VALUE FOR MONEY IN CONSTRUCTION

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INTRODUCTION

This paper considers how public and private clients have addressed the issue of providing value for money in construction. In both sectors, the benefits offered by long-term collaborative arrangements such as alliancing and partnering are investigated. In the case of the public sector, the example of the United Kingdom and the drive towards Best Value is considered. In the private sector, the specific benefits produced by alliances between clients and contractors are examined.

The problem in providing Value For Money is avoiding the pitfalls of lowest cost/price competitive tendering. But without such systems how can competition be maintained and assured? One way is the Vickrey Auction used elsewhere; here competition is ensured but the lowest tenderer is paid the second lowest price. The Vickrey system may remove many of the problems of tactical pricing; and increase value for money.

Value for money is the optimum combination of whole-life cost and quality (or fitness for purpose) to meet the user's requirement.

HISTORY

The concept that value and lowest cost/price do not necessarily go hand in hand is not a new one:

> "It is unwise to pay too much, but it is worse to pay too little. When you pay too much you lose a little money, that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing what it was bought to do. The common law of business balance prohibits paying a little and getting a lot. It can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that you will have enough money to pay for something better."
> (John Ruskin (1819–1900), Prominent English Writer and Intellectual)

However both public and private contracts have for many years been dominated by selection on lowest cost/price via competitive tendering. In construction lowest cost/price competitive tendering became the norm in many countries. Many commentators pointed to the inefficiencies of such

systems; but how else could the overriding objectives of value and competition be achieved and maintained? In public works there is also a need for transparency and probity.

In more recent times, both the public and private sectors could see the problems with competitive tendering and developed procedures to help maintain competition and increase Value for Money (VFM). In the case of the UK public sector, the logical extension of VFM has been the development of a *duty of best value* by the Local Government Act 1999. VFM has attempted to forge the same collaborative links that initiatives in the private sector have produced. The objective is to maintain public sector services while reducing public sector expenditure.

Internationally private sectors have recognised the benefits that flow from long-term collaborative arrangements between organisations. Early initiatives concentrated on partnering. There are many examples where differing organisations entered into collaborative arrangements that were not project specific. These partnering arrangements have developed now into various arrangements; the business and management ethos might be described as moving from transaction to relationship. This relationship approach to business has culminated in partnering the complete process via systems in Supply Chain Management.

PRIVATE SECTOR VALUE FOR MONEY INITIATIVES

There have been many initiatives, as one might expect in a competitive commercial environment, from the private sector ranging from new procurement strategies to new techniques for maximising value e.g. Value Management. A review of practice and procedure in the construction industry by Sir John Egan 'Rethinking Construction',[1] championed the use of partnering the supply chain in construction.

Supply Chain Management

The supply chain encompasses all of those activities associated with moving goods from the raw-materials stage through to the end user. This includes sourcing and procurement, product design, production planning, materials handling, order processing, inventory management, transportation, warehousing, and customer service. Importantly, it also embodies the information systems so necessary to communicate among the supply chain partners.[2]

Successful supply chain management, then, co-ordinates and integrates all of these activities into a seamless process. It embraces and links the different

[1] 1998 Rethinking Construction: The Report of the Construction Task Force, DETR (The Egan Report).

[2] http://www.bettermanagement.com/supplychainauthority/definitions/scm_defined.asp

partners in the chain. In addition to the departments within the organisation, these partners include suppliers, distributors, transportation carriers, third-party logistics companies, and information systems providers. Supply Chain Management offers the opportunity to ensure common business and project interests, streamline procurement and secure value for money.

The Supply Chain Management strategy for project management and delivery reflects three core service principles:

- Value for Money.
- Collaborative Working.
- Best Technical Solutions.

Supply Chain Management via partnering the supply chain is critical to driving innovation and improving performance throughout the whole construction industry.

The implementation of supply chain management will include the following:

- Understanding the unique requirements of each project in order to identify key packages that will benefit from a supply chain cluster approach.
- A continuous process of identifying and selecting strategic supply chain partners.
- Identifying cluster leaders and agreeing processes and schedules of cluster workshops. The objective of each cluster is to design and deliver an integrated section of the project. The clusters will involve the core designers, specialist contractors and their suppliers. Each cluster group will be lead by a cluster leader from a supply chain partner.
- Integrating the supply chain clusters in the design and cost development process, setting cost targets and using value and risk management.
- Managing the interface between work packages by ensuring interaction between cluster groups at an early stage of the project.
- Analysis of adopted technical proposals, methodology, costs, performance and quality to establish framework for benchmarking future work negotiations and continuous improvement initiatives.
- Integrating supply chain partners into the project risk register and agreement of management/allocation of project specific risks.
- Focusing supply chain on securing best value for the client by incorporating through-life cost analysis.
- Providing the supply chain with leadership, facilitation, training and incentives to maximise benefits of the supply chain team.
- Commitment to long-term relationships with selected supply chain partners.

The benefits of partnering the supply chain include:

- Creates stable long-term working relationships.
- Allows the development of strategies that focus on client satisfaction.
- Encourages an environment of team-working to a common goal.
- Integrates through-life cost considerations.
- Creates trust between companies and allows for informal interaction.
- Allows the use of shared resources.
- Enhances performance of all parties.
- Creates an environment where doing business is made easier.
- Reduces the time taken to get a project from the drawing board to commencement of construction.
- Reduces cost.
- Minimises waste.
- Creates opportunities to share savings from reducing costs.
- More equitable sharing of project risks and benefits.
- Improves business opportunities.

Case Studies—providing Value For Money[3]

The following examples give details of the approach by Bovis Lend Lease to partnering supply chain management and other industry initiatives.

Stanhope and Bovis Lend Lease

Standards set by Stanhope and Bovis Lend Lease for their projects demand an innovative and collaborative approach to procurement, based on long-term relationships and maximising the expertise of contractors and suppliers during the design process, whilst providing them earlier certainty over future workload, profitability and eliminating unnecessary tendering cost. A list of preferred contractors has been established for most trades leading to continuing long-term relationships with trade contractors which reward good performance with repeat work. Continuous improvement is facilitated through the Stanhope Bovis Lend Lease initiatives via a core programme of work that provides the platform for trade contractors to participate.

ABB Building Technologies and Bovis Lend Lease

ABB and Bovis Lend Lease are committed to a long-term working relationship working with best practice initiatives in operation. Primarily approaching the project in a way that re-uses methods of work which have succeeded well on other sites, and in other industries.

Bovis Lend Lease, ABB and other suppliers process information relating to:

[3] The case studies are provided by Bovis Lend Lease [www.bovislendlease.com]. Contacts may be made through the author.

- Lessons learned research.
- Manufacturing Just in Time (JIT) principles.
- Own experience.
- "Quick-fit" products.
- Ideas processed through a series of reviews and converted into activity plans to deliver a set of agreed goals.
- Design.
- Buildability.
- Logistics.
- Tooling and access equipment.
- Team building.
- Facilities.

OTIS and Bovis Lend Lease

Bovis Lend Lease and OTIS formed an alliance in 1998. The key benefits have included: shared savings; innovative product solutions; programme certainty through dedicated project management; safety a number one world wide objective; new installation methods to reduce installation time.

Efficiency gains have included: reduction in tendering costs—80 per cent saving and the removal of secondary steelwork; installation time reduced using standard product; standardisation of process and 20 year equipment and performance warranty. There has been an increase in programme certainty from the simplified interface and the standard methods allow shorter design period. A Best Practice Lifts procedure has been issued and monitoring progress on site and programme continues.

Overall results have included reduced costs and reduced installation times up to 50 per cent.

Dry Wall Supply Chain Stanhope/Bovis Lend Lease Moving Forward Initiative

This is an action group consisting of client, Bovis Lend Lease, two manufacturers, one distributor and three trade contractors. The objective of the action group is to improve installation of drylining. Actions agreed to and signed by all parties: design and planning; construction and logistics and setting targets and monitoring against existing projects.

Strategic alliances

One of the fastest growing trends for business today is the increasing number of strategic alliances. According to Booz-Allen & Hamilton, the number of alliances is growing by 20 per cent a year, with 10,000 new alliances being reported in 1998 alone.[4] Alliances range in scope from an informal business

[4] http://www.bah.com/viewpoints/smart_alliances.html.

relationship based on a simple contract to a joint venture agreement, in which for legal and tax purposes either a corporation or partnership is set up to manage the alliance.[5]

For entrepreneurs, strategic alliances are a way to work together with others towards a common goal. While this may seem to be a strange goal for entrepreneurs, considered by many to be individualists, not amenable to any type of group endeavours, in a strategic alliance individuality may be maintained while reaping the rewards of team effort—and the gains from forming strategic alliances appear to be substantial.

BP Bovis Lend Lease Alliance

The BP Bovis Alliance is an example of the "win win" benefits that can be achieved from a true Alliance. In 1995 following the merger of BP and Mobil's Retail operations in Europe a major review was undertaken of the organisation and operation of BP's fuel station network. This included the general development and maintenance programme; and the market profile and positioning of the new organisation in the market place. The principal purpose of this review was to establish a clear strategy for retail operations to meet the competitive challenges of new entrants to the market place e.g. Supermarkets; and other competitive changes taking place in the industry. A BP Peer Group review decided that outside Project Management support would assist this process and it was agreed that an Alliance strategy should be adopted. The preferred approach was to appoint a partner to share in the risks and rewards of the development programme and operate across the European market.

The Alliance achieved all the initial goals, leading the industry in long-term strategic relationships. The Alliance started in five countries in January 1997. During the first 12 months this increased to 16 countries. In the first 12 months 197 new Level 5 Service stations were built, with a further 50 major upgrades completed. This was almost double the maximum number of stations that had previously been built in any year by BP and Mobil. This was accompanied by a cost reduction of more than 17 per cent over 1996 benchmark costs. In 1998, the Alliance performance continued to develop: 167 New Service Stations were built with a further 135 major upgrades. The Alliance was extended to Japan and Venezuela. The average cost savings increase to over 26 per cent against benchmark costs. In 1999, a new set of very challenging Key Performance Indicators (KPI's) was agreed to take into account the lessons learnt so far and to ensure continuing alignment with BP Amoco's business objectives. The Alliance cost targets in 1997 and 1998 had excluded the other benefits to BP of Productivity, Quality, Life Cycle Design and Health and Safety and these are now recognised in our performance

[5] http://entrepreneurs.about.com/smallbusiness/entrepreneurs/library/weekly/aa061500a.htm.

objectives. While achieving those additional targets, the cost of the Service Stations continued to fall, with a cumulative 37 per cent savings being achieved across all the European market in 1999.

The results

Results and savings from alliances across Europe have been impressive. The Bovis BP alliances has extended to more than 12 countries and savings range from 30–48 per cent in construction costs over the three year period 1997, 1998 and 1999.

PUBLIC SECTOR

At the 1998 DETR conference that launched the Rethinking Construction initiative John Prescott (the Minister responsible) said:

> "Least cost doesn't necessarily mean best value. If we could move to on budget, on time that would be an improvement on what we have now. Going for lowest price only benefited lawyers who cash in when contractors make claims after bidding rock bottom prices."

There has been a succession of government reports into construction in the UK; from the Simon Report in 1944[6] to the most recent: the Latham Review[7] and the Egan Report.[8] The key proposals of the Egan Report include:

- The establishment of long-term relationships with clear measurement of performance and sustained improvements in quality and efficiency;
- Innovation in products and processes;
- Reduction of running costs;
- "Tools to tackle fragmentation"—partnering;
- Improved efficiency and quality;
- Focus on Consumer;
- Delivery on time, to budget;
- The need for profitability.

These proposals are being addressed by:

The Movement for Innovation M4i at: http://www.m4i.org.uk
The Construction Best Practice Programme (CBPP) http://www.cbpp.org.uk/

[6] 1944 Report on the Management and Placing of Contracts (*The Simon Report*).
[7] 1994 Constructing The Team The Final Report Of The Joint Government Review Of The Procurement and Contractual Arrangements In The United Kingdom Construction Industry (*The Latham Report*).
[8] See footnote 1.

The dual public sector objectives

The public sector is understandably constrained by factors that affect the private sector but do not have the same effect. These constraints might be thought of as the dual objectives of value for money and probity (public accountability).

The Value for Money (VFM) objective is driven by the UK Government's stated aim to achieve best VFM, which is taken to its logical conclusion by Best Value (BV). Prime Contracting is the vehicle for combining the private sector concept of Supply Chain Management with VFM and BV. The question remains how to maintain probity.

Value for money

Value for money is the optimum combination of whole-life cost and quality (or fitness for purpose) to meet the user's requirement.

The UK Government's procurement policy is to achieve best VFM and recognises that accountability for public funds must not be used as an excuse for missing opportunities to deliver this. Key features of achieving VFM in construction procurement are:

- integrating value management and risk management techniques within;
- normal project management;
- defining the project carefully to meet user needs;
- taking account of whole life costing;
- adopting change control procedures;
- avoiding waste and conflict through team-working and partnering;
- arrangements; and
- not appointing consultants and contractors on the basis of lowest initial price alone.

A VFM framework should be established for each project that ensures a structured approach to planning and managing a project from inception to completion.

Best value

Best value developed from a commitment to changing practices in an attempt to increase efficiencies in the public sector. Services provided by central and local government could be provided by the private sector; costs could be reduced and quality improved. Where services could not be provided by others, the services provided could be tested by comparison with benchmarks. The efficiencies could be achieved by a variety of ways:

- Market Testing;
- Compulsory Competitive Tendering (CCT);

- Private Finance Initiatives (PFI)/Public Partnerships (PPP).

These initiatives culminated in the duty of Best Value laid down in the Local Government Act 1999. Best Value can be thought of as more than a technique for making public sector efficiency gains; three features are clear:

1. Best Value is a central part of a much wider programme of reform and transformation which will drive change and improvement in a period of huge opportunities (e-commerce; e-government, collectively e-opportunities).
2. Best Value amounts to a change in culture and mindset—Best Value challenges practices and attitudes.
3. Best Value is based on measurement and control. The UK Government follows the principle that: *if you can't measure it you can't manage it.* Best Value requires planning, inspection and intervention. Intervention must be accompanied by a clear willingness to use measurement control to drive improvement.

The principles of Best Value are:[9]

1. The duty of Best Value is one that government will owe to local people, both as taxpayers and the customers of services. Performance plans should support the process of accountability to the electorate.
2. Achieving Best Value is not just about economy and efficiency, but also about effectiveness and the quality of services. The setting of targets and performance against these should therefore underpin the new regime.
3. The duty should apply to a wider range of services than those now covered previously.
4. There is no presumption that services must be privatised, and once the regime is in place there will be no general requirements for councils to put their services out to tender, but there is no reason why services should be delivered directly if other more efficient means are available. What matters is what works.
5. Competition will continue to be an important management tool, a test of Best Value and an important feature in performance plans. But it will not be the only management tool and is not in itself enough to demonstrate that Best Value is being achieved.
6. Central government will continue to set the basic framework for service provision, which will in some areas as now include national standards.
7. Detailed local targets should have regard to any national targets, and to performance indicators and targets set in order to support comparative competition.
8. Both national and local targets should be built on the performance information that is in any case needed by good managers.

[9] Dobson, N (2000) *Best Value—Law and Management*, Jordans.

9. Audit processes should confirm the integrity and comparability of performance information.
10. Auditors will report publicly on whether Best Value has been achieved, and should contribute constructively to plans for remedial action. This will include agreeing measurable targets for improvement and reporting on progress against an agreed plan.
11. There should be provision for intervention when failure to take agreed remedial action occurs; or has failure to achieve realistic targets for improvement.
12. The form of intervention should be appropriate to the nature of failure. Intervention may include a requirement that a service or services should be put to competition. Intervention might also take the form of a requirement for external management support, and may relate either to specific services, or to core management.

The absence of a simple definition of Best Value is claimed to be deliberate "... *Councils should be accountable through the ballot box* ..." rather than the Secretary of State.[10] However the sanction for non-performance lies with the Secretary of State; Section 15 of the Act—the so-called Nuclear Deterrent allows for intervention by the Secretary of State. Best Value also needs to be seen in its proper political context; it is driven by the Labour Government's (elected in 1997) desire to modernise local government as a whole against a background of wider "joined-up government".

The problems of any ambitious scheme lie in the detail and the ideology. While it is hard to argue against any scheme which will make improvements; the question might be: how will we know that things have improved? The methodology of measuring improvements is fraught with problems. In answering the question: why there must be improvements? The National Consumer Council claim that a survey of services show that they are not all equally popular e.g. 15 per cent of road users are very dissatisfied with roads and pavements maintenance, while only 1 per cent are very dissatisfied with libraries. But this statistic hardly compares like with like.

Prime Contracting

Prime contracting is the public sector initiative that aims to bring together the Supply Chain Management of the private sector with the drives towards VFM and BV.

> "Prime Contracting requires there to be a single point of responsibility (a Prime Contractor) between the client and the supply chain. The Prime Contractor needs to be an organisation with the ability to bring together all of the parties (the supply chain) necessary to meet the client's requirements effectively. There is nothing to prevent a designer, facilities manager, financier or any other organisation from acting as the Prime Contractor."

(HM Treasury Procurement Guidance Number 5 "Procurement Strategy")

[10] Cirell, S and Bennett, J (2000) *Best Value: Law and Practice*, Sweet and Maxwell.

Probity

How then to maintain public probity and utilise the advantages of schemes which recognise that lowest cost/price tendering and value do not go hand in hand? Alternatives to lowest bid have been used; and a system based on the so-called Vickrey Auction has been proposed.

Alternative selection criteria

Several countries have tested alternatives to the lowest bid criteiron or adopted procedures to ensure more realistic tender prices. These alternatives include systems which average the tender price with the client estimate (Philippines), tender closest to the average (Iran, Italy, Taiwan), trimmed mean (Peru) and the median bid (USA).[11] The advantage of these alternative criteria, from a client's perspective, is that they attempt to safeguard against the acceptance of unrealistically low bid prices and the resulting claims, disputes and adversarial relationships during construction. It can of course be argued that the use of non-low bid criteria will result in tenderers adjusting their prices upwards, to try and find the criterion level and that incentive to develop more efficient methods of construction will be lost. The counter-argument is that contrary to first impressions, innovation, technology development and cost reduction will not be discouraged, as contractors will bid at what they believe to be the market price, with any such savings made by one contractor still producing significantly higher profit margins in contracts won. Of course, when such savings are available throughout the industry, bid prices would be expected to gradually fall and the savings eventually passed on to the client.[12]

The disadvantage of using any non-lowest bid criteria lies primarily in the client perception that fierce competition is intrinsically appealing. For public sector clients, the public may question a contract awarded to other than the lowest bidder. However, in theory at least, the reduction in the claims and disputes, should compensate for this and bidding patterns will change, although due to different mechanisms, and that bid prices, on average should fall.

Vickrey Auctions To Ensure Genuine Bids And Avoid Problems With Under-Pricing

Techniques exist which would help with the specific problems of methods of price determination in construction and avoidance of problems with under-pricing. Nobel prize-winning economist William Vickrey conceived a

[11] See for a review AFCC (1988) *Strategies For The Reduction Of Claims And Disputes In The Construction Industry*. Australian Federation of Construction Contractors. Sydney, and Crowley, L and Hancher, D (1995) "Evaluation of Competitive Bids". *Journal of Construction Engineering and Management*, June 1995, 238–245.

[12] Ioannou, P and Leu, S-S (1993) "Average-Bid Method—Competitive bidding strategy". *Journal of Construction Engineering and Management*, ASCE, Vol 119, No 1, March 1993.

reliable means of inducing potential buyers to bid what an item under auction is genuinely worth to them. With sealed bids, an auction which awards the item to the highest bidder but requires them to pay the second-highest price, produces genuine bids, no matter what strategy competing bidders are presumed to be following. Such a system in construction bidding (reversed so that the lowest bidder wins but is paid the second lowest bid), would help eliminate the problems of under-pricing and abnormally low offers.[13] This problem of abnormally low offers has been identified as a concern throughout the European Union and as preventing competitiveness.[14]

A legal warning—Value For Money held to mean Lowest Price

The cases of *Harmon CFEM Facades (UK) Ltd* v. *The Corporate Officer of the House of Commons* (1999),[15] resulted from a tender submitted for the supply and erection of cladding to Portcullis House the new Parliamentary Building for Members of Parliament in London. This is a very high profile building in Westminster facing the Palace of Westminster, the Houses of Parliament. It is believed to be one of the most expensive buildings in London; the high level of specification (including an atrium with imported Mediterranean trees) received much criticism and the many client changes were facetiously reported in the press.

Harmon's tender was the lowest but the contract was awarded to another (a German company). The tender enquiry that appeared in the Official Journal of the European Union (a requirement of EU procurement law), had referred to an award which would represent overall value for money. The court held that this wording was nebulous and imprecise; and that the award should therefore have been to the lowest tender.

In the case of *Walloon Buses*[16] and *Gebroeders Beentjes BV*[17] applied in *R.* v. *Portsmouth*,[18] it was held that if any criteria other than price is to be the basis for awarding a contract it must be stated explicitly in the contract and tender. Failure to do this requires the contract to be awarded on the basis of lowest price. On the facts in this case the award should be made on the basis of lowest price. In this case, the contract had been awarded and the work done; how then could Harmon's damages be assessed? The court held that they were entitled to recover: tender costs estimated at £420,000; loss of profit (in the region of £5M) and legal costs (£2M).

The Harmon case requires all public bodies considering Best Value to draw up tender documents that meet the requirements of tendering procedures.

[13] "Secrets and the prize", The Economist (Oct 12th '96).

[14] The Competitiveness of the Construction Industry, Commission of the European Communities Com 97 539.

[15] (67 Con LR1).

[16] *Commission* v. *Kingdom of Belgium (Walloon Buses)* Case C87/94, [1996] ECR 2043.

[17] *Gebroeders Beentjes BV* v. *State of Netherlands* (Case 31/87) [1988] ECR 4635.

[18] *R.* v. *Portsmouth ex parte Coles* (1997) 1 CMLR 1135.

If any other criteria than lowest bid tenders are to be used, the criteria must be explicit; and in any event how will employers demonstrate Best Value? Vickrey auctions may assist.

Unsuccessful tenderers may examine tender enquiry documents looking for opportunities to recover tender costs and lost profit.

Bibliography

There is a variety of useful material on HM Treasury Website (Procurement Guidance) at: http://www.hm-treasury.gov.uk/pub/html/docs/cup/main.html. This includes the detailed and useful Government Construction Procurement Guidance, which encompasses the following: essential requirements for construction procurement; value for money in construction procurement; appointment of consultants and contractors; team-working, partnering and incentives; procurement strategies; and financial aspects of projects. Also available are the Procurement Policy Guidelines for Government Departments. The "Key Points for Senior Management".

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