible in a spirit of cooperation. Fair treatment sends important messages to the remaining partners that they too will be treated well if changed circumstances in the future mean they have to leave. It also helps maintain a good public reputation particularly with clients, suppliers and potential new partners.

EQUITY

The financial arrangements must be arranged so that they encourage the sue of partnering. These should be open-ended.

Financial arrangements must be designed to encourage partnering. Clients should get better value than is available anywhere elsewhere and consultants, contractors and specialists should get higher than normal profits. Initial finance may have to come from internal savings. Long term investments may attract financial support from government. Financial arrangements should be open ended to encourage partners' commitment.

Financial arrangements agreed at the outset should encourage the organizations involved to invest in long-term development work aimed at improving their joint performance. The equity pillar aims to achieve this by ensuring that the financial rewards from a strategic collaborative working arrangement are better than firms could get operating outside it.

Benefits should be shared in a way that accords with the partners' expectations. This is unlikely to mean an equal division even if it were possible to determine what that means in the context of a series of construction projects. Profit levels for consultants, contractors and specialists vary widely. The benefits enjoyed by clients derive from the impact a new facility makes on their business. The aim therefore should be to ensure that the financial arrangements are regarded as fair by all the partners. This means that architects, for example, should expect to do as well as any other architects would do in the same situation. They should not compare themselves with specialist contractors or developers. They have different financial structures and different risks that justify different rewards.

It is unlikely that financial arrangements will be perceived as fair if the parties think in terms of normal buyer seller relationships in which outcomes are determined by size or power. The parties need to discuss what they regard as a fair basis and what they expect to get from and contribute to the arrangement. It sometimes helps in the early stages of a strategic collaborative working arrangement to adopt simple financial arrangements. These might mean sharing the additional costs of using partnering and the resultant savings on a predetermined basis. However, the fixed price elements of these simple arrangements tend to cause problems and even disputes. This is why successful strategic collaborative working tends to move fairly quickly to more sophisticated financial arrangements.

Arrangements that work in the long term are usually based on agreeing prices for new facilities that represent better value than the client can get anywhere else in the market. Then within the agreed price, the consultants, contractors and specialists involved are guaranteed all their direct costs plus an agreed profit and contribution to fixed overheads. This too is more generous than they could expect from any project based arrangement. Over time successful strategic collaborative working makes it possible to improve the initial deal so that clients get ever better value and consultants, contractors and specialists earn ever higher profits. In many cases clients choose to use some of the benefit delivered by strategic collaborative working to improve the quality of their new facilities. Similarly consultants, contractors and specialists often invest in training and new systems and equipment.

In addition to internally generated funds, the long term perspective required by strategic collaborative working can help consultants, contractors and specialists gain access to external finance. They can look to government R&D funding to support development work. Various schemes exist and they usually involve joint work between firms, universities and other research and development organizations. Also the long term view inherent in strategic collaborative working has obvious links with private finance initiative and private public partnership schemes.

Whether finance is generated internally or externally, the financial arrangements should be based on open book accounting that gives all the partners access to each other's accounts. It may help in the early stages of strategic collaborative working to draw up agreements to ensure confidences are kept. As clients, consultants, contractors and specialists work together, the formal contract will become redundant as people learn what they can expect from each other. It is important that everyone is confident about the accuracy of the costs, profits and performance improvements used to measure financial outcomes.

The financial arrangements should give all the partners confidence that the relationship is on a sound footing and will continue for the foreseeable future. There must be no feeling that one partner is being exploited. Problems, worries and concerns must be discussed frankly and constructively. They should be seen as opportunities to make improvements, not signals that the relationship is about to end.

This open way of dealing with financial issues is likely to raise concerns and problems inside some organizations. It challenges the Anglo-American model of business that sees ruthless competition as the best way of achieving the paramount objective of increasing shareholder value in the short term. Strategic collaborative working is closer to the Japanese and European model of business based on social inclusion by which companies have long term responsibilities to shareholders, the workforce, suppliers and local communities. Both models have strengths but they are different and strategic collaborative working is more long term than short term and closer to a social inclusion than a shareholder value model of business. It is often the process of spelling out these implications in financial terms that provokes the fiercest opposition inside some partners' organizations.

Some of the opposition may be well founded. Firms involved in strategic collaborative working may face increased financial constraints because they are operating with partners. Funding may become more difficult to obtain. Financial institutions may place restrictive conditions on loans. They may be unwilling to take account of potential savings from a commitment to pool resources. They may not accept that financial benefits will result from risks being shared appropriately. These cautious attitudes mean it is not uncommon for the initial stages of strategic collaborative working arrangements to be funded from cost savings. This can make it very difficult to produce a convincing business case and it is likely that potentially beneficial arrangements are killed off before they begin.

Short term attitudes are reflected also in suggestions that partners should agree an exit strategy at the beginning of a strategic collaborative working arrangement. This is not a good idea because agreeing the terms and conditions that will apply introduces negative, adversarial attitudes into the early discussions. More importantly if the parties know how the arrangement will end, there will come times when they will be tempted to calculate the short-term advantages of ending it. It is the open-endedness of relationships that causes parties to cooperate and continue searching for mutual benefits.

INTEGRATION

Strategic collaborative working delivers efficiency by integrating activities traditionally kept separate.

Partners' organizations and processes are integrated. Information and communication technologies and modern forms of face-to-face meetings play key roles in this. The strategic team provide leadership in making changes and keeping people informed about what is happening and why.

Strategic collaborative working delivers improved performance by integrating activities traditionally kept separate. The integration pillar aims to blur the boundaries between the operations of partners as activities are integrated into efficient delivery systems. Design, planning, construction and completion are treated as one integrated system in a continuing drive to eliminate waste and inefficiency. Supply chains that feed into the design and construction processes are integrated so the number of links is reduced and the chains are made more efficient. Production and innovation are integrated by balancing necessary rules and procedures with creative freedom.

Integration has to have a context so people can see the reason for changes to systems and procedures. A major project or a series of projects can provide opportunities for partners to integrate their operations. Whether the resulting new entity is given formal legal status or remains a virtual organization depends on the wishes of influential people in the organizations involved.

Integration requires top management to ensure that strategic collaborative working is supported by all departments. This is easier to achieve when the partners are experienced in partnering. Even with that advantage, new strategic collaborative working arrangements raise challenges for people and departments not directly involved in the construction projects. It needs leadership from the top to help deal with problems encountered as all the joint business processes are reviewed in a search for ways of integrating them. This means eliminating duplicated activities, concentrating on partners' strengths and cutting out waste whatever form it takes. It also means using the cross fertilisation of ideas that comes from operating across organization boundaries to encourage innovation.

The resulting changes inevitably change peoples' roles and responsibilities. This is one reason why excellent communication is important. People need to know what is happening and why. Communication systems need to ensure that needs and expectations are continually addressed. They need to ensure that performance indicators are monitored and problems spotted early so they can be resolved quickly in a non-confrontational manner.

Strategic collaborative working makes all aspects of communication more important. It is common for information systems and face-to-face communications to be redesigning to foster cooperation.

Information and communication technology is speeding up all business processes. Project networks ensure that everyone is working on absolutely up-to-date information. Strategic collaborative working links project teams so people faced with problems can identify everyone in the joint organization with potentially relevant information. In this way strategic collaborative working is fundamental to construction realising the full benefits of information and communication technology.

In parallel to these technological developments leading practice makes better use of various kinds of face-to-face meetings. A real effort is made to ensure that formal meetings have clearly defined purposes which everyone attending knows in advance. People are expected to know the background and be properly briefed on the key decisions that will be discussed and agreed. Workshops and task forces play central roles in strategic collaborative working. Social events are used to build team spirit and give people a rounded picture of their colleagues so they can communicate more effectively. Team offices that bring people from the client organization and different consultants, contractors and specialists together are used for crucial stages of individual projects. They encourage open decision making and provide opportunities for everyone to join in discussions.

PROJECT PROCESSES

This deals with the issue of standardising actions and technologies that represent current best practice.

Project processes are made efficient by standardising on best practice and looking for improvements outside of individual projects. The resulting standards provide for well developed designs, technologies and methods or processes that encourage creativity and innovation.

It is fundamental to strategic collaborative working that project processes are efficient. All the pillars of partnering contribute to projects being carried out quickly and reliably to high standards.

The project processes pillar aims to provide project teams with standardised actions and technologies that represent current best practice. An important part of achieving this is to constantly search for further improvements in performance, test them and incorporate the best in the standards for use on future projects.

For projects that use well established answers, standards should enable project teams to be assembled quickly and well drilled work teams to carry out their work virtually automatically. Most ideas for improvement will be identified by the strategic team reviewing feedback from several projects. Ideas will be explored and if they appear likely to make a significant improvement to project performance, developed by a task force. Having been thoroughly researched and tested, they will be tried out on one project that will be closely monitored to ensure that the intended benefits really exist. When the strategic team is sure the new idea has value it is incorporated into the standards and work teams are given any training needed to ensure the change is applied correctly.

The results are that project teams are not distracted from efficient work by new designs or changes. They concentrate on working efficiently to produce high quality buildings or infrastructure that provide what clients want and give their own firms high profits.

For projects that require an original design, project teams need a flexible suite of processes designed to encourage creative and innovative design. These support talented, individual designers. They bring specialist technical and construction expertise into the team as and when it is needed. They provide state of the art computer aided design and communication systems. They support project offices where teams from different organizations can work together. They allow client's to set realistic budgets and completion dates and give them the assurance that they will be achieved. They provide rigorous quality control systems at all stages of the project. They encourage wide discussion and questioning of design and construction decisions. They ensure the use of non-adversarial, cooperative approaches. They encourage the use of established answers where they exist. They provide support when ideas for improving the project processes are identified.

New ideas may be developed and applied during individual projects. Alternatively ideas that cannot be used on a current project are reported to the strategic team. All the ideas for improving project processes are reviewed by the strategic team. Any that offer real benefits are incorporated into the best practice procedures. In some cases they need to be further developed by a separate task force. This approach enables project teams to deliver new facilities based on original designs, the best of which delight clients and contribute positively to local communities and the environment. It also ensures that consultants, contractors and specialists make fair profits.

PERFORMANCE IMPROVEMENT

The whole point of partnering is to achieve continuous performance improvements It helps to establish benchmarks that can be used to set targets for improvements and provide the basis for feedback.

The strategic team ensures the joint organization makes measurable performance improvements. The whole point of partnering is to achieve continuous performance improvement. It helps to establish benchmarks that can be used to set targets for improvement and provide the basis for feedback.

The performance improvement pillar guides the strategic team in ensuring that the joint organization continuously makes progress towards strategic objectives. It helps if current performance is measured in ways that can be related to the partners' previous performance, industry norms or best practice. This provides benchmarks that should provide information about the overall performance of the strategic collaborative working arrangement, the achievements of individual projects and the progress made by partners in adopting partnering throughout their organizations.

Benchmarks should be easy to record and measure real improvements that benefit the partners. They should show what is delivered to clients compared with what is available in the same market sector. Typically benchmarks deal with the quality of outputs, the speed and certainty of their delivery, the incidence of defects, how quickly they are dealt with and prices. Benchmarks should include measures of client satisfaction with the product and service. They should measure the experience of users and neighbours. It is essential that benchmarks make sense to the client.

Benchmarks should measure consultants, contractors and specialists' performance compared with competitors in the same sector of the construction industry. They should measure completion on time and budget, quality, productivity, safety, construction costs and times and profitability. They can also usefully measure the elimination of waste, the quality of communications, staff turn-over, investments in systems, training and equipment, and the number and effectiveness of innovations.

Benchmarks are used to set targets for improvement for the strategic collaborative working organization, project teams and the partners' own organizations. These should challenge the various parts of the organization to continually develop and improve their processes and products.

A good way of establishing benchmarks is for each of the partners to consider the best way of measuring those elements of the agreed strategy that most concern them. The outcomes should be discussed by the strategic team to find the most effective and practical measures. Increasingly the Key Performance Indicators promoted by Constructing Excellence in the Built Environment and listed in the box below provide the best starting point because they provide well established measurements and are supported by a significant body of performance data.

Constructing Excellence in the Built Environment's Key Performance Indicators

- Client's satisfaction with the product
- Client's satisfaction with the services
- Defects
- Costs
- Predictability of costs
- Time
- Predictability of time
- Safety
- Productivity
- Profitability

Other aspects of construction that could be measured include user satisfaction, contribution to the local community and environmental impacts. Once an initial set of benchmarks are agreed, it helps to run trial projects to check that the resulting measures provide useful information. It helps if teams measure their own performance and the results are plotted graphically in simple diagrams that relate to agree targets. Results should be discussed as soon as they are available and teams encouraged to suggest ways of improving their performance. All suggestions should be taken seriously and any that require actions by senior managers should be dealt with quickly and decisions reported to the teams immediately.

It is crucial in establishing good benchmarks that the strategic team keep in mind that their purpose is to drive the partnering organization towards performance improvement. It is easy to fall into the trap of measuring for the sake of measuring and lose sight of the overall purpose which is to improve performance.

With this in mind, the strategic team should regularly consider whether the benchmarks need to be changed to reflect developments in the strategic collaborative working arrangement. They should check that their objectives, targets and plans remain relevant and mutually beneficial and the planned resources and timeframes are still realistic. The reviews should help them identify opportunities to extend their activities or to recognise that they have reached a critical stage when further improvements are uneconomical and they need to make a step change in the organization's activities. As the strategy evolves in this way, new benchmarks will be needed that provide the basis for a new series of performance improvements. Most likely they will deal with long term targets which may include greater market share, new product development, greater added value and environmental concerns.

FEEDBACK

Strategic collaborative working depends on feedback systems to provide information on the performance of the joint organisation.

Strategic collaborative working depends on feedback systems to provide information on the performance of the joint organization, individual partners and projects. The strategic team ensures that feedback is effective and looks for ways of improving it. They use feedback to review the strategy.

The final pillar deals with the actions needed to provide feedback for the strategic team. The strategy devised by the first pillar gives overall direction to the actions resulting from the next five pillars and the whole is guided by information about achievements and performance provided by the feedback pillar.

The strategic team should establish feedback systems that tell them whether their strategic objectives are being met. The systems should provide measured information about progress and performance and highlight problems and opportunities. It should measure whether teams are using partnering effectively. It must be accurate and timely so the strategic team can decide if changes are necessary.

In addition to the strategic feedback, individual organizations should have a programme of internal reviews to assess progress and the continued relevance of the strategic collaborative working arrangements. It helps if all partners measure the benefits they are getting from the strategic collaborative working arrangements on a consistent basis. They should also identify concerns, problems and ideas for improvement.

Project processes should include systems for measuring project performance that guide project teams towards their objectives.

The strategic team should not rely only on formal feedback but should regularly visit the offices, factories and construction sites where the joint organizations' work is under way. They should ask questions of the people doing the work and be prepared to answer their questions about the strategic collaborative working arrangement. The aim of the visits is to provide first hand knowledge to help them interpret information provided by feedback systems.

The strategic team should regularly review feedback reports covering the performance of the joint organization, individual partners and projects. The feedback should provide objective measures of how close the joint organization is to meeting all its targets in terms of agreed benchmarks. This should help establish what is working well, and identify problems. Thus if feedback shows that the joint organization is failing to meet a target of zero defects, the strategic team need information on defects and their causes. If feedback shows that the joint organization is failing to meet a target for fast construction, the strategic team needs information on deviations from planned progress. The strategic team should take decisions to solve problems quickly, monitor overall progress, fine tune strategic objectives and encourage the partners to continue searching for ever better ways of working.

It is important for the strategic team to have feedback from their buildings and infrastructure in use. This should come from people responsible for running and maintaining the facilities, users, including where appropriate customers, and the owners.

The specific outcomes of the strategic team's reviews should include targets for project teams and task forces set up to tackle specific problems or exploit opportunities. The guiding principle is that strategic team's feedback driven decisions should influence future actions in ways that deliver performance improvements.

DEVELOPED STRATEGIC COLLABORATIVE WORKING

Different strategic teams make different decisions under the seven pillars which give rise to distinct organizations. They usually include a strategic team, project teams and task forces and may include interface teams and internal partnering teams. The overall organization should form a self-organizing network in which useful links become strong and the whole is guided by feedback.

The strategic team needs to establish an organization to put their decisions into effect. In most cases this is a virtual organization rather than a distinct legal entity. Decisions guided by the seven pillars of partnering result in different strategic teams devising very different strategies, objectives and ways of working. These various outcomes mean that strategic collaborative working organizations come in a variety of forms.

In the most successful arrangements, the clients, consultants and contractors involved expect to work together long term because they believe they will get more benefits inside the strategic collaborative working arrangement than they would outside. In practice most strategic collaborative working arrangements do not last indefinitely. Circumstances change, new competitors emerge, clients' needs change or one of the partners gets new managers with different ambitions. It is not inevitable that any of these circumstances will arise, nor is it certain that if they do this will signal the end of the strategic collaborative working arrangement. The future is uncertain and it is sensible to plan for strategic collaborative working to be successful. This means that the organization set up to put the arrangement into effect looks and feels permanent. This is no different from the situation facing individual organizations, all of which face an uncertain future but sensibly plan as if they will survive for ever.

Strategic collaborative working is leading to the emergence of groups of consultants, contractors and specialists that combine creative design with the skills needed to produce the highly individual buildings and infrastructure in ways that meet the needs of individual clients. This provides one form of a distinctly new way of working, a highly developed form of strategic collaborative working.

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