

Supply Chain Management

Who should read this fact sheet?

This is an introduction to the principles of supply chain management for organisations that are new to the subject or in the early stages of developing a supply chain.

There is ample evidence that working in a positive and collaborative way with companies that you 'supply to' and 'buy from' is good for business. Construction companies that work in this way are seeing the benefits both for themselves and their clients. Supply chain management is the formalised process that gives structure to these arrangements.

Products and services provided by the companies in a construction project supply chain typically account for about 80% of the cost of the project. The way in which those products and services are procured and managed has a profound effect on the outcome of the project - not only in terms of profitability for all parties, but also the way in which the completed facility meets the client's justifiable expectations of cost, quality and functionality.

What is Supply Chain Management?

'Supply chain' is the term used to describe the linkage of companies that turns a series of basic materials, products or services into a finished product for the client.

All construction companies, be they client, main contractor, designer, surveyor, sub-contractor, or supplier are therefore part of a supply chain. Because of the project based nature of construction and the way that procurement normally operates, they are usually members of different supply chains on different projects.

Each company in the chain has a client – the organisation to which the services are provided – but an integrated supply chain will have the objective of understanding and working wholly in the interests of the 'project client'.

Why move to integrated supply chains?

In traditional procurement the companies may only be linked by contracts that have been procured on lowest price against fixed specifications. The supplier is

asked to deliver the specified product or service as cheaply as possible. There is no motivation to work in the client's interest. In some cases the supply chain is not even linked by contract. Designers and contractors often have separate contracts with the client, for example.

Modern procurement methods are moving to the appointment of integrated supply chains where the parties in the supply chain have a long-term objective to work together to deliver added value to the client. These long-term relationships enable the power of supply chain management to be fully realised.

The benefits for individual companies in the supply chain include:

- reduced real costs, with margins maintenance
- incentive to remove waste from the process
- greater certainty of out-turn costs
- delivery of better underlying value to the client
- more repeat business with key clients
- greater confidence in longer-term planning

The benefits for end-users and project clients include a more responsive industry delivering facilities that better meet user needs, delivered to time and cost with minimum defects. This in turn creates higher customer satisfaction levels and an improved reputation for the industry.

When is it best to start implementing supply chains?

The opportunity to engage in a formal supply chain may be driven by client demands, but companies that see advantage in this method can also start things off themselves. There is every reason to do this where companies have regular relationships with suppliers and would like to develop an 'offering' for clients based on better value. Having established relationships will mean you understand the processes and will be able to respond faster to opportunities to join other supply chains.

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How do we get started?

Whether the supply chain is being established for a whole project or by a group of companies wishing to market their specialisms, the following principles apply:

It is likely to be impractical to establish long-term relationships with all members of the supply chain.

So you should start by establishing relationships with those suppliers and sub-contractors who are critical to your delivery to the market of better products at lower cost and higher quality. These are your strategic supply chain partners or 'first tier suppliers'. It is vital that you take time and care to establish which companies fulfil the criteria that you set (or have the potential to do so) and that they have similar interests to you in developing long term relations. A successful supply chain of first tier suppliers is a manageable objective. In time you may plan for each of your suppliers to have similar chains, but don't try to conquer the world in one go.

Evaluate and compare potential first tier suppliers' strengths and capabilities in the following areas:

- the strength of the existing relationship
- technical capability and reputation
- design capability and innovation record
- size and market position
- management style

Remember you are seeking partners capable of reliably supplying you with products and services at competitive prices. Success will deliver mutual commercial benefit through greater success in the market, based on increasingly satisfied clients. All parties in the supply chain must be committed to working for the long term on the basis of continuous improvement and innovation. If anyone is inclined to quit when the going gets tough, the supply chain will fail.

Much of the success of supply chains rests on personal relations so look at the guidance that is available on Partnering (see fact sheet).

Key personal actions are to be proactive, less adversarial, and to learn from others. Neither partnering nor supply chain management are easy. The parties do not need to be good friends, however. Relationships need to be fair but firm, based on a team approach which involves regular contact and mutual respect. Learning to work in this way is new for most

construction professionals. Developing successful supply chains will therefore be difficult and take time but the rewards will be worthwhile.

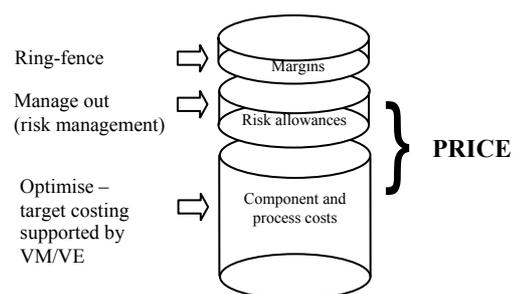
Involving the designer in the supply chain is essential to long-term success.

For a whole project supply chain, there may be a number of professional design teams (architect, structural engineer, services engineer) that need to be involved. On the other hand, where the supply chain is established to deliver a component, the designer may be embedded within one of the supply chain partners. Either way, the designer's role is central to delivering:

- Optional functionality
- Lowest cost of ownership through a value for money focus on lowest through-life cost
- Safe construction using least amount labour and minimum waste.

Managing Cost

Central to successful collaborative relationships is the approach to cost management. The most enlightened clients accept they will obtain best value if the supply chain's margins are offered some protection. That will allow the supply chain to focus on delivering value to the client rather than using its efforts to protect margins.



Even where the supply chain cannot get such agreements from a client, it is still essential that costs are understood and managed. The principle of sharing risk and reward underpins the whole process of collaborating for mutual benefit. Passing all risk down the supply chain does not lead to the lowest cost and certainly does not lead to best value for the client. Gain/pain sharing incentive schemes will often ensure the continuing delivery of optimum value to the client.

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The optimisation of component and process costs - which typically amount to 80% of the cost of a project - should be approached from target costing, supported by value management, to determine the real requirement. (Value management should engage all the stakeholders in the project, including the ultimate end-users.) Value engineering should then be used as the design progresses to optimise the engineering of the elements.

Risk allowances, which are typically made separately by all suppliers, should be rigorously identified using risk management techniques. Duplication should be eliminated, measures taken to manage out the risk and residual risks placed with the most appropriate owner.

Substantial savings should be achievable over target costs using these techniques. In repeat applications, the component and process costs can be further improved by the application of continuous improvement techniques. Manufacturing experience is that there will always be room for continuing cost reductions.

Summary

The key objective of supply chain management is to offer better underlying value to a client than the competition. This is done through a combination of

- defining client value
- establishing supplier relationships
- Integrating activities
- Managing costs collaboratively
- Developing continuous improvement
- Mobilising and developing people

For more detailed guidance:

The Strategic Forum Toolkit - web only - www.strategicforum.org.uk

Sponsored by the pan-industry Strategic Forum for Construction, the purpose of this web toolkit is to deliver the integration described in [Accelerating Change](#). It enables clients and the industry to lead by developing continuously improving supply chains, collaboratively working in world class project teams delivering superior products and services. The toolkit provides the framework for focused and empowered people to perform and for respecting their diversity, health, safety and welfare.

Modernising construction, National Audit Office, 2001 – available from www.tso.co.uk

Reviews historic and structural problems of the construction industry. Examines progress made by the Government in promoting innovation and good practice. Concludes that there is no excuse for government clients and the industry to fail to take advantage of readily available solutions. Recommends that industry and clients should implement good practice in the areas of selecting contractors by value; better relationships between clients and the supply chain; integration of the supply chain.

Achieving Excellence Guidance, Office of Government Commerce, 2003 – available on-line at www.ogc.gov.uk/sdtoolkit/reference/achieving

The Achieving Excellence suite of procurement guidance replaces the Treasury Construction Procurement Guidance Notes. This new series reflects developments in construction procurement over recent years and builds on Government Departments' experience of implementing Achieving Excellence. The new guidance aligns with the OGC Gateway process, the emerging lessons learned from Gateway reviews and the Successful Delivery Toolkit, of which it forms a key component.

The suite consists of three core and eight supporting documents together with two high level documents. Electronic versions have hyperlinks across the set and to related products.

The handbook of supply chain management, CIRIA C546, 2000 - available from <http://www.ciria.org/acatalog>

Sets out the principles of supply chain management for construction based on the findings of the full scale pilots by Defence Estates known as Building Down Barriers. These two projects showed that projects delighting the end-user can be delivered ahead of time, with few defects and at 14% below benchmark whole life costs.

Rethinking construction training pack, CIRIA C576, 2003 – available from <http://www.ciria.org/acatalog>

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Takes the principles set out in the Handbook of SCM and develops them into detailed techniques in the form of a training pack which can be used in-house or across supply chains. The techniques were established and tested collaboratively with a number of leading industry companies.

The seven pillars of partnering, Bennett & Jayes, Thomas Telford, 1998 - available from <http://www.thomastelford.com/books> and www.amazon.co.uk

Describes best practice in partnering in the construction industry, and identifies what needs to be done to meet the new demands arising from a rapidly changing market and from new technologies

Strategic Procurement in construction, Cox & Townsend, Thomas Telford, 1998 – available from <http://www.thomastelford.com/books> and www.amazon.co.uk

Considers the nature of the UK construction industry and looks at the limitations of conventional procurement systems and the need for new approaches to procurement. Analyses the use of supply chain management and other strategic procurement techniques and outlines generic approaches to better practice. Uses a number of case studies to demonstrate the process and practices described.

Value management in construction, CIRIA SP129, 1996 – available from <http://www.ciria.org/acatalog>