

ECONOMICS

Procurement Construction management

Even in these risk-averse days, some hands-on clients still prefer the construction management route. But would more schemes benefit from the CM approach? And how should clients organise themselves to get the best results? **Simon Rawlinson** of Davis Langdon reports

01 Introduction

Construction management (CM) has been out of favour in recent years with only a select group of commercial clients continuing to adopt the route. With the Fraser enquiry into the Scottish Parliament delays and high-profile court cases highlighting the risks of CM, it is not surprising that use of this form of procurement has fallen. However, as the continuing Wembley Stadium saga illustrates, no procurement route, even with as low a client risk-profile as design-and-build, can guarantee a successful outcome.

CM's reputation has shifted from its high point in the 1980s, when it was almost exclusively associated with well-managed and well resourced commercial projects such as Broadgate and Canary Wharf. Since then it has been adopted, typically for speed or flexibility reasons, on a wider range of projects, including schemes from the arts, leisure and public administration

sectors. In some cases, the client and CM have not collectively been able to impose discipline on design development, coordination and timely decision-making – and, although there have been resounding successes such as Tate Modern, there have also been disappointing results. Whether these projects would have fared better following other procurement strategies is a moot point, but it is clear that the use of CM can in some circumstances expose existing weaknesses in project management capability.

So, given the higher risk exposure that follows that adoption of a construction management strategy, what additional benefits should the client be seeking as compensation? Opportunities for enhanced performance include:

- Acceleration of the overall project programme;
- Enhanced ability to incorporate change into the design;
- Delayed completion of design

elements, such as retail fit-out or hotel fixtures and fittings, that can be finished later without affecting the overall programme;

- Involvement of specialist trade contractors in design and construction;

- Creation of a less adversarial, problem-solving project culture.

Clients should always devise their procurement strategy on the basis of their project priorities, management capability and the extent of risk that they are prepared to accept. Clients in arts organisations, a sector that used CM extensively during the lottery boom, might not, for example, be best-equipped to take on the increased risk exposure and additional administrative role associated with CM – and might not now be given funding without the security of a lump-sum contract.

However, beyond the glare of publicity, a small but significant group of clients continue to use CM to their advantage, using, for

example, the cultivation of direct, long-term relationships with trade contractors to secure many of the benefits more often associated with partnering. Furthermore, by employing a construction manager who is able to focus on the interests of the project, rather than on its own risk management, the client can be confident that its project objectives will be shared by the rest of the team.

This article summarises current best practice with respect to construction management. It will look at advantages and disadvantages of the route and in particular at what steps can be taken to address the client's higher risk profile associated with CM. A case study based on the Peter Jones refurbishment identifies many of the key ingredients of the successful application of CM and also demonstrates how modifications to the general approach can work to the client's advantage.





This picture: The flexibility of construction management was an advantage in the highly complex Time and Space planetarium project in Greenwich Park

Below left: London's Tate Modern has been hailed as one of the most successful recent construction management projects

02 Construction management best practice

Construction management is perhaps best summed up as the procurement route whereby designers design, trade contractors detail and deliver their packages, and where the construction manager manages the process, leaving the client to lead and accept the risk on a project for which they are ultimately responsible. The key issues raised by this definition include:

- The central role of the construction manager in managing the project and in providing administrative support to the employer.
- No single point of responsibility related to the delivery of the project.
- The greater role of trade contractors in the completion of their design work and co-ordination of their work with other packages.
- The direct relationship between the client,

consultants and trade contractors.

■ The importance of coordination and management at interfaces between different trade packages.

CM is distinguished by the influence of the client's and construction manager's management and leadership skills on the outcome of the project, and the potential exposure of the client to loss should these capabilities not be in place. Problems related to co-ordination and timely decision-making are common to all construction projects, and with CM as well as any alternative procurement route, it is the performance of the team that is at the root of project success – not the procurement strategy per se.

However, by providing the client with greater influence over the project and more flexibility

in connection with contractor selection and so on, the selection of CM also means that lack of performance by the client, caused by indecision or delayed instruction, can have a real effect on a project. Furthermore, the consequences of ineffective management by the construction manager will also directly affect the client, should delay or claims for additional payments to trade contractors occur as a result.

Accordingly, the client must be sufficiently disciplined and resourced to provide its inputs into the project as required by the agreed information release schedules. They must also ensure that they appoint a construction manager with the appropriate resources and experience and a positive approach – a task that is challenging for many clients, whether experienced or not.



03 The construction manager's role

The construction manager's roles and responsibilities go well beyond the scope of work of a typical contractor and require specialist resources for successful delivery. As an illustration of the scope of the role, the following duties are typically found in a construction manager appointment:

- Programming of design and construction activity, including information release programmes, approvals and reprogramming to meet overall completion dates.
- Advising on buildability construction methodologies and sequencing including assistance with the selection of materials or, in some instances, the use of prefabrication.
- Commenting on and monitoring the progress of design development.
- Advising on requirements for preconstruction works, temporary works, mock-ups and testing.
- Packaging up the works into well co-ordinated and clearly demarcated trade contracts, together with the definition of the transfer of design responsibility.
- Advising on the pre-qualification of trade contractors.
- Preparing and collating pre-qualification and tender documentation together with the

administration and negotiation of the tender process.

- Managing, planning and controlling the work of trade contractors, including the administration of design approvals and inspections.
- Monitoring and reporting on overall progress, advising on issues related to trade contractor performance and forecasting the impact of design changes or disruption to the progress of the works.
- Managing financial aspects of the project, including trade contract valuations, claims and administration of contra-charges.
- Initiating action by the client and project team to mitigate delays or cost overrun.

Beyond the letter of the CM agreement, it is widely recognised that the construction manager's soft skills can make a substantial contribution to the success of the project. The case study overleaf illustrates this well.

The separation of the construction manager from direct contractual relationships with the trade contractors places them a good position to promote a collaborative approach to project delivery. An adversarial approach is usually less effective – partly as the client is unlikely to have the same commercial interest in the aggressive management of subcontractor

relationships as an equivalent main contractor.

Another area of contrast between CM and conventional contracting relates to the identification and avoidance of problems before they occur. A solutions-based approach such as this requires thorough planning and management and as a result, significant resource. This is particularly the case in areas such as design co-ordination and risk management, both of which are often given lip service under other procurement routes.

Effective project administration is also an important aspect of CM, and the availability of a range of standard processes, documents, templates and databases will play an important role in enabling the client to discharge its responsibilities.

All of these aspects of the CM service should be available to clients on all projects, but there continues to be considerable inconsistency in the standard of service and performance that is offered to clients. As a result, it is essential that the construction manager's ability and track record in delivering across its full range of project responsibilities is carefully tested at appointment, and that this appointment takes place at a sufficiently early stage for the construction

manager to be able to carry out all aspects of its pre-construction role.

Finally, as the role is so wide-ranging, there is potential for overlap with the work of other consultants, particularly project managers and, to a lesser extent cost consultants. This potential for overlap needs to be dealt with directly, either via the clear drafting of schedules of services or through the adoption of a joint team-based approach to work such as cost control.

Although the duties described above might suggest that the construction manager role provides for considerable authority with limited responsibility, the agreements and services under which construction managers operate can be very demanding. In addition, the judgement of the legal case associated with the Great Eastern Hotel suggests that the construction manager role creates significant direct liabilities. In the Great Eastern Hotel case, the judge found that deficiencies in the delivery of specific construction management responsibilities such as the organisation of temporary works and the packaging up of work created liabilities for the construction manager for both delay and cost overrun.



Chiswick Park (pictured on this page and opposite), Stanhope's office and retail scheme in West London, was construction managed by Bovis Lend Lease

04 Advantages and disadvantages of CM

Construction management stands at the top end of the scale with respect to a client's risk exposure but potentially offers substantial advantages. However, most of these benefits, set out in the table (below), are only secured by direct client engagement and action, and

therefore may not be secured by all clients following a CM strategy. As a result, careful consideration of these advantages and disadvantages must be undertaken on a project and client-specific basis, to ensure that they are relevant to a client's decision making.

Advantages	Disadvantages
Accelerated programme overlapping design and construction	Design co-ordination risk and increased likelihood of design change
Ability to closely manage cost during design and procurement	No cost certainty until all packages are let and no single point lump-sum cost commitment
Proactive management of the design and construction process to minimise impact of change and other causes of disruption	Exposure to risk associated with construction manager and team performance. Reliance on the capability of construction manager and project team to correctly forecast consequences of change. Responsibility to fund solutions to problems should they occur
Hands-on involvement of the client on the project	Increased administration role for the client of CM route
Professional team including the construction manager focused on meeting client's needs. Integration of design and construction skills	CM and professional team owe duty of care liability only
Full control over design including incorporation of design by specialist contractors	High degree of client ownership of risks associated with design including impacts of late or incomplete and uncoordinated design
Early appointment of construction advisers and specialist trade contractors	
Ability of client to influence the selection of trade contractors. One-to-one contractual relationships	Added complexity of one to one contractual relationships of client with all team members
Management focus on programme, sequencing and buildability	Reliance on management capability of construction manager
Client ownership of tendering and contractual arrangements	Client position at centre of management requires effective decision-making
Opportunity to package the work to suit the capability of the trade contractors and to manage on-site interfaces	
Ability to identify and act upon poor trade contractor performance	Client exposure to performance risk and exposure to consequential loss associated with trade contractor default.

05 | Client actions to reduce the risk of CM

Construction management involves no more or less co-ordination and organisation than any other procurement option. However, as the client is involved alongside the construction manager in more aspects of project administration, it will inevitably make greater demands on the client's time and resources. Although this is not an issue for experienced employers with a dedicated management resource, this could challenge the capabilities of less well-resourced, one-off clients.

In addition to making sure that their own house is in order, clients must make sure that the construction manager is fully engaged at all stages of the project. Key measures that can be put in place to create the conditions for success on a CM project include:

- Early appointment of the construction manager. To be really effective, the construction manager needs to be on board before the initial design, budget and programme are set. Retrospective adoption of a CM strategy is likely to result in the appointed construction manager having limited influence, playing catch-up throughout the project.
- Appointment of the right CM team. Clients and their advisers must be absolutely vigorous in their selection and appointment of the CM team, ensuring that it has the full range of skill sets and processes required. Key areas

of concern include: the use of consistent processes for design review and coordination, trade contractor pre-selection and so on; the management of package interfaces, the capability to predict the full outcome of change orders; and the overall management of the project team.

- Early determination of the minimum level of cost certainty required ahead of start on site. This typically ranges from 70 to 80% of the anticipated construction cost. The timing of package procurement will determine the design programme.

- Clear communication of areas of responsibility. CM agreements are often bespoke and considerable negotiation may be required in the agreement of a construction manager's scope of service and liability. Roles must be properly demarcated so that the construction manager can perform effectively in advance of the completion of the CM agreement.

- Ensuring that management resources are applied at key stages of the project, including:

- Design – establishing and monitoring the design programme, and reviewing design deliverables for completeness and coordination. The construction manager will also need to enforce compliance with information release schedules with respect to completeness and timeliness. Where change occurs, the

impact on the associated elements of the works will need to be reviewed on a consistent and thorough basis.

- Management of the work as it proceeds – providing sufficient on-site management resources to co-ordinate package interfaces, to monitor progress and to implement corrective action as required.

- Management of contra-changes – recording the basis of issues that give rise to contra changes so that costs are borne by the responsible party rather than by the client.

- Establishing change control processes that address the full impact of any change on a package, associated trade contractors and overall programme. Change control should include procedures that strictly define delegated powers and requirements for client sign-off. Cost reporting processes that closely monitor the impact of instructed changes also need to be in place, backed up by an actively administered risk management process. The scope of progress reporting should also be extended to include design deliverables and information release schedules.

- Allocating work to packages based on trade interfaces rather than administrative convenience. Clients should also monitor packages to avoid the duplicate procurement of site establishment, plant and

interface management resources by the construction manager and by trade contractors – not only to save money, but also to ensure that responsibility rests with a single party.

- Ensuring that the procurement of trade contractor packages is based on sufficient information to define the full scope of work and all critical interfaces with other packages. Design should be completed to a point whereby provisional sums are not required in package tenders. Pricing documents should also be prepared in sufficient detail to enable the project team to obtain enough price information to support cost reporting and the negotiation of variation costs.

- Investment of time and effort by the client and construction manager into the development of relationships with trade contractors, including the issue of instructions, administration of payment and problem solving. In managing these relationships, the construction manager and client should aim to achieve a balance between contractual discipline and an appropriate level of flexibility, in order to maintain the commitment and co-operation of trade contractors. Investment in team-building activities at all levels of the project team also helps to focus staff on the importance of the client's objectives and the successful completion of the scheme.



06 Case study: Peter Jones department store refurbishment

This case study, based on the Peter Jones department store refurbishment, illustrates the conditions for success required for the effective use of CM. It also underlines the key role of the client and gives an example of how CM can be adapted to provide a greater level of certainty, but without undermining its key features.

The refurbishment of the Peter Jones department store in Chelsea, London, valued at £100m and completed in summer 2004 is one of the most complex and high-profile projects that the John Lewis Group has undertaken. The major issues for the client concerned delivery to budget and to an agreed programme aligned with key trading dates, and above all, the minimisation of the impact of the project on customers and neighbours.

The John Lewis management is naturally very focused on retailing as well as the management of its building projects, and as construction clients have tended towards risk-sharing procurement strategies that best align risks with the party best placed to manage them. John Lewis' general preference is for lump-sum contracts where commercial risk is taken by the contractor. In the case of Peter Jones, the client was persuaded by the project team that, because of the extended project timescale, the problems of working in a trading store and above all, risks related to an uncertain scope of work in an existing building, it would not be possible to obtain a realistic or secure lump-sum tender as the basis for a traditional contract.

The construction manager - in this case, Bovis Lend Lease - was appointed at an early project stage, during RIBA stage C. At the same time the client made key internal appointments, nominating the group deputy chairman as project sponsor, and making the existing Peter Jones MD a full-time project director. A huge effort was made by the client in preplanning, liaison with third parties and in understanding the potential impact of the project on trading and on the reputation of the business. This level of commitment had a profound impact on the motivation of the project team. In time, the client team co-located with the CM staff and other consultants, creating a project team that was fully focused on the client's priorities and on solving problems as they emerged.

Appointing Bovis early meant that detailed programming options were considered from the outset. The project budget was also

based on the assumption of a CM route and included realistic allowances for risk issues associated with the uncertain scope of work, the building's listed status, phasing and so on. The client's active involvement ensured that its key issues, mostly focused on a very high level of customer care and neighbourhood liaison, together with the achievement of the detailed design solution required by the retailers, were always at the forefront.

The project programme, devised after the consideration of many options, was based on three major phases - "the three rooms" - involving the complete reconstruction and extension of large, discrete sections of the building. Package procurement really suited the project, particularly with respect to the continuing involvement of trade contractors in successive phases.

An unusual feature of the contractual arrangements for the project was Bovis' responsibility for the performance of the design team during the detailed design and production information stages. The client retained the design risk, but the arrangement, whereby the design team was managed and paid by the CM, focused Bovis' attention on the co-ordination of the design and on the timing and content of information releases.

The effect on the quality of information was considerable - directly addressing one of the major risks associated with CM. Risk management as a discrete project management activity was also taken very seriously - aided by the successful management of some major issues early in the project - with monthly reviews and the formal management of the ownership and closedown of major risks.

One key to the success of the Peter Jones refurbishment was the quality of working relationships at all levels of the project, which led to a genuine understanding of the client's key issues - particularly the importance of managing the impact of the project on customers. The client and CM were instrumental in establishing this way of working and in addressing the strengths and weaknesses of CM procurement.

That a project with such a high risk profile could be delivered so successfully - on time and budget and to critical acclaim - is more as a result of the efforts of the team, than the selection of a procurement route. However in this instance, the adoption of CM, and the client's commitment to its discipline, gave the project the focus on end results that became the foundation of its success.



Opposite and right: The £100m refurbishment of the Peter Jones department store in London is an example of good construction management

Previously ...

- 4 August Cost model: Retail fit-out
- 11 August Small projects cost model: Social housing
- 25 August The tracker

Coming up ...

- 8 September Cost update
- 15 September The tracker
- 22 September Whole-life costs: Basements

Data toolkit

Building's database of cost data is an essential resource for anyone in the business of procuring buildings. There is an extensive archive of cost models, market forecasts, whole-life costings and much more. See www.building.co.uk/datatoolkit

Cost model correction

Because of a production error, the cost breakdown in the retail fit-out cost model published on 4 August contained some incorrect units. The corrected model is now available on www.building.co.uk and Davis Langdon's website www.davislangdon.com