

REBUILDING THE NATIONALHEALTH SERVICE
HOW CAN THE NEW PROCUREMENT METHODS BE
ENHANCED TO ACHIEVE BETTER VALUE FOR MONEY
FOR THE PUBLIC SECTOR:
PRIVATE FINANCE INITIATIVE (PFI)
AND
PROCURE 21

By
Isaac Coker

Bartlett School of Graduate Studies
University College London

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ABSTRACT

Tony Blair has described investment in the National Health Service as “genuine opportunity to rebuild the NHS for the 21st Century”.

Clearly the construction industry has crucial part to play. But what does the NHS client want from the sector? And how do those involved in the projects feel about working under PFI and ProCure21 in terms of Value for Money [BSJ, September 2004].

The National Health Service is the United Kingdom's largest construction client and will continue to be so for years to come. But it doesn't present a single face to the industry. Different NHS Trusts work in very diverse ways when it comes to procurement of new buildings and refurbishment work.

Peter Woolliscroft, head of construction for NHS Estates, believes that in some cases, the Trust have demonstrated that the NHS can be very good client: *“The NHS client is becoming a very sophisticated client to the construction industry in general. Because the industry itself in becoming more sophisticated in its innovation and bringing to the client base a far better and more cost-effective way of doing what it does that it used to do. A lot of this has been driven out of Latham and Egan and such as this; some of it is due to natural evolution to be honest”* [BSJ, September 2004].

This research aimed to compare, for NHS projects, which of the two main recent procurement initiatives viz PFI and Procure 21 is giving the public sector the better Value for Money, and why, and how either could be improved.

Value for Money is not simply achieved through specification of efficient products, nor does it mean that each area of the building is efficient in its own right but the whole product achieves synergy.

From the two case studies, Queen Alexandra Hospital [PFI], Portsmouth and Elyn Lodge at St Helens Hospital [Procure 21], Liverpool, the outcome of the research shows that much more can be done to enhance the Value for Money from the two procurements methods (options) which will benefit the NHS client and ultimately to the benefit of the wider industry and future generations it will serve.

Key words: **PFI, Procure 21, Value for Money (VFM), Partnering, Teamworking, Innovation and Commitment**

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List of Abbreviations

BAFO	Best and Final Offer
BSJ	Building Services Journal
CABE	Commission for Architecture and the Built Environment
CAPEX	Capital Expenditure
CFG	Credit Finance Guarantee
CIB	Construction Industry Board
CIM	Capital Investment Manual
CPAG	Capital Prioritisation Advisory Group
D & B	Design and Build
DBFO	Design-Build-finance-Operate
FITN	Final Invitation to Negotiate
DoH	Department of Health
FBC	Full business Case
FM	Facilities Management
FSP	Final Selection Process
GMP	Guaranteed Maximum Price
GSS	General Service Specification
HA	Health Authority
HM	Her Majesty's
HMT	Her majesty's Treasury
HTMs	Hospital Technical Memoranda
IT	Information Technology
KPI	Key Performance Index

MS	Master Specification
NEC	National Engineering Council
NLF	National Loan Fund
NHS	National Health Service
NPV	Net Present Value
OBC	Outline Business Case
OGC	Office of Government Commerce
OJEU	Official Journal of the European Union
OPEX	Operating Expenditure
OS	Output specification
PCG	Primary Health Group
PCT	Primary Care Trust
PITN	Preliminary Invitation to Negotiate
PFI	Private Finance Initiative
PFPP	Private Finance Panel
PFU	Private Finance Unit
PHNHST	Portsmouth Hospital National Health Service Trust
PPP	Public Private Partnership
PSC	Public Sector Comparator
PSCMs	Principal Supply Chain Members
PSCPs	Principal Supply Chain Partners
PSNI	Public Sector Net Investment
QAH	Queen Alexandra Hospital
RDS	Room Data Sheet

RO	Regional Office
SCM	Supply Chain Management
SME	Small and Medium Enterprises
SOC	Strategic Outline Case
SPV	Special Purpose Vehicle
SSS	Service Specific Specification
TCE	Transaction Cost Economics
THC	The Hospital Company
TSC	Technical Sub-Committee
VFM	Value for Money
VM	Value Management

CHAPTER 1

INTRODUCTION

1.0 Background to Current NHS Procurement Initiatives

In no other important industry is the responsibility for the design so far removed from the responsibilities of production – Sir Harold Emerson 1964

A succession of major studies [Latham, 1994; Levene, 1995; Egan, 1998], have highlighted the inefficiencies of traditional methods of procuring and managing major projects – in particular the fallacy awarding contracts solely on the basis of lowest price bid only to see the final price for the work increase significantly through contract variations with buildings completed late [Figure 1]. Experience has shown that acceptance of the lowest price bid does not provide value for money in both the final cost of construction or the through life and operational costs. Relations between the construction industry and government departments have also often been typically characterised by conflict and distrust which have contributed to poor performance [Figure 2].

The NHS is the UK's largest construction client and will continue to be so for years to come. But it does not present a single face to the industry. Different NHS Trusts work in very diverse ways when it comes to procurement of new buildings and refurbishment work.

“Around 25% to 30% of hospitals' revenue budget goes on maintaining the asset base, and of this 60% is put into the building services of one sort or another, thus future hospitals will need to have very high quality cycle regime to make sure they are getting Value for Money” [Peter Woolliscroft – Head of Construction NHS Estate – BSJ, September 2004].

Providing a scheme that represents value for money on time and cost is not easy. But it is not an unattainable aim. The successful implementation of PFI and ProCure21 are producing tangible benefits to the delivery of NHS capital schemes.

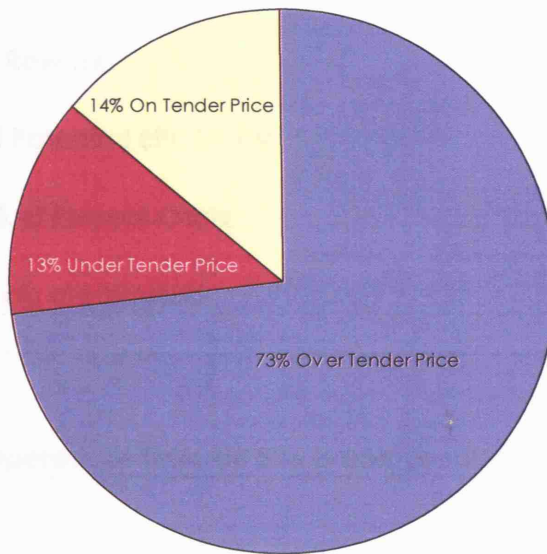
“Using PFI to procure hospitals has resulted in mixed results, to say the least. Many believe it hasn't given us the hospitals we deserve. So is ProCure 21 the answer to the problems of PFI [Peter Woolliscroft – Head of Construction NHS Estate – BSJ, September 2004].

What is best Value for Money (VFM)?

- “Best VFM is the optimum combination of whole life cost and quality to meet the customer's requirements”
- “The prime objective of government's procurement policy is to achieve best VFM”
- “Accountability for the public funds must not be used as excuse for missing opportunities to deliver this”

[Source: “OGC, (2003), Achieving Excellence in Construction Procurement Guidance No. 6: Procurement and Contract Strategies”]

Cost - 73 percent were over budget



Time - 70 percent were delivered late

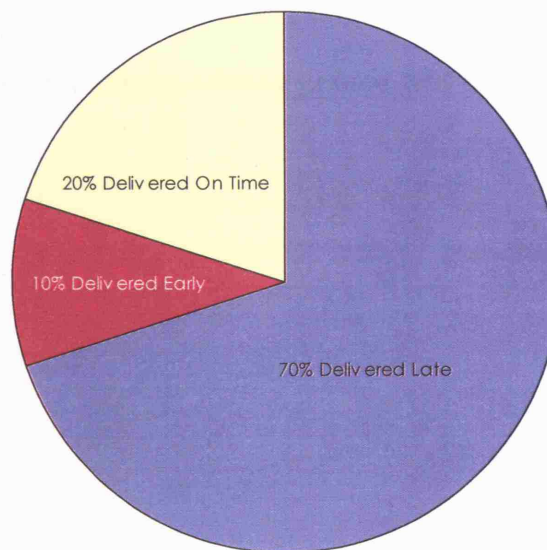


Figure 1: Performance of 'Departments and Agencies' Construction Projects [source: National Audit Office, (2001) Modernising Construction]

Rethinking Construction: Sir John Egan - 1998

30% of Construction is Rework

Labour is 40% - 60% of Potential Efficiency

Accidents are 3% - 6% of Project Costs

At Least 10% of Materials are Wasted

BSRIA: 2003

60% of M/E Services Operatives Time on Site is non-productive

Cardiff Business School Report: 2002

40% of input is value adding/support

60% is Waste

**Figure2: Issues Facing the Construction Industry [source: NHS Estates
www.nhsestates/2005]**

1.1 RESEARCH OBJECTIVES

The report aims to analyse the two procurement methods and their associated Value for Money for the Public Sector, using the knowledge and information gained to answer:

What is their current status for Value for Money?

Examining the findings to determine:

What are the hindrances to Value for Money?

...and finally determining:

What aspects of the procurement methods can be enhanced to achieve Better Value for Money?

The report will also examine, if any opportunity for a hybrid system between the two procurement methods to achieve a better VFM.

1.2 RESEARCH METHODOLOGY

- Review of the literature on economics of procurement generally which will lead to the development of a framework for identifying the differences between the two methods and their associated Value for Money for the public sector.
- Case studies and review of two hospital projects procured through PFI and Procure 21 respectively.
- Interviews and discussions with the following who have worked on both or either options:

Client

- NHS Trusts

Technical Advisors

- PFI Consultants
- Building Services Consultants

Contractors

- Principal Supply Chain Partners (PSCPs)
- Project Company
- Project Managers

Other Stakeholders

- Doctors, Nurses
- Other NHS Staff

1.3 HOW THIS REPORT IS ORGANIZED

The following section, Chapter 2 is an overview of the two procurement methods. Chapter 3 is literature review of procurement systems in general, transaction cost economics and advantages and disadvantages of the different procurement methods as applied to health care projects.

Chapter 4 examines the principles of value for money in procurement systems and the current status in the two methods. Chapter 5 is the case studies of the two methods. Conclusions and Recommendations form the final part of Chapter 6 and the Report.

CHAPTER 2

OVERVIEW OF THE PROCUREMENT METHODS

2.1 PFI

The Private Finance Initiative (PFI) is a means of attracting private sector investment into public assets based services. Government procured and managed projects had been generally delivered over budget and behind schedule, (refer to Figure 1). The government is burdened by debt and unable to meet its investment requirements in infrastructure without the private sector support and under pressure to reduce its Public Sector Borrowing Requirement (PSBR) in order to meet the targets under the Maastricht Treaty.

In 1997 when the Labour Government came to power, the government commissioned a report into the role of PFI and government procurement. The report by Bates (Bates review 1997) proposed a more balanced partnership between the public and private sector leading to the term "Public Private Partnership" (PPP), which led to government reaffirming its continued support for private sector involvement in delivering of public sector services on PPP basis where appropriate.

This has become one of the government's principal methods of procuring services and public infrastructure; as result of this many services in areas such as health, education, transport and prisons which used to be the responsibility of public sector bodies are now provided by the specially created private sector companies – Special Purpose Vehicles [SPV].

The provision of the service normally might require the provision of a new or upgrading of existing capital asset, which will be financed by the private sector. The contract is normally for 25 – 30 years.

The advantage of the PFI has been to introduce private sector disciplines into the provision of government services which has allowed for improvements in VFM; Private sector management skills and expertise combined with strong incentives have enabled projects to be delivered on budget and on schedule [Ive, 2004].

PFI arrangements encourage both the public and private sector partners to take a long-term approach to the creation and management of public sector assets. Thus both sides take full account of the risks and cost of the project over a long timescale, as opposed to focusing on the short-term capital expenditure. Furthermore, in designing and constructing the asset, the private sector partner is incentivised to take account of the cost of its subsequent maintenance and operation.

CIC [2000] found that PFI made average project cost savings of 15% for Custodial and Highways sector and modest savings on Healthcare, compared to projects procured on a traditional basis.

There are currently 600 PFI contracts in operation, which includes 126 Healthcare projects [Figure 3].

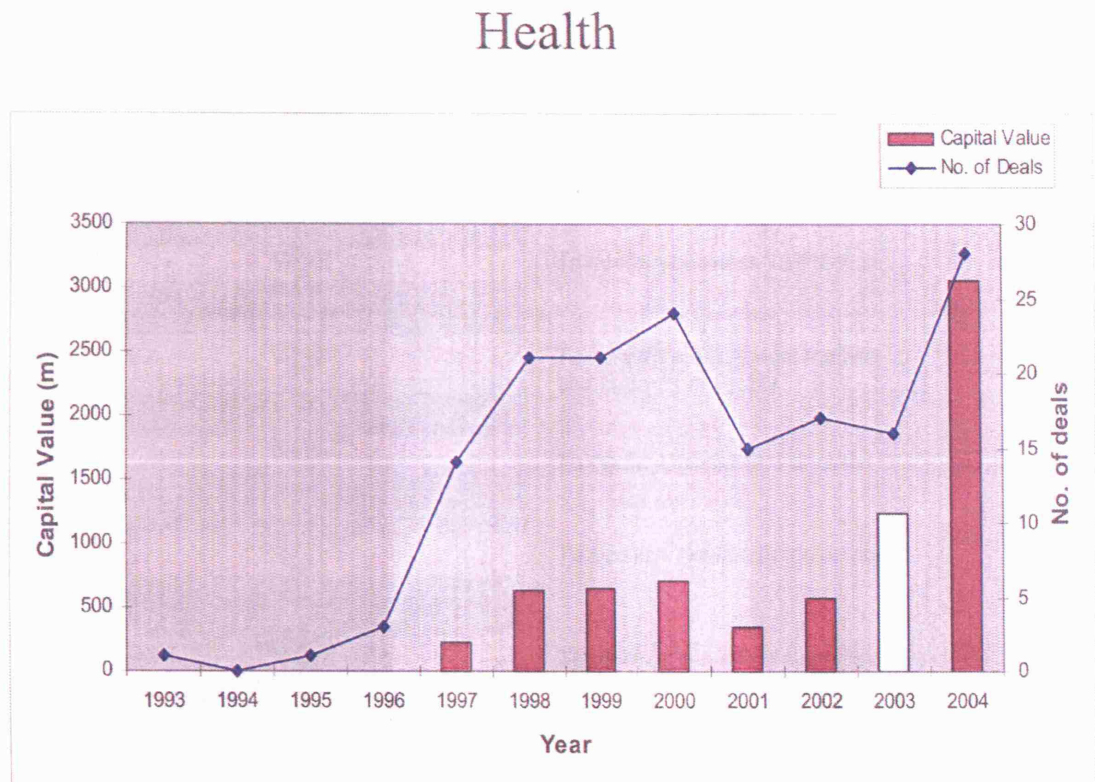


Figure 3: Number and Capital Value of PFI Health Projects which have reached FC
[source: NAO www.nao.gov.uk, 2005]

The government has published new guidelines on 'PFI': Green Book [HM Treasury 2003A] and Value for Money Assessment Guidance [HM Treasury 2004A] set extensive guidelines on how to assess value for money for PFI.

The Government uses PFI where it is appropriate and where it expects it to deliver value for money. In assessing when PFI is appropriate, the Government's approach is based on its commitment to efficiency, equity and accountability and in the principles of public services reform. The Government seeks to ensure that there is no inherent bias in favour of one procurement route or another. [HM Treasury, 2003C, pp. 28].

There are guidelines available from the Office of Government Commerce (OGC) providing advice on issues relating to PFI procurement including the attributes that make some projects suitable than others, in particular, that is not applicable for projects less than £20 m. The Office of Government Commerce

has introduced a new initiative known as the "Gateway Process" to promote a more formal and disciplined approach to the management of projects – major procurement, construction and information technology including PFI deals – to help avoid cost and time overruns [Figure 4]. This is in response to a general concern that existing implementation of procurement best practice across government departments is very variable.

The Gateway Process

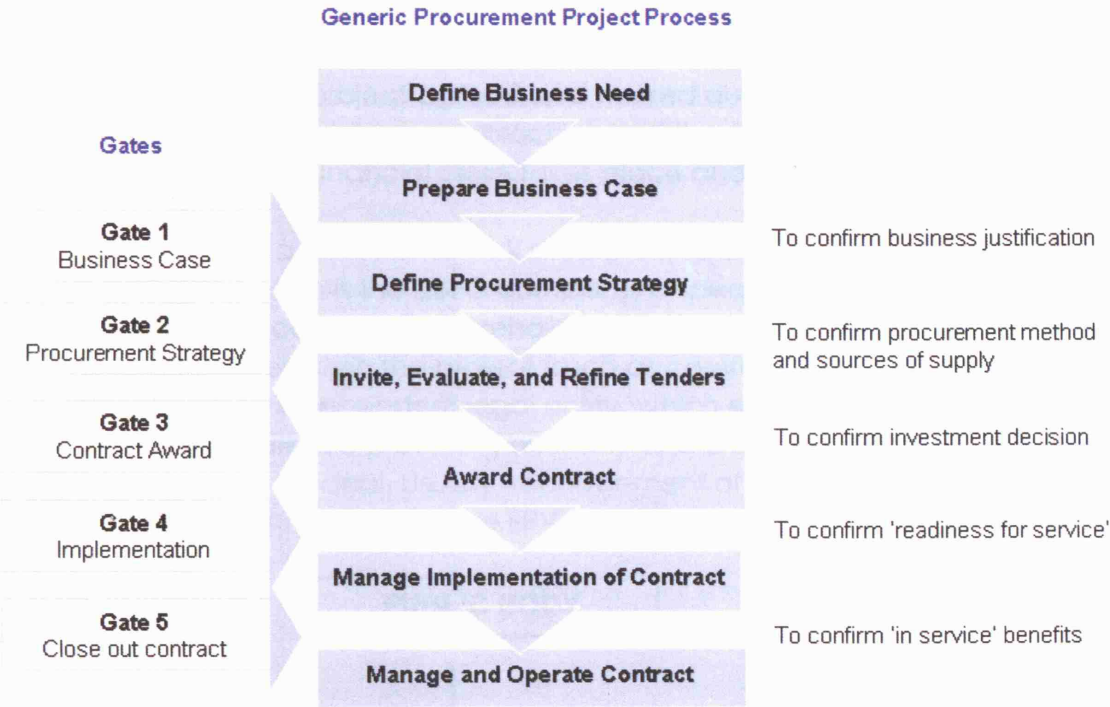


Figure 4: The Gateway Process
 [Source: Office of Government Commerce, www.ogc.gov.uk, 2004,]

At the centre of any PFI project is a DBFO contract within which the public sector specifies the output it requires (Output Specification) from a public service facility and the basis for payment for these outputs.

The contract is the key document that sets out the sharing of risk between the public and private sectors in a PFI project. This approach helps utilise the private sector’s ability to provide innovative solutions to meet these requirements.

Once the public sector has determined the level of output it requires to run the public service, the private sector is then invited (OJEU Notice) to submit proposals, which meet the derived output objectives using best private sector expertise and know-how to deliver the service.

The private sector responds by submitting bids to fulfil the public sector requirements.

The public sector evaluates these proposals, selecting the option, which represents the best value for money.

The public sector may then shortlist two bidders and enter into detailed discussions with each and will then ask them to submit their best and final offer (BAFO) to determine a preferred bidder.

The preferred bidder is then selected and a reserve bidder is also named and final terms of the project agreed and worked out between the preferred bidder consortium, the public sector procurer and the consortium's funders. Contractual and financial close takes place and the deal is signed.

A typical contractual framework structure is as shown Figure 5. At the heart of the PFI transaction is the DBFO company, a special purpose vehicle (SPV) that consists of the consortium shareholders who may as well as being investors may have other interests in the project (such as contractor or operator). The SPV is created as an independent legal entity, which enters into contractual agreements with the procuring authority and a number of other parties necessary in a PFI deal. Usually, management of the maintenance and replacement is retained by the SPV.

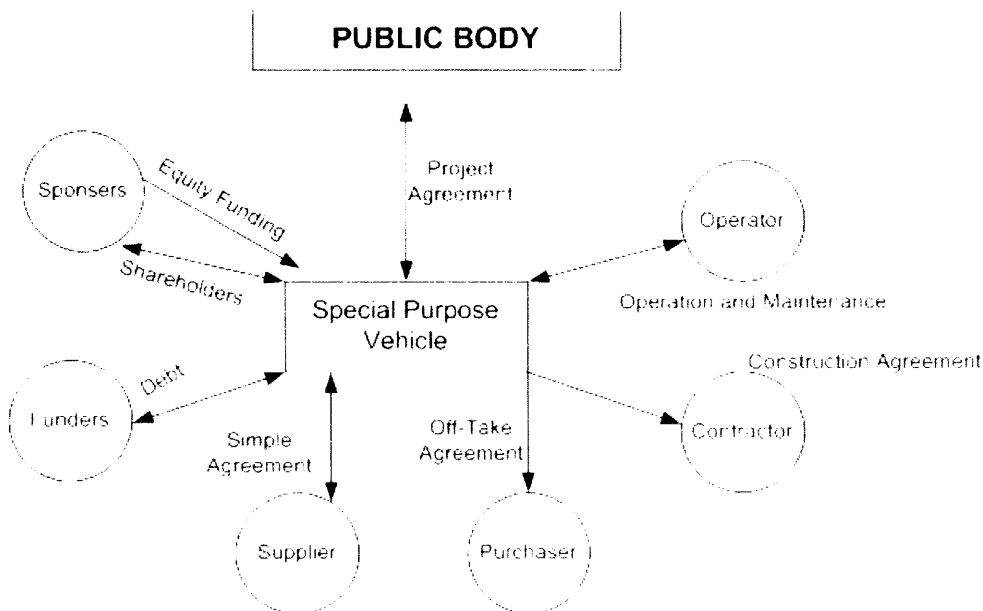


Figure 5: Typical Contractual Framework, The PFI Contract is the Project Agreement between the Public Body and the SPV

[Source: BDO Stoy Hayward, www.bdo.co.uk, 2004]

The key to PFI route for procurement is value for money. From formal and informal discussion with contractors and project managers who have been

involved with PFI projects, the following have been identified as some of the issues, which are hindering the Value for Money.

1. High bidding cost (Transaction Cost)
2. Affordability
3. Only a handful of bidders in the market (lack of competitors)
4. The clarity of the public sector output specification.
5. Too much risk is transferred to the Private Sector.
6. Lack of trust and transparency between the Public Sector and Private Sector (during negotiations- preferred bidder stage).
7. Limited flexibility for future changes.
8. Quality and experience of the Public Sector Negotiators
9. Innovation is constrained
10. Unrealistic Public Sector Comparator

For an example in a typical new-build hospital PFI project, responsibility will be as follows:

Private Sector

The provision of accommodation service encompassing:

- Design and construction of the hospital
- Ongoing maintenance of buildings and grounds
- Provision of ancillary services including catering, cleaning, laundry and portering

Public Sector

The provision of the core service encompassing:

- Provision of clinical services
- Administration

2.2 ProCure21

NHS ProCure21 was developed in response to the Egan's report, (1998), and HM Treasury reply '*Achieving Excellence [1999]*.' The two reports demonstrated the need for collaboration between the Public Sector and the construction industry in order to improve construction procurement across the government departments [Figure 6].

Egan (1998) sets out six main principals for improvement across the construction industry. It is recommended that:

1. Traditional processes of selection should be radically changed because they do not lead to best value.
2. Culture and process of selection should be changed so that collaborative rather than confrontational working is achieved.
3. An integrated team should be formed before design starts and maintained throughout delivery.
4. Contracts should lead to mutual benefit for all parties and be based on a target and whole life cost approach.
5. Suppliers should be selected by best value and not the lowest price: this can be achieved within EC and central government guidelines.
6. Performance measurement should be used to underpin continuous improvement within collaborative working process.

NHS ProCure21 was launched in May 2000 in the joint NHS Estates/Public Services Productivity Panel/HM Treasury Report, *Sold on Health (2000)*, which in turn identified four key facets to introduce by way of NHS ProCure21, in response to Sir John Egan's vision:

- Partnering – the establishment of long term relationships with carefully selected supply chains
- NHS to be Best Client - NHS is becoming a more expert and better informed client
- Design quality – the NHS will pursue design excellence when it procures healthcare facilities
- Benchmarking and Performance Management – the NHS will ensure that continual improvements in value for money are being achieved by NHS Clients and the industry by measuring their performance to achieve continuous improvements in performance.

The introduction of the four key facets will prove fundamental in the delivery of a modern, dependable health care service, as well as accomplishing the vision of prompt, convenient, high quality services outlined in *NHS Estates (2004)*. In addition to facilitating a World Class Health Service, Procure 21 will negate the need for traditional adversarial procurement and tendering with pre-agreed Supply Chains that will be required to construct quality buildings and refurbishments on time and within budget, **through a long term framework agreement**. These Supply Chains are managed by Principal Supply Chain Partners (PSCPs), who, in turn, are appointed subsequent to a rigorous selection process. Under ProCure21 the PSCPs are involved in a project from the outset, so as to contribute to the planning and design phases, encouraging long term, collaborative working to achieve quality. Moreover, traditional tensions do not arise due to increased communication levels and the resultant synergy developed through better understanding. These innovations and improvements clearly comply with Egan's vision. Managing risk rather than transferring it is the key feature of Procure 21.

- After excellent results in the pilot scheme setup in North Wales and West Midlands, in September 2003 the national rollout was announced. A five year framework, comprising twelve Principal Supply Chain partners (PSCPs), is available to any English NHS Client.

There are over 197 schemes registered including the pilot schemes with a total value of £2.0 billion. There are 45 schemes on site and 18 completed on budget and within time [source: www.nhsestates/procure21, July 2005].

**REBUILDING THE NHS
PROCURE 21**

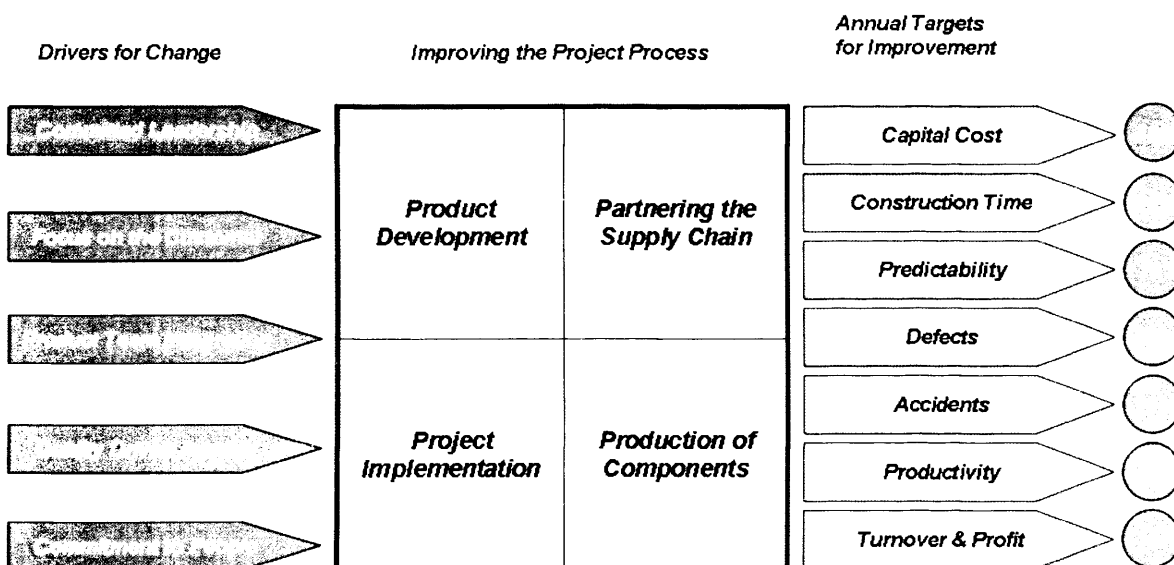


Figure 6; Rebuilding the NHS Procure 21 [source: NHS Estates, 2004]

CHAPTER 3

Review of the Literature on Economics of Procurement Generally

3.1 Economics of Procurement Systems

It is common knowledge that 'procurement' encompasses the whole process of acquiring property or services. It begins when an agency or ministry has identified a need and decided on its procurement requirements. Procurement continues through the process of risk assessment, seeking and evaluating alternative solutions, contract award, delivery of and payment for the property or services and, where relevant, the ongoing management of a contract. Procurement also extends to the ultimate disposal of property at the end of its useful life.

Procurement also includes contract strategy, contract documentation and contract selection. It extends to all members of the supply chain, including those responsible for the operation and maintenance. The Association for Project Management (APM) states that "*The procurement strategy should include potential sources of supply, terms and types of contract/procurement (for example, partnering or alliancing versus commodity purchasing), conditions of contract, the type of pricing and method of supplier selection.*" [APM, 1999 pp.10]

For many projects, procured goods and services form the highest percentage of expenditure and so it is important to achieve Value for Money through careful appraisal and management. Relating to how well the project scope is defined, the state of the supplier market, and the perceived level of risk associated with the project, procurement strategy will promote a controlled and auditable response to the external influences and ensure that the project objectives are met.

Recent years have seen high levels of turbulence; companies that were market leaders a decade ago have in many cases encountered severe reversals of fortune. Rapid advances and complexity in technology, and the accompanying growing uncertainty in the business environment have brought about mergers and takeovers, and these have changed the shape of many markets. Traditional barriers between industries are breaking down. Inevitably, this has given rise to a very high level of competition and complexity. There is also a growing demand from the marketplace for ever-higher levels of service and quality.

In response to this changing business environment, there has been a search for an instrument that would offer a sustainable competitive advantage. In other words, companies are seeking a position of superiority over competitors in terms of customer preference. The emphasis in business has swung towards business

strategies that have the creation of long-term customer loyalty as their central focus. Business leaders are pursuing new business paradigms that allow their companies to work closely with their traditional and new business partners in order to adapt to the rapidly changing marketplace [Bower, 2003].

These new business relationships are arrived at through developing procurement strategies that balance scope of work, motivation and risk for long-term, sustainable performance improvements.

The construction industry plays an important role in the economic development of any nation. Construction in the UK, for example is one of the pillars of the domestic economy. According to Pearce (2003), on the broader definition of construction, its contribution to the country's annual gross domestic product (GDP) is 10%. In addition, it accounts for 10.7% of the total employment in UK.

Historically, construction has been project-oriented in its organisation and management. Construction project tasks are frequently one-off undertakings and custom built to specification. Each project marks the establishment of a new and temporary production system and organisation located at the point of consumption. In other words, there is comparatively little continuity in the form of production system established between projects in the construction industry. With this single one-off project characteristic, the question then arises as to what extent construction companies can be expected to demonstrate improvements. The process of production in the industry, to a large extent, is inseparable from the geographical location of the output that is produced. The finished product cannot generally be transported, since it is produced at the point of consumption. Thus, the production process itself is almost always at the mercy of physical environmental conditions [Bower, 2003].

The definition of scope of project cycle has been lengthening; it now includes FM, whilst traditionally it was just the completion of the project.

The organisation and management of a construction project almost invariably involve interlinkages between a numbers of organisations involved to varying degrees and in varying ways throughout the project 'cycle'. The temporal nature of the construction multi-organisation means that each complete project has to go through a series of contracting and procurement processes, and there is a tendency towards the use of varied companies for projects procured by a single client. Typically, different procurement and contracting relationships can be found between the client and the specialist consultants, the main contractor and the subcontractors, the main contractor and the suppliers, the suppliers and the manufacturers, and so on [Winch 2002].

A typical construction project passes through a number of stages, from inception through to completion and commissioning. Contracts are the basis of managing construction projects. Therefore, the type of contract strategy chosen must take into account the project objectives and the characteristics

of the parties to the contract, and aim for an equal distribution of risks and responsibilities. The main aim of a contract is to clearly outline the risks associated with the project and how they will be allocated for the project life and not just for the design and construction phases. The client defines the contract strategy, where objectives and the roles of the project team members are considered. The primary goal of a contract strategy should be to achieve the client's objectives. This can be accomplished by incorporating:

- client involvement
- allowing for change
- motivation of contractor
- best risk allocation
- cashflow of the client and contractor

Careful planning is extremely important during the process of contract selection. The client must give careful thought to what influences its decision to enlist a contractor's services for a project. Then these reasons must be categorised in order of importance.

Smith (2000) lists some factors used by clients when about to retain a contractor for a project. The client aims to take advantage of the contractors' skills and to get contractors to carry some project risks. The most suitable contract strategy for a project must be established based upon a structured, in-depth and efficient analysis of all relevant factors (I.e. all available options). Issues that affect the selection of a contractor strategy are:

- clearly defined project objectives from the client
- responsibilities of the parties to the contract, which must be accurately stated
- risk allocation between the parties involved in the contract payment mechanism
- incentive mechanism to secure a proficient performance from the contractor
- motivation for the client to supply the necessary data and support to the contractor
- client having enough flexibility to add changes
- clients being able to methodically assess change in a fair manner

To measure the amount of work, motive and risk transfer needed to assist in choosing the appropriate contract strategy, Smith (1999) advocates charting all existing options, as shown in Figures 7 and 8.

A variety of organisational structures are available; in practice, some organisational structures are closely linked with a particular type of contract, for example, the traditional approach with the admeasurements contract. As this is not always the case, it is prefer to consider the decision on organisational structure as separate from, but interrelated with, the decision on the type of contact. Every time an interface is introduced to the project organisation the management effort required to deliver a successful project is increased, as is the risk of failure. The organisational structure must define communication and contractual links. Barnes (1983) surmises that there should be principles of risk allocation in contracts that would reduce the number of disputes between contractors and clients, since project objectives be better achieved. He went on to propose that risk and incentives are directly proportional, so in order to maintain a contractor's motivation to perform, some risks should be transferred to the contractor. Hence the risks the contractor bears should be enough to maintain an incentive, but not so much that it is unfavourable to the contractor or client.

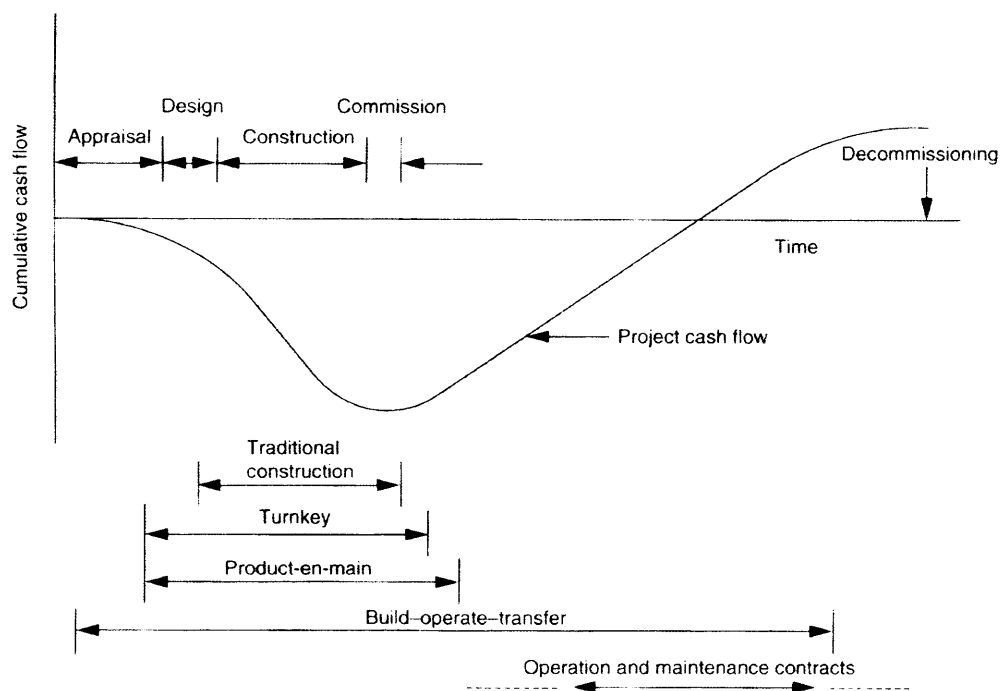


Figure 7: Range of Procurement Options: Time frame and cash flow
 [source: Management of Procurement, Bower, 2003]

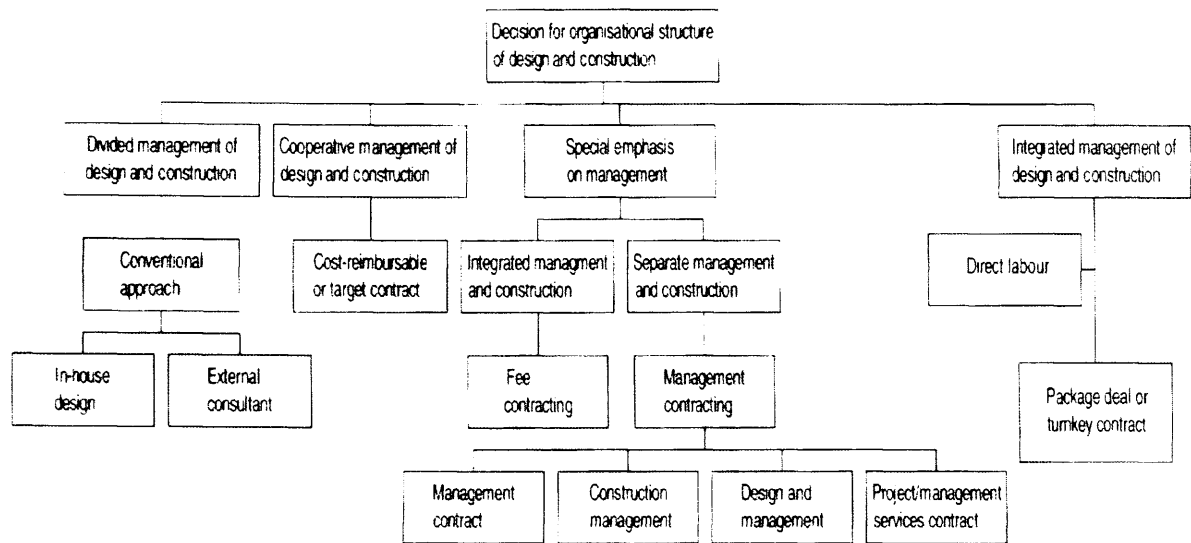


Figure 8: Organisational Structures for Design and Construction
[source: Management of Procurement, Bower, 2003]

3.2 Transaction Cost Economics (TCE)

In TCE, the basic unit of analysis is the transaction. Whilst the principal agent theory assumes the existence of full rationality and opportunism on the part of parties to a transaction and in the process acknowledges the effectiveness of contracts in solving transacting problems, TCE regards the issues as too complex to be solved by contracts and regards contracts as incomplete.

TCE as developed by Williamson (1985) assumes that human behaviour is limited by bounded rationality and driven by opportunism. These constitute the main costs of transactions, the magnitude of which depends on the critical dimensions of asset-specificity, uncertainty/complexity and the frequency of transactions [Douma and Schreuder, 2002].

3.3 The Advantages and Disadvantages of the Different Procurement Systems as applied to Health Care Projects

This section proceeds by first setting out some features of the conventional approach and then offers, in tabular format, analysis of how other approaches differ, in the context of health care projects.

A unique feature of the industry is the use of standard methods of contracting and tendering, serviced by teams of independent consultants, civil and other engineers, architects and quantity surveys, who all provide agency service between the clients and contractors. Construction suppliers plug in at various levels of the construction process. The interactions between these independent bodies on a project have been described as complex, a peculiar characteristic of construction.

In the conventional or 'divided' approach, once the outline design and budget are approved by the client, the design team is ready to carry out a detail design and prepare detailed drawings and specifications. The team also prepares tender documents that set out what the contractor is required to do, with penalties imposed for failing to deliver. A number of contractors and, in turn, their suppliers are invited to bid for the construction works against the drawings and specifications, traditionally on the basis of a bill of quantities. This is often prepared by a quantity surveyor and it contains fairly complete specification of the required work, as well as a schedule of rates for the works. In practice construction companies often prepare tender bids from inadequately detailed information. In most construction projects, this is the first time – the tendering phase – that the contractor is brought into the project.

In many traditional cases, especially in local devolved bodies (e.g. NHS), the lowest complying bidder ultimately becomes the successful contractor selected for the works, despite OGC, Achieving Excellence, No. 6 (2003); Procurement and Contract Strategies Guidance. There is a tacit understanding that this situation prevails because of 'public' accountability. Knowing that selection is on a lowest-price basis and that changes during construction is inevitable, contractors and suppliers initially bid below cost to win the contract, but then they find it easy to raise the price because of the changes to the specifications during the works.

The high rate of technological change in the delivery of medicine in the healthcare service is likely to induce change in the accommodation and the associated services required. Thus, flexibility would be one of the attributes of the type of contract the NHS Trust would be looking for in determining the type of contract for the accommodation.

The decentralisation of the NHS procurement authority and creation of the NHS Trusts with internal markets, and each Trust responsible for procurement of their health care facilities, has created competition between Trusts, thus competing with each other for revenue. An NHS Trust which put a poor business case for accommodation will achieve poor VFM and suffer in the long run for net revenue due to high annual cost. Thus, selecting the appropriate strategy in line with the business case is fundamentally important for the Trust survival.

Having reviewed the different procurement routes below the following tables summarise the output in relation to health care projects:

Figure 9: Tables of Advantages and Disadvantages of the different Procurement methods as applied to healthcare projects

1. Traditional – Drawings , Specifications and Bills of Quantities

Advantages	Disadvantages
Tried and tested familiar to most contractors and clients	
Predetermined cost for a defined scope of works	<p>Need to define the scope of the whole development work fully. This would not be possible at the outset of some projects for example refurbishment work.</p> <p>As a result contractors' claims are likely if change occurs.</p>
Quality is controlled well as the client's designers remain responsible	Contact between clients designers and specialist suppliers are limited thus preventing specialist from being effectively involved.
Risk is clearly defined with the contractor, but only for the scope that is clearly defined.	If several contractors are on site the interface risk will need very careful control, there is a greater exposure to risk and hence claims.
	No overlap between design and construction.
<p>This form of contract requires that the design information is produced, tendered and the contract let. Where the project includes refurbishment of the retained estate this would not be a robust approach. Combined with a framework agreement, however this becomes more attractive.</p>	

2. **Design and Build – Design partly developed by the design team and completed by contractor**

Advantages	Disadvantages
Suitable for new build work	For refurbishment work where detailed information ('As Installed Drawings') is not available, the client would be exposed to increased risk. If this risk is transferred to the contractor it is likely to be at a premium.
If details of client requirements are known and clearly defined then more risk is passed from the client to the contractor.	Need to define the scope of the whole development work fully. This would not be possible at the outset of some projects for example refurbishment work. As a result contractors' claims are likely if change occurs.
Quality is controlled well as the client's designers remain responsible	The design responsibility passes to the contractor so the client loses direct control. Consistency of a prescriptive specification would be diluted; hence commonality of materials throughout might not occur. This is relevant to both visible finishes and the functional items of M&E plant, controls and medical systems.
.	Inflexible to change
Where the works (e.g. refurbishment of the retained estate) are complex due to phasing, decanting, asbestos and substantial user occupation levels, and also the condition of the existing building is not totally known, then user brief changes are almost certain to take place. These risks and changes could lead to escalating costs under the design and build route due to lack of a properly costed document.	

3. Construction Management – Design and Construction overlapped, each package let direct to client

Advantages	Disadvantages
Work let in a series of trade packages direct with the client. Thus direct control of smaller elements is possible, allowing the clients advisors to be more proactive and take any corrective actions easily.	Fixed price not available for the outset but is firmed up as each trade package is bought. Good commercial management can minimise risk.
Work can commence as elements are designed. No need for completion of whole design.	Requires a culture change with the client and design team members if not familiar with the system.
Buildability, cost and programme advice available from Construction Manager as an independent (fee paid) part of the team.	Less risk is transferred to the Construction Manager than with other forms of contract.
Financial advantages may be possible as mark ups are not 'hidden'.	Suitable for large fast track construction projects and may not be suitable for annual spend Health Care projects.
Contact between clients designers and specialist suppliers are good thus allowing specialists to be effectively involved.	
Quality control remains with the client designers so remain high.	
Could be suitable for new build as well as refurbishment of the Retained Estate.	
Direct access to trade contractors assists with flexibility.	
As the contracts are let direct with the client there is a greater exposure to risk than with some other forms. This form puts more burdens on the client in terms of management and administration. This is commonly used where time is short and ultimate flexibility is required and by clients experienced in this form.	

4. **Management Contracting – Design and Construction overlapped. Work let in a series of packages**

Advantages	Disadvantages
Often used where a fast track approach is required as the lead in times are much shorter than with a main contractor.	Management Contractor is profit incentivised and not an independent part of the client team, but is still more client orientated than a Main Contractor.
Work let in a series of trade packages but by the Management Contractor so not the client control of Construction Management.	Suitable for large fast track construction projects and may not be suitable for the annual spend NHS projects.
Work can commence as elements are designed. No need to wait for completion of whole.	Paperwork volumes tend to be high.
Risk of delivery is transferred to the Management Contractor.	
Buildability, cost and programme advice available from Management Contractor at an early stage.	
Where time is a less prominent objective, the management contracting option, the main advantage of which is the scope for design, procurement and construction to be overlapped thus shortening the programme duration, is not likely to be an appropriate choice.	

5. **Serial Contracts – A number of small contracts let as the information becomes available.**

Advantages	Disadvantages
Individual initial costs for each serial contract may be lower than other procurement means.	Small contracts would attract the smaller contractor philosophy and hence potential for poorer quality of management than with larger contractors.
Contractors knowledge of the project would allow subsequent pricing and short lead in for following contracts.	Initial cheaper costs have the potential for higher outturn.
Provides more continuity than other approaches	No continuity between contractors if contractors do change.
Incentive to perform well is great, provided it is linked with performance and monitoring agreement for future work flow.	Potential for initial contractor to 'buy' the work with a view to claiming back on later contracts.
If the aim to attract good quality larger contractors to carry out the work, then this is not the best to achieve this.	

6. **Re-Measurable/Schedule of rates – Works re-measured according to rates previously agreed.**

Advantages	Disadvantages
Flexible	No fixed price for the work at the outset.
For the refurbishment work a detailed schedule could be agreed and tendered. This could then be priced and hence a project cost estimate provided.	Not such an incentive for the contractor to act in the client's commercial interest.
	Some difficulties with refurbishment operations where there may be unexpected issues (e.g. asbestos). Suitable contingencies would be required.
	Not suitable for new build elements.

7. **Two Stage Appointment – Appointment made in sequential stages**

Advantages	Disadvantages
Early advice and input for buildability.	Final price not agreed prior to full appointment; however, 1 st stage agreed which typically would capture preliminaries, overheads and profit.
Can influence the design before it is finalised, cost saving are therefore possible. Whole life costs can more openly assessed.	
Would allow the contractor to be appointed early, through competition and complying with OJEU requirements.	
Quality of design is still maintained as it completed by the client's design team.	
<p>The input of a contractor at an early stage to contribute to the solving of technical and buildability issues is an advantage, especially considering the complex nature of NHS projects and the requirement to consider life cycle costing/low maintenance issues. Where survey (e.g. structural for the retain estate) is required, this could be undertaken at an early stage by the contractor to more accurately establish the condition of the existing structure.</p>	

8. **Framework Agreement – a longer running agreement to contract.**

Advantages	Disadvantages
Would allow the contractor to be appointed early, through competition and comply with OJEU requirements.	Fixed price would not be available for the project at the time of the contractors becoming part of the framework agreement. At the early stage there is therefore financial uncertainty. There are methods to remove/remove this uncertainty e.g. two stage or GMP to follow the appointment.
Appointment could be for an agreed period e.g. 4 or 5 years.	The contractor may wish to try and negotiate at the end of the second stage.
The contractors (and specialists) are involved at an early stage.	Expensive setting them up, which becomes economical if there are high stream of work
Through a system of KPI's a regime of continuous improvement can be used to improve the delivery service. These can be benchmarked.	
As the engagement is for the 'long term' the same series of learning curves that would occur with serial contracts will be achieved.	
Contractor would be more close to the rest of the team so more collaborative and less adversarial.	
A joint approach to sub-contract tenders giving the client the final say.	
Buildability and design advice would be available throughout.	
Long term relationships can be in place with key sub-contractors and suppliers.	
In line with Latham and Egan processes.	

CHAPTER 4

Value for Money Current Status

4.1 The Principle of Value for Money

A very important ingredient in the 'procurement' cycle is 'value for money' as emphasised by OGC, *Achieving Excellence*, No. 6 (2003); *Procurement and Contract Strategies Guidance*, intended to be applied by all relevant public servants placed in position to acquire goods and services on behalf of the Central Government; and which has 'advisory' status for local authorities.

'Value for Money' is the core principle underpinning Government procurement [HM Treasury 2003A]. In a procurement process this principle requires a comparative analysis of all relevant costs and benefits of each proposal throughout the whole procurement cycle.

Value for Money is enhanced in Government procurement by encouraging competition by ensuring non-discrimination in procurement and using competitive procurement processes; promotion of the use of resources in an efficient, effective and ethical manner; and making decisions in an accountable and transparent manner.

Several points follow from this, VFM is the key rationalising motif for partnerships. Although VFM is a colloquial term that has intuitive appeal, its substantive meaning is ambiguous. It is usually associated with three Es: economy, efficiency and effectiveness [Figure 10]. In practice, for a variety of conceptual and practical reasons, VFM audits, as carried out by the NAO, have focused on economy rather than the efficiency and effectiveness [Shaoul et al, 2004].

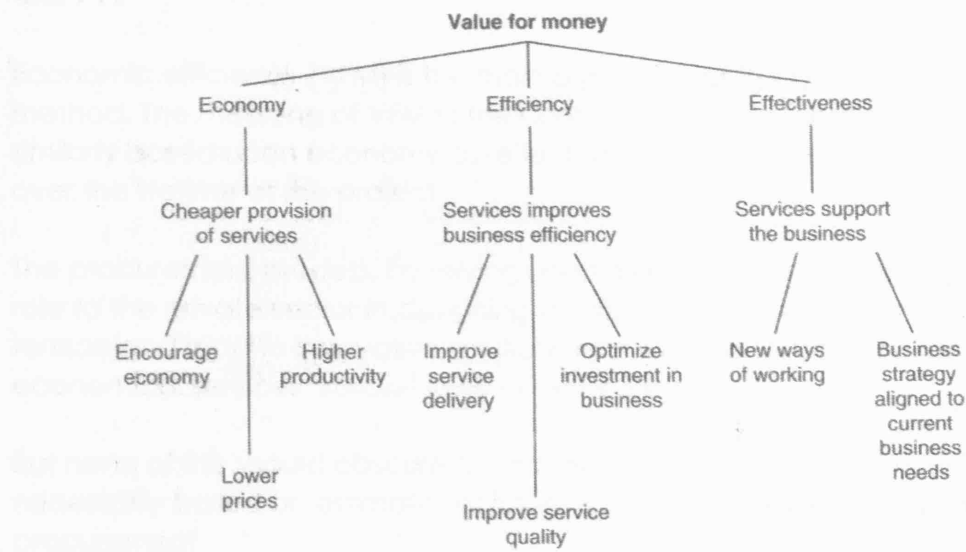


Figure 10 Value for Money - Definition
 [source: OGC, 2003]

In order to be in the best position to determine VFM when conducting procurement process, request documentation needs to specify logical, clearly articulated, comprehensive and relevant conditions for participation and evaluation criteria which will enable proper identification, assessment and comparison of the costs and benefits of all submissions on a fair and common basis over the whole of the procurement cycle.

In line with NAO guidelines cost is not the only determining factor in assessing VFM. Rather, when assessing alternative procurement process or solutions, a whole-of-life assessment would include consideration of factors such as the maturity of the market for the property or service sought; the performance history of each prospective supplier; the relative risk of each proposal; the anticipated price that could be obtained, or cost that may be incurred, at the point of disposal; and the evaluation of contract options (e.g. contract extension options).

The property or service on offer must be considered on the basis of their suitability for their intended purpose, and not on the basis of their origin. In conclusion, it can be summarised that the procurement process itself is an important consideration in achieving value. Participation in a procurement process imposes costs on government agencies and potential suppliers and these costs should be considered when determining a process commensurate with the scale, scope and relative risk of the proposed procurement.

4.2 PFI

Economic efficiency (VFM) is the main argument justifying PFI as a procurement method. The meaning of VFM in the context of PFI is no more precise and is similarly based upon economy as reflected in the use of discounted cashflows over the lifetime of the project.

The procurement process, by relying upon market forces and giving a greater role to the private sector in designing the services, should create a competitive tension and lead to innovative solutions that will help to deliver a more economical service.

But none of this should obscure a number of important issues. The VFM case is necessarily based on estimates of future cost and operates only at the point of procurement.

Risk transfer is the crucial element in demonstrating the whole-life-economy, since under PFI the financial costs of private sector borrowing, transaction costs and the requirements for profits necessarily generate higher costs than conventional public procurement. More risk is transferred up to an optimal level, the more expensive the risk-adjusted PSC becomes relative to the PFI option [Figure 11]. As the evidence from the new hospitals built under PFI shows, conventional public procurement provides greater VFM until risk transfer is factored in, and even then the margin of difference is small [Pollock, Shaoul and Vickers 2002]

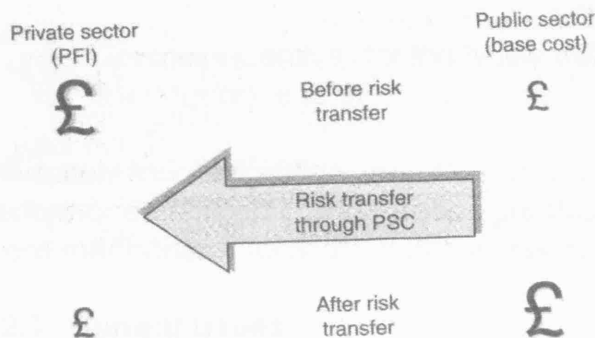


Figure 11: Value for Money: Risk transfer and the PSC [source: Procurement of Built Assets, Carlidge, 2004]

Although the PFI option therefore has extra costs, this is countered by the fact that the private sector is assumed to be operationally more economic and carries risks that are not usually quantified.

According to HM Treasury [2003A] the decision to use PFI is taken on VFM grounds alone, and whether it is on or off balance sheet is not relevant. Almost 60% of PFI projects by value are reported on departmental balance sheets and are fully reflected in the Government's national accounts [HM Treasury, 2003B].

The NHS Estates [nhsestates.com/pfi/2004] adds that private financing schemes are not simply about financing of capital investments but they also offer the highest ratio of benefits to costs as added value comes from exploiting:

- Private sector disciplines and management skills:
The public sector is deemed inefficient and less skilled at assessing and managing risks associated with the provision of the support services (i.e. accommodation services including FM services). So, it is only prudent to transfer substantial amounts of these risks onto the private sector that is experienced and skilled at risk management.
- Private sector commercial skills and efficiency in assessment of project viability by examining capacity of revenues to cover costs and yield a return to its investors.

These disciplines and skills, lacking in the public sector, coupled with cost effectiveness through competition between alternative providers generate VFM.

This argument suggests that the private finance schemes for the public sector:

- Affords integration of traditionally fragmented roles (task integration).
- Encourages a whole life approach to the design, build and operate process in service delivery (OS and long-term contracts).
- Creates incentives for the timely delivery of quality services (performance related payments) (HM Treasury 2003C).

Ultimately task integration, use of OS and long-term contracts, and performance related compensation creates an opportunity for innovation. These mechanisms facilitate optimum risk transfers and alignment of rewards.

4.2.1 Current Issues

- high bidding cost
- refinancing and finance charges
- the impact of the introduction of the Competitive Dialogue Procedure by the European Commission

1. High bidding costs

The complexity of the process makes PFI an expensive procurement method, both for the provider, and particularly those bidders who fail to win the project

and public sector body. The Adam Smith Institute in a report in 1996 found average tender costs across projects of all sizes, to be higher for PFI projects than for traditionally procured projects, as can be seen in Figure 12, however PFI bids costs have come down somewhat since due to things like standard contract etc.

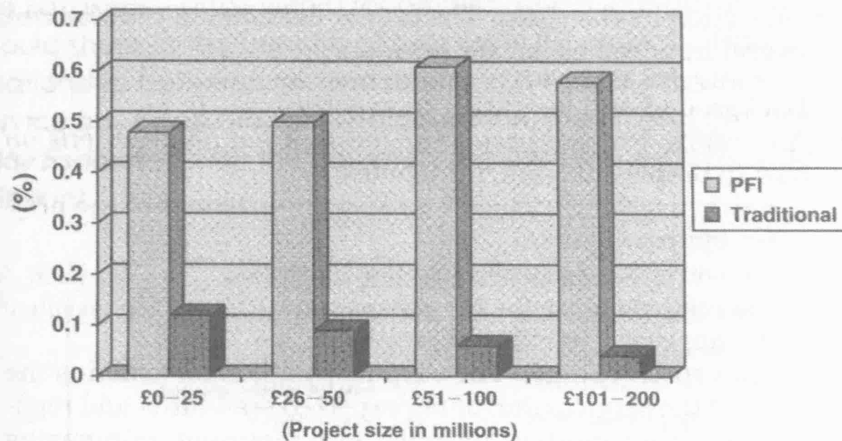


Figure 12: High bidding Costs of PFI Projects
[source: The Adam Smith Institute]

The report goes on to suggest that on the basis of these figures:

- PFI tendering costs are far greater than the average tender costs of other procurement methods, no matter what the project size is.
- That tendering costs are likely to be underestimated, since many of the consortia or SPVs reveal only the cost of achieving preferred bidder status. The full costs, including the contract negotiations are perhaps 1% more.
- Unlike other procurement methods, where tender costs diminish as percentage of the total, there are no economics of scale with PFI tendering. There is tendency for costs to increase as a percentage of the total.

Other concerns centered on the lack of consistency in the process with bids often taking between 18 months and 3 years, for example Queen Alexandra Hospital, Portsmouth; Carillion were appointed as preferred in July 2003, with anticipated financial close in January 2004 at the of this report they have still not achieved FC and now anticipated to be in December 2005 [Carillion Plc.].

2. Refinancing and Financing Charges

Refinancing is established techniques whereby improved financial terms can be obtained in projects where risks have been demonstrate to be successfully

managed; however, only one of the four early PFI projects had arrangements to share refinancing gains. Alarm bells over the structure of PFI project finance were first raised over the case of the refinancing of Altcourse, formerly Fazakerley prison in Liverpool.

In 2002 the NAO and the committee of Public Accounts both issued reports on the Fazakerley affair with a recommendation that government departments should share in the benefits of successful PFI projects. Figure 13 illustrates the relationship between risk and returns in a typical PFI. Once the required service has been brought into operation, the project risks are lowered, as the risks associated with the commencing the service delivery are no longer relevant.

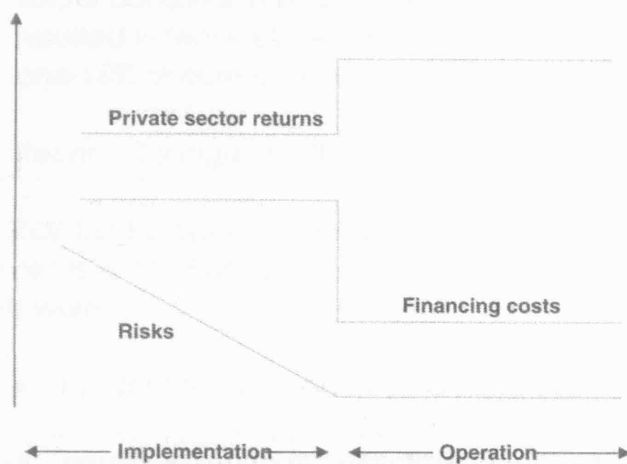


Figure 13: PFI refinancing update [source: NAO, 2002]

In July 2002 the OGC published its new refinancing guidance. OGC carried out a large programme of work to change the approach of departments and the market in new PFI contracts and is generally seeking 30% share of future refinancing gains on existing PFI deals and for most new contracts a 50% share of refinancing gains will be secured, and the private sector to seek approval for most refinancing situations. The sharing of refinancing gains is good for the public sector and increases VFM.

One of the main arguments for using PFI procurement is that although it is more expensive for the private sector to borrow money than the public sector, to finance PFI deals that the greater expertise of private sector risk management compensates for this charge.

Comparison of the cost of borrowing by the government and the private sector are difficult to make, however, certain facts are incontrovertible:

- Government borrow through the National Loans Fund, which is backed by tax revenues and so in virtually risk free and hence the cheapest way of raising funds.
- Private sector companies which have no guarantees are inherently riskier to lenders and hence borrow on less advantageous terms.

To summarize, managing the PFI procurement process remains expensive and resource hungry for both the public sectors due to:

- The length of the procurement process. e.g. QAH, Portsmouth
- The current procurement system involves the use of many private sector consultants who, on a range of projects scrutinized by NAO, resulted in fees between £0.3m and £2.4m per project or between 5% and 15% of core construction cost [Audit Scotland].

3. Recent Changes in EU Procurement Directives

In May 2002 the European Commission issued its final proposals for the amendments to the Public Procurement Directives. The objectives, according to the EU were:

- modernization in order to take account of new technologies
- simplification to make procedure more understandable
- flexibility in order to meet the need of public purchasers and economic operators

Currently the Negotiated Procedure option is used in PFI contracts because it is generally accepted that in many PFI contracts (e.g. hospitals) uncertainty exists as to precisely how the contractor will achieve the output requirements of the public sector, how much it will cost and whether those requirements can in fact be achieved within the current marketplace.

Under the Open and Restricted Procedures there is very limited scope to negotiate once the tenders have been received. Thus the use of the Negotiated Procedure for PFI contracts however, causes the EU some concern, who consider that many PFI contracts are not sufficiently complex to justify the use of the Negotiated Procedure and that there is danger that unfair competition may be encouraged. The EC therefore has introduced a new procedure, known as the Competitive Dialogue.

This is a procedure 'in which any economic operator may request to participate and whereby the contracting authority conducts a dialogue with the candidates admitted to that procedure, with the aim of developing one or

more several suitable alternatives to meet its requirements on the basis of where the candidate chosen are invited to tender.' Once the final technical specification has been settled by the public sector awarding authority it is obliged to continue the process with not less than three consortia and invite them to submit bids. Once this process has been completed the contract is then awarded without the opportunity to negotiate further.

Concerns exist for the following reasons:

- it would be wasteful for the public sector to have negotiated details of the proposed contracts with at least three consortia.
- the costs to various consortium member of providing extremely detailed bids when there is less chance of success will greatly increase private sector cost.

The new directive is to be fully operational later this year (2005). To preserve the PFI model in UK, many public authorities (e.g. NHS Trust) will have to argue their decision with the EC, which is again going to increase cost thus erode the VFM.

4.3 Procure 21

In common with most large public sector providers the NHS has suffered from problems of schemes being delivered late, over budget and with varied levels of quality combined with little consideration to whole life costs. Figures from the NHS Procure 21 *Best Client Manual* (2002) indicated that, of 45 major district hospital construction projects completed between 1985 and 1996, the tender price was exceeded by 10% on 23 of these projects and by more than 20% on 14 of them. In addition 17 of the projects overran on time by over 10% and 10 of the projects by more than 20%. Furthermore, one of the main challenges to the NHS Estates is the fragmentation of the NHS client base for specific health care schemes, as it comprises several hundred of health trusts who all have responsibility for delivery of schemes and each having differing levels of expertise and experience in capital procurement. In addition the NHS faces the problem that from procurement perspective, it operates within the heavily prescriptive and regulated public sector.

The NHS Estates solution to these problems is Procure 21. As with so many initiatives, the catalyst for this new approach was the Latham/Egan reports of the 1990s. The ethos the NHS intends to implement in this initiative is; a concentration on value rather than cost, integration rather than fragmentation, benchmarking, etc.

The principle underpinning the Procure 21 programme is that of partnering with the private sector construction industry.

Since the 1980s in particular, partnering has been increasingly advocated as an important way of improving the performance of the UK construction industry both for clients and for the different members of the project team. It has been seen as an important way of dealing with the inherent problems of an industry still widely seen by many as a 'design to order' industry: issues such as fragmentation, poor communication and a lack of integration, collaboration and trust. Partnering has been promoted as one technique that could be easily adopted from 'design to manufacture' industries such as the car industry and from retailing, and adapted, it has been argued, to give considerable benefits to all partners involved. Terms such as 'win-win' have been used by advocates. In addition, partnering has been a response by both the US and the UK to levels of performance being achieved in Japan's construction.

Partnering arrangements represent an attempt to remove confrontation from the relationship of the client and the various members of the construction team. A continuing, knowledgeable client will thoroughly vet the professional practices and contractors hoping to participate in the partnership arrangements. In many cases the potential team members will have worked with the client previously. The client selects those organisations he wishes to work with on a long-term basis. The process of selection may then be dispensed with, but there may still be a tender selection amongst those on the select list which would set the price for the project. The costs (initial transaction cost) of the initial vetting of the partners for the team are high and are a sort of fixed cost of this method of working, but the subsequent transaction costs, which vary with each additional project, are low so that if the client has a series of projects, the total transaction costs will be reduced.

As Green (1999) points out, partnering from this point of view is primarily concerned with maximising effectiveness and, as a result, reflecting the purpose of countless other management techniques. Perhaps, the most widely accepted definition is that offered by Bennett and Jayes (1995):

'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. The approach is based on mutual objectives, an agreed method of problem resolution and an active search for continuous measurable improvements.'

A reading of the literature confirms that there is no shortage of arguments in favour of partnering, but the difficulty is balancing between pure rhetoric and the much less frequent statements of benefits supported by hard evidence. However, a consistent theme is that partnering provides the construction industry with a more efficiently way of working.

Bennett and Jayes (1995) claim that using project partnering will deliver typical cost savings of between 2-10% and with strategic partnering and that

over time the savings can reach 30%. They also claim that the cost of partnering is low, adding usually less than 1% to project cost. In addition they claim that partnering can raise service quality, deliver better designs, make construction safer, meet earlier completion deadlines and provide all parties with increased profitability. They quote examples based on case studies of productivity gains by clients, designers and managers working together of between 50 – 200%.

Barlow (1997) identifies both benefits and concerns. Amongst the benefits claimed is improved project quality, more effective use of personnel, reduced claims and litigation, better working environment, improvements in cost scheduling and profitability, responsiveness to changing business conditions and specific benefits for individual participants from strategic partnering.

One of the strongest arguments running through the literature as consistent theme is the desire to reduce adversarialism and the level of litigation and to resolve problems as they arise jointly and informally, through inter-party collaboration.

There is a culture in the public sector which is based on the idea that one-off competitive tendering is the safest way to get value from public money. However, from a public spending viewpoint, there is merit in allowing the market-place in terms of partnering to work its course and disprove this notion. If this policy is to be followed, then those charged with public spending need to be equipped with both appropriate tools to identify and sanctions to protect the taxpayer against anti-competitive behaviour, such as can result from integrated supply chains

The key areas earmarked by NHS Estates for improvement by embracing partnering principles are:

- value for money
- quality
- time
- predictability
- whole life costs

4.3.1 The key differences between the PFI and Procure 21

- PFI is project based, whereas Procure 21 is more flexible, although the batching of smaller PFI projects is also possible.

- Procure 21 Partnering is based over a range of projects, whereas the PFI approach is specific to one project.
- Continuous improvement is embedded into Procure 21 partnering and not necessarily into PFI Project.

4.3.2 How does P21 deliver VFM

- Throughout the roll-out of Procure 21 heavy emphasis was placed on turning the NHS into best practice clients not leaving the supply side to deliver all the improvements. This is being achieved through a series of training programmes to produce Project Directors – the overall client advisor. Figure 14 indicates the competencies identified by the NHS Estates for the development of best clients.

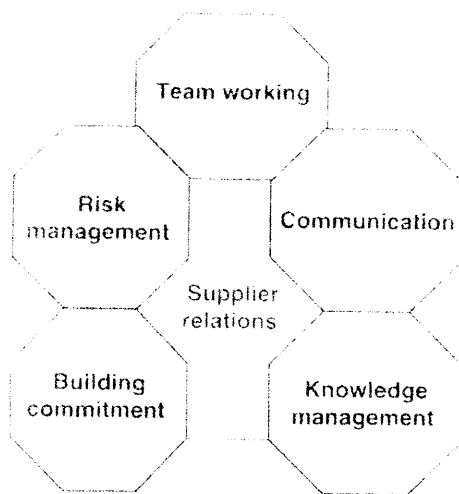


Figure 14: Best Client Competencies as defined by Procure 21
 [source: NHS Estate, www.nhsestates.com/procure21, 2005]

Best client approach is based on a win/win approach which ensures that the benefits to the NHS are not won at the expense of the supplier base, and according to NHS Estates Best Client Manual should include the following:

- Reduce red tape and bureaucracy by having clear expectations and the ability to measure what is important and resolve disputes.
- Take a long-term view to mutual development and learning and is welcoming to new ideas.
- Has a focus on quality and value for money, operating to the highest quality standard taking whole life costs into account.
- Shows trust and willingness to partner and share sensitive information.

- Is committed to increasing the speed of response through the use of technology and shared process.
- Shares rewards equitably by paying on time and seeks the potential for higher margins.

The key points identified by OGC that must be addressed to achieve VFM include:

- Integrating value and risk management techniques within normal project management.
- Taking account of whole life costing.
- Avoiding waste and conflict through team working and partnering arrangements.
- Not appointing consultants and contractors on the basis of lowest initial price alone.

Procure 21 satisfies all these requirements unlike more traditional NHS construction procurement approaches. "The greatest opportunity for achieving VFM in construction occurs at project inception" – Procure 21 promotes this by facilitating early involvement of the contractor and supply chain. [Ref. HM Treasury OGC Procurement Guidance No. 2].

4.3.3 Current Issues

- Affordability
- Limited number of projects for all the PSCPs

CHAPTER 5

Case Studies

5.1 PFI – Re-Development Queen Alexandra Hospital, Cosham Portsmouth



Figure 15: Artist Impression Ariel View – Future Look of Queen Alexandra Hospital

The following information was provided by Mr. Kevin Christon – M&E Project Leader [Crown House Technologies Limited], and is yet to be published publicly by Carillion Plc as documentation on the project.

5.1.1 Project Background

Portsmouth Hospital NHS Trust [PHNHST] has currently three hospitals; Queen Alexandra Hospital [QAH] in Cosham, St. Mary's Hospital in the middle of Portsmouth, and Haslar Hospital in Gosport. The Haslar Hospital which is for the Royal Navy has been relocated to Birmingham. Queen Alexandra and St. Mary's Hospitals are between 50 and 100 years old, so therefore maintenance costs are substantial due

to age and conditions of the buildings, thus rendering the modernisation and delivery of present health services difficult and costly.

The Trust OBC initially looked at consolidating the two hospitals on one site not necessarily at QAH as an integral part of the overall spectrum of healthcare provided within the Portsmouth area. The Trust looked at a number of sites within the Portsmouth area, and none of them was suitable, so they issued their OJEU notice in 2001, with the logic of redesign and centralise acute services at the QAH to meet modern standards including new car parking facilities.

In the re-development of QAH, the proposal is 35-years [including construction period] period PFI scheme with capital value of £243m. This was expected to reach financial close in December 2003 and become fully operational in 2009, but due to difficulties, which will be highlighted later in this report, the anticipated financial close is now December 2005. The appointment of preferred bidder took place in July 2003 [figure 16].

Event	Date
Approval of OBC by PHNHST	December 2000
Publication of notice in OJEU	January 2001
Outline Planning Consent	July 2001
Issue of PITN to 4 bidders	November 2001
Issue of FITN to 2 bidders	September 2002
Submission of FBC	2003
Appointment of Preferred Bidder	July 2003
Full Planning Consent	March 2004
Financial Close	December 2005 Originally December 2003
Full Operation of the re-developed hospital	2010

Figure 16: Re-Development of QAH Project Milestones to Date

The re-development of QAH is an integral part of overall spectrum of healthcare provided within the Portsmouth area with the following objectives:

- The re-developed facilities are fit for purpose to meet the secondary healthcare needs of Portsmouth community, increase patients' access and reduce waiting times.
- Flexible enough to support changing healthcare needs and the future strategy of the Trust.
- To deliver an excellent standard of healthcare more efficiently and to enhance provision for training and research.
- Consolidate the Trust's hospitals services onto one site, improving the utilisation of human and financial resources.
- To deliver a modern environment where current clinical best practice is the starting point for continuous improvement and patients are cared for in clean, safe, high quality surroundings that make best use of resources.
- Develop and deliver clinically safe and appropriate services.
- Provide additional capacity to relieve the pressure on the surrounding acute providers.
- Introduce new ways of working and develop integrated care pathways thus enhancing the efficiency and quality of care.
- To deliver against the NHS Plan targets.
- Create a physical and cultural environment that will improve the recruitment and retention of key clinical and support staff.
- Create an environment and ambience that will enhance the recovery times of patients thus reduce pressures on NHS budget to the Government and increase VFM to the public sector.

5.1.2 Project Scope

The project comprises the redevelopment of QAH into main acute hospital for the trust area consisting of approximately 71,000m² of new building and 10,000m² of reconfiguration to provide the following:

- Medical Rehabilitation Building (wards)
- New Pathology building with an helipad on the roof
- Refurbished Energy Centre with new equipment
- 1072 inpatients beds

- 96 medical and surgical assessment beds
- 116 day case beds
- 28 day couches/chairs
- 15 paediatric assessment beds
- 34 neonatal intensive care cots
- 25 renal dialysis stations
- 20 main operating theatres
- 3 endoscopy suites
- 2,236 car parking spaces.

5.1.3 FM Services

The FM services to be provided by The Hospital Company [refer to 17] will comprise:

Hard FM-

- Estate services including Helpdesk management
- Grounds and Gardens
- Maintenance of the facility (building services – M & E)
- Pest Control

Soft FM-

- Domestic Cleaning
- Catering
- Porterage
- Linen/laundry
- Security
- Car park management

- Resources to manage Telecommunications

5.1.4 The Project Delivery Team

The Hospital Company [THC] is the company that Carillion plc and its partner have created to develop and redevelop hospitals in the United Kingdom.

Carillion and The Royal Bank of Scotland plc form the consortium that makes up The Hospital Company for this project each with 50% equity [SPV]. To-date, THC have signed 5 healthcare PFI contracts.

THC has contracted Carillion Construction Limited and Carillion Services Limited for the construction works and facilities management respectively.

Carillion Construction limited have in turn contracted Crown House Technologies Limited as the construction managers, BDP Partnership for Architectural service, Halcrow Group Limited for the building services design and Buro Happold for the civil structural services design [Figure 17].

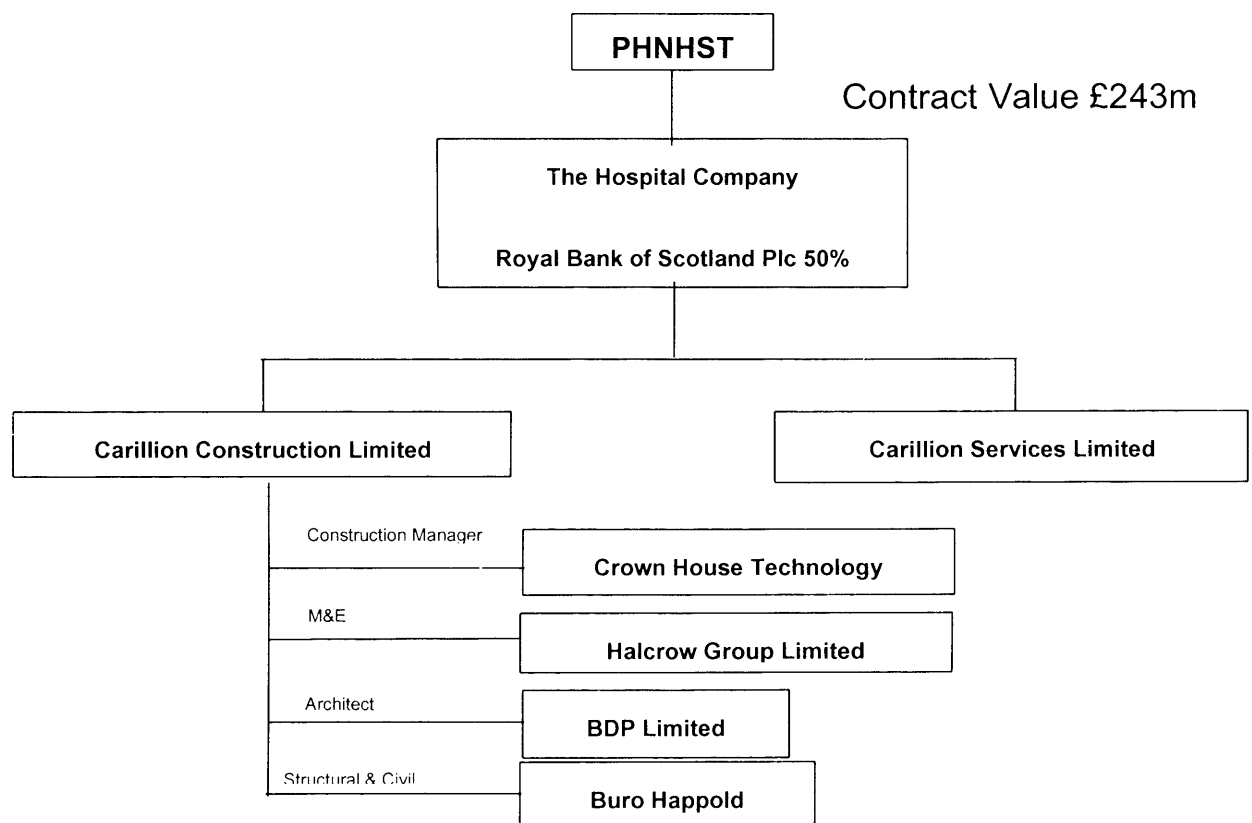


Figure 17: QAH Project Delivery Team

5.1.5 The Bidding Process

Four bidders issued their expression of interest on the OJEU contract notice in 2001, upon which the Trust (PHNHST) issued their PITN based on their Output Specification (OS) to all four bidders in November 2001. There are two parts to healthcare OS for an accommodation service PFI, first, the overall specification describing the general level of service required (Hard and Soft FM) and second, clinical OS and the specific input to individual rooms as described in the room data sheets (RDS). The mission statement defining the project strategy, purpose and objectives were outlined in the OBC.

The four bidders were reduced to two bidders, who were issued with FITN by the Trust in September 2002. The two bidders, McAlpine and Carillion returned their responses to the FITN in March 2003, and after evaluation (Figure 18), Carillion were appointed as the preferred bidder in July 2003 with the understanding that financial close (FC) would be in January 2004.

Evaluation Parameters	Weighting
Project Management Approach	5%
Design and Construction	30%
Legal and Human Resources	15%
Finance	20%
FM Services	30%
Total	100%

Figure 18: QAH Bid Evaluation Criteria [DOH, www.dh.gov.uk/QAH/ 2005]

5.1.6 Issues Delaying Financial Close

The following are some of the issues which have elongated the PFI procurement process and delayed financial close:

- Planning
- Energy Target Risk

Planning

Outline planning consent was received by the Trust before PITN, however, PFI procurement process requires the preferred bidder to achieve full planning consent before financial close. Carillion submitted their planning

application in September 2003, and it normally takes three months to get planning permission from the Local Authority. In November 2003 Carillion received notification from CABE and Portsmouth City Council Planning (group of architects who advise them), not the planners themselves that they both had strong reservations about Carillion proposals, even though the scheme had achieved outline planning. Carillion withdrew their application, and reissued with amendments and achieved full planning consent in March 2004, thus elongating the programme by five months

Energy Targets Risk

At PITN and FITN stages both Carillion and the other bidders were in sales mode. They advised the Trust that they would be able to achieve the energy target of between 45 -55Gj/100m³ for the whole re-development as this enhanced their chances of winning the bid. As with all construction projects in UK, hospitals are now required to achieve strict energy targets in line with guidelines for reducing carbon emission.

This figure was not achievable. Carillion's experience from three PFI hospitals (Dartford, Glasgow and Swindon) suggested that achievable energy targets are 75 – 95 GJ/100m³. The Carrillion's calculation was based on retained estate energy target of 44GJ/100m³ provided by the Trust to all bidders at FITN and there was no time to challenge and interrogate this figure, which has since been proved to be flawed as the Trust manipulated their figures to suit their own desires (e.g. the areas used for their calculations should not have included unheated areas such as plantrooms etc. and also the benefit of the existing incinerator which burns gas giving off steam for heating and hot water). This has taken 15- 18 months to unravel thus delaying FC, as the consumption risk is with Carillion and the price risk is with the Trust, thus incentivising Carillion to be energy efficient.

The government target for hospitals has proved impossible to meet in this case. The Project Co. are trying to be more efficient by spending less energy but the Trust is putting in more equipment (e.g. 4MRIs instead of 3) to provide better healthcare and reduce waiting list and this increases energy consumption.

Finally a blended target was agreed which incorporates the reconfiguration and new build.

To improve the programme after FC, the Trust and Carillion agreed a special contract and licence to carry out the following works before FC:

- Diversion of existing infrastructure (water mains, gas service etc)
- Piling for the new Rehabilitation building

- Cut-off the steam supply to the Southern Buildings (7No. Buildings) and provide them with temporary boiler supply and eventually with the LTHW from the CHP plant.

5.2 Procure 21 – Elyn Lodge at St Helens Hospital, Liverpool



Figure 19: Elyn Lodge at St. Helens Hospital, Liverpool – Exterior View



Figure 20: Elyn Lodge at St. Helens Hospital, Liverpool – Interior View

The following information was provided by Mr. Andrew Jowett – Procure 21 National Operations Manager [Interserve Health]. The project which received the P21 Award in 2004 Building Better Healthcare is currently under review by the DoH.

5.2.1 Project Overview

Improving the patient environment remains major priority for the NHS and this project, demonstrates how this can be achieved through an integrated supply chain approach and a commitment to teamworking.

The project OBC was developed by the Trust in-house staff, and then the PSCP was appointed to put the delivery team together.

Elyn Lodge was the first full project to be designed and constructed under the P21 banner and in July 2002 [Figure 21] Interserve Health were appointed PSCP to deliver the new 60-bed Rehabilitation ward within this busy hospital complex in its urban setting. The new ward building now provides state of the art treatment facilities that have come a long way from stroke rehabilitation wards of the past.

At St Helens, 50% of the patients have private rooms, all have personal terminals through which they can access television, radio and telephone networks allowing patients a measure of control and the ability to call relatives and friends from their

beds. The development also includes a series of facilities to help recovering patients back into the routines of daily life. Outside there is a seated communal area for socialising. There's an exercise room for physiotherapy and a therapy garden where patients' mobility can be assessed in a safe environment. A hi-tech rehabilitation suite is another feature. Here, patients can be closely monitored whilst trying to complete routine domestic tasks like cooking, cleaning and climbing. This operational facility completed in December 2003 is the first of a new generation of 21st century rehabilitation wards planned in the North West.

Event	Date
Approval of OBC by St Helen &	February 2002
Outline Planning Consent	March 2002
Trust Invitation to PSCPs for Expression of Interest and Open Day	April 2002
PSCPs Response	May 2002
Selection Interviews of PSCPs	June 2002
PSCP Chosen by Trust	July 2002
Full Planning Consent	October 2002
FBC and Agreement of GMP (Target Cost)	November 2002
Complete Design	December 2002
Start on Site	January 2003
Work Completed	December 2003
Full Operation of the Wards	March 2004

Figure 21: Elyn Lodge at St. Helens Hospital Project Milestones

5.2.2 Partnering Approach

From the very outset, every member of the team demonstrated real commitment to working together, cemented by formal partnering workshops which focussed on creating a unified vision to deliver the required benefits. It is indicative of the success of this collaborative approach that the Trust subsequently stated they viewed the project team as individuals rather than employees of an external organisation.

The project team [Figure 22] consisting of key stakeholders, Trust staff and Interserve Health set out to create an inviting, non-threatening, healing environment for long term patients, whilst offering staff optimum clinical functionality.

It is increasingly being demonstrated that design which enhances a patient's feeling of well-being and reduces stress can act as a powerful therapeutic tool to aid recovery. Good quality design also impacts on general morale, staff retention, plus other key issues such as safety, access and infection control.

The collaborative nature of the Procure 21 process encourages early supply chain involvement and interaction with users to promote dialogue and achieve the best possible design solution. Defining a project partnering statement and gaining buy-in from all parties – client, staff, patients and the local community – was an imperative early win. "Talk before you draw" were the bywords on this project. Fundamental to the P21 process is the continuing engagement with users and stakeholders throughout the life of the project. At Elyn Lodge, service delivery groups provided insight into the needs and priorities of users, whilst value management/engineering workshops were set up to explore how best value could be delivered through the prioritisation of need.

The overall layout of the wards took account of efficient space utilisation, optimum circulation routes and the creation of a healing environment. The design recognised the restorative effect of the external environment by wrapping the ward block around a therapy garden. It was also clear, through discussions with the clinicians, that more efficient use of space could be achieved through consultants sharing facilities within the two adjoining staff areas releasing more front line clinical space. There are defined intuitive circulation routes for patient care, with patients arriving in one area and being discharged from another. This logic is also applied to incoming and outgoing goods. Clinical supplies enter the building by one door and leave as clinical waste by a separate exit, thus reducing the risk of cross-infection and ensuring efficient safe circulation flow.

Finally, value engineering was employed to drive maximum value and meet the budget constraints, for example the introduction of a suspended ground floor slab (the building constructed on Brownfield site), and this solution saved the cost of improving the poor ground. In total, these workshops led to a £170,000 cost saving on the £10m budget and shaped the way the design issues were approached.

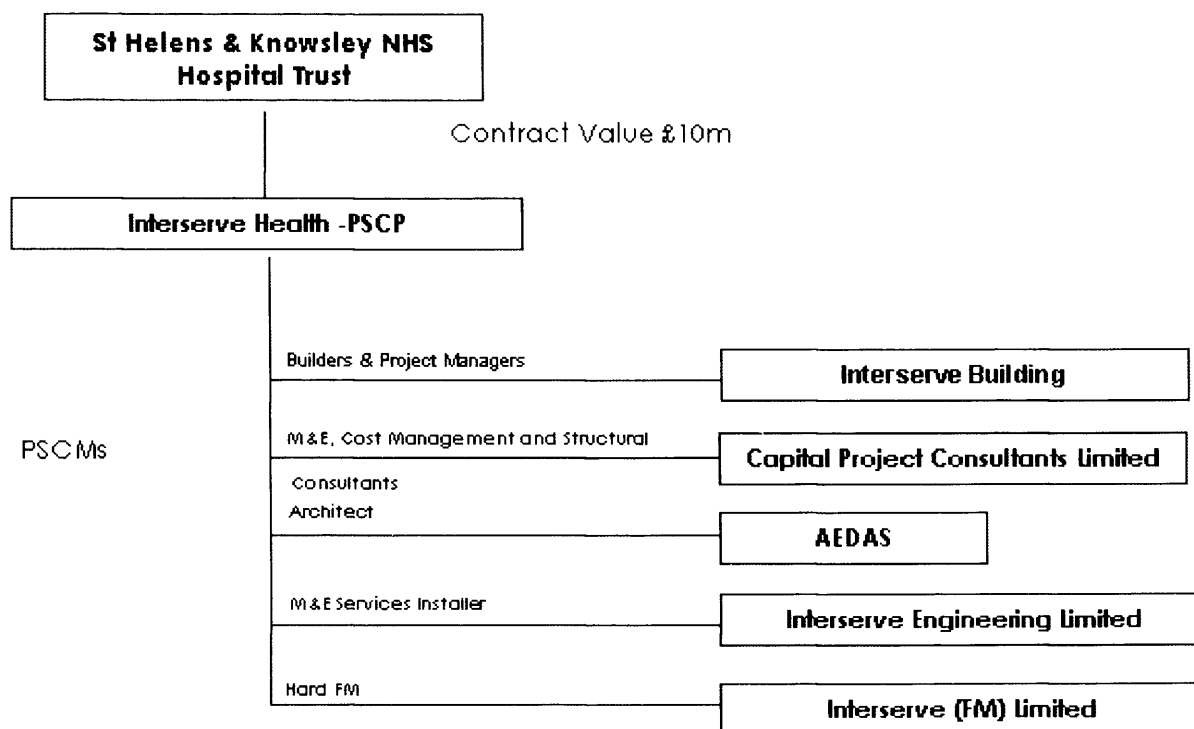


Figure 22: Elyn Lodge at St. Helens Hospital the Project Delivery Team

5.2.3 Risk Management

Formal team risk workshops were also held at key project stages. This ensured the outcome was within target cost plan and within NHS benchmark target cost comparables. Most importantly, however, it allowed risk to be transferred around the team to those best able to carry it thus driving out unnecessary risk pricing and delivering VFM. Overall, there was a dramatic reduction in the usual one year pre construction phase for this type of project.

5.2.4 Sustainability

All new hospitals are now required to achieve strict energy targets in line with the government's guidelines for reducing carbon emissions. The UK government [DTI, 2004] has committed to the legally binding target of reducing carbon dioxide and other greenhouse gas emissions to 12.5% below 1990 levels by 2008-2012. The UK government has also set a target that 10% of our electricity should be generated from renewable sources by 2010, with the aspiration that this increases to 20% by 2020. New hospitals must aim to achieve annual energy targets of 35-55GJ per 100m³.

Due to the ground-breaking nature of this project, with the design team and client partnering at the forefront of the process, all parties were also committed to developing a solution that championed engineering innovation and excellence. One such challenge was the need to integrate a natural ventilation system into the complex highly cellular interior demanded by the new patient care models.

From the outset, the project team committed to naturally ventilating the majority of the building space, looking to improve air quality in non-clinical areas [Figures 23 and 24], reducing both primary energy loads and life cycle maintenance requirements. The integration of natural daylight and ventilation into the very core of the design was also considered of particular importance on this rehabilitation ward, where patients make use of internal circulation and social areas as part of the overall recovery process.

The challenges of a cellular internal layout of such specialist wards demanded a different approach from a traditional linear ward layout. A wind pressure driven roof top system was developed and its successful integration into the project was facilitated by excellent communication between architects, engineers and the project stakeholders. A project extranet was successfully utilised to share information around the team.

The need for mechanical cooling was obviated through natural ventilation terminals achieving five air changes, together with the use of external solar shading.

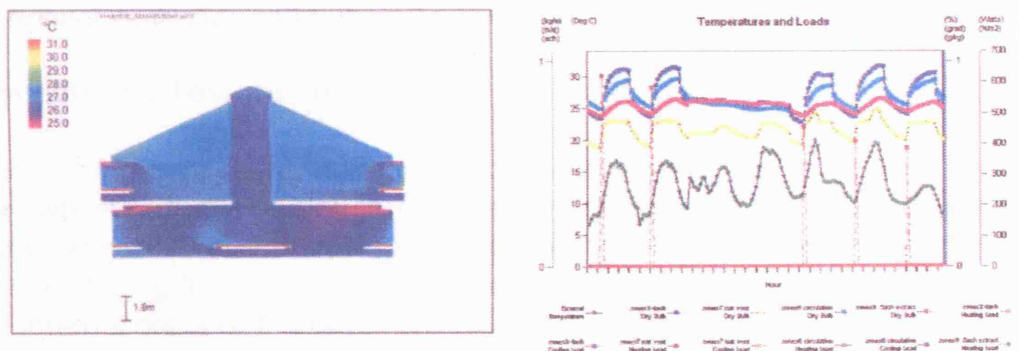


Figure 23: Thermal modelling of Elyn Lodge at St. Helens Hospital

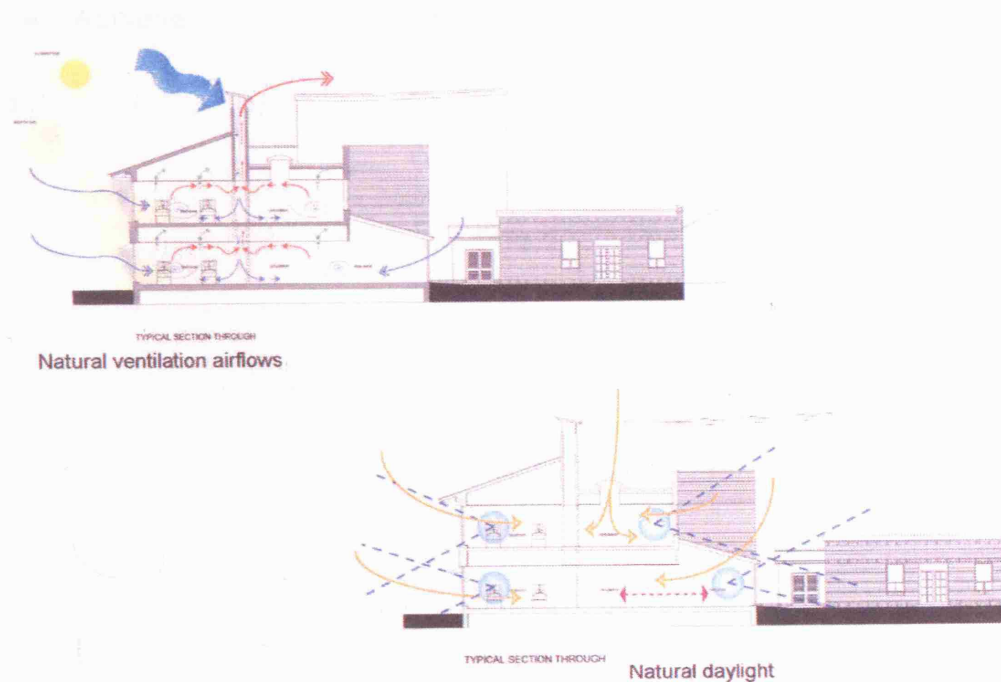


Figure 24: Natural Ventilation and Natural Daylight - Elyn Lodge at St. Helens Hospital

5.2.5 Benefits and Lessons Learnt

All circulations and core areas, nurse bases and wards benefit from natural ventilation, which reduces peak summertime temperatures, as well as enhancing the internal environment. This constitutes some 50% of the project's total floor space, significantly reducing the building's primary energy consumption. Natural daylight floods the internal areas of the building through large windows, a glass roof and roof lights.

The main learning to be derived from this aspect of the project was that using a partnering approach, those looking at clinical planning and delivery issues can draw upon the resources and advice the wider supply chain, thus informing the initial planning process to ensure that the team can deliver affordable sustainable design solutions in a patient centred environment.

This project delivered:

- On budget – works cost £1273/m² excluding VAT
- On time – 9 months OBC to GMP and 12 months design and build
- Zero defects at handover
- Zero accidents [Riddor]

- Improved life cycle costing through sustainable design
- Achieved a high level of trust and patient satisfaction.

CHAPTER 6

Conclusions and Recommendations

6.1 Conclusions

Completing projects within budget and on time avoids the need to divert funding towards paying for overruns reduces the risk of adversarial situations and behaviours, and creates stability in the whole planning and delivery cycle.

This report has shown that there is strong evidence that PFI and Procure 21 approaches are bringing significant benefits to the NHS Trusts through efficient construction processes that deliver buildings on time, to cost and quality that are cost effective to run over their whole operational life and lead to better quality services and sustainable communities and thus VFM.

In future the NHS Trusts need to weigh the prospect of such benefits in the balance with other advantage and disadvantages of using PFI and Procure 21 or alternative forms of procurement.

6.1.1 PFI

- High cost of bidding for PFI work is discouraging many contractors particularly the smaller firms, from entering the market. This means the client and indirectly, the public are not getting the best value from the full market of ideas and talent.
- There is a lot of procurement expertise being lost by not having a centralised resource. There is a great deal of one-off hospital projects where expertise and experience is not being shared.
- The HTMs are too prescriptive and ambiguous thus hindering innovation.
- The procurement process remains riddled with delays although these are shortening. There is an acute shortage of PFI tendering skill which creates delays when transferring from intent to financial close and finally construction.
- Recent report by RICS [April 2004] revealed that a massive 81% of PFI projects delivered value for money and were delivered on budget.
- Establishing a pattern of excellence in PFI procurement has been hampered by a failure to always spread best practice across the public sector, due to poor skill transfer and knowledge management.

6.1.2 Procure 21

- The opportunity to add value is restricted because the PSCPs are engaged Post OBC and thus have no input in the feasibility option studies.
- Procure 21 does offer long term value for money, the GMP gives the Trust certainty of cost, time and quality.
- It ensures that the project team is secured quickly thus making a meaningful start, including review of existing information and design which will enable the removal of risk whilst securing price delivery in this period and ensuring its final buildability.
- Reduced claims from suppliers against clients. Litigation has been non-existent on the schemes completed to date.

6.2 Recommendations

A key part of planning for any project is to consider the best method for procuring the delivery. It is believed that if the following recommendations are tactfully implemented their full benefits will be realised and will go long way to improve the VFM the public sector is seeking in the two procurement initiatives.

6.2.1 PFI

- The government should at least pay back a proportion of the bidding costs incurred by firms shortlisted for the PFI contracts as this will be an incentive for more firms to submit bids giving the public sector client better value and a bigger pool of ideas and talent from which to choose and will also help to generate multiple quality bidders and hence competition and VFM.
- The NHS should maximise private sector expertise by 'engaging' them at an earlier stage, before the preferred bidder has been selected to improve VFM through the following:
 - To encourage variant bids.
 - More discussions with bidders.
 - To reduce the prescriptive nature of output specification to client's critical requirements so not to complicate risk transfer.
- The Regional Strategic Health Authority should create procedures and process, attitudes and cultures whereby they

trap in a systematic way learning knowledge from the individual Trust who have done it before and feed it to the new project to stand up on the shoulder of the one worked on before.

- Where the hospital is old and a lot of modifications have been undertaken without proper records – Procure 21 might be the best solution to engage the contract thus managing the risk as the contractor is no more information than the Trust.

6.2.2 Procure 21

- The procurement process should be handled by the Regional Strategic Health Authority instead of the individual Trust as this will give PSCPs the volume, constancy and the visibility of work and thus the platform for investment in innovation and good practices and further enhance VFM. Otherwise it becomes short term with the individual Trusts.
- This is about healthcare and not construction, thus the more informed the PSCPs are the more they can add value to the Trust partner. There is a degree of discontinuity of Strategic Healthcare strategy and procurement; they need to be joined up.
- There should be interactions between other framework (i.e. other NHS Trusts) agreements, thus cross learning between different contracts and different frameworks.
- The greatest opportunity for achieving VFM in construction is at project inception. Thus facilitating the involvement of the PSCPs at pre OBC will enable them to add more value by assisting the Trust in the option studies. Due to the non-price nature of Procure 21 selection process (capability and quality), there is no reason why they cannot be appointed earlier to assist in the OBC.

6.3 Future Research

Suggestions for future research on related issues are

- How to use both PFI and Procure 21 on new build and reconfiguration of the retained estate respectively on the same project without eroding the VFM.
- How can the HTMs be improved to encourage innovation in the design and thus enhance VFM.

- How can the private sector partner join public sector client to boost available capital in Procure 21 to improve affordability without eroding VFM.

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Appendices

Appendix A

The Selection of Process of the PSCPS

The selection of the 12 PSCPs was very comprehensive comprising of two stages A and B.

Stage A lasted nine months and consisted: OJEU tender, financial viability tests, and an on-line Pre-Qualification Questionnaire which looked at the general aspects of the program and tested the candidate for basic competency in partnering.

Stage B consisted of site visits, partnering interviews and cost model. After references from NHS clients were evaluated the successful twelve were announced. These were;

- ACM Health Solutions Limited
- Balfour Beatty
- Carillion
- HBG Bloom
- Integrated Health Projects
- Interserve Health
- Kier Health
- Laing O'Rourke
- Medicinq
- Medicor
- Taylor Woodrow
- Wates Construction

Appendix B

Bonded Rationality, Opportunism, Asset Specificity and Ownership

Bounded Rationality

This refers to the limit of human effort in obtaining, holding, processing, and drawing inferences from information. Bounded rationality suggests satisficing—where choices are made from a relatively small number of alternatives and a tolerable action is taken rather than the best possible—as practical alternative to optimising as rule of conduct [as suggest by neo-classical economic theory].

Complete contracts [as suggested in the principal-agent theory] are expensive to draw up. Anticipating and specifying every possible state of the world with fully defined consequences for each outcome is impossible. In a long term contracts as in the PFI model this poses a problem in that the future is fraught with uncertainty and complexity¹. The needs of the client will change over the contract period, and it may be tied to payments for facilities and services that is no longer requires. Whereas in traditional procurement, such facilities may become redundant with the extra cost of their maintenance saved.

Technological improvements in equipment, buildings and infrastructure involved in the provision of the accommodation service may raise quality levels at similar OR LOWER COSTS. Innovations invariably change service delivery processes that may call for redesigning of certain parts of the built facility or upgrading the mode of service delivery, in maintaining its fitness-for-purpose. Anticipating and making provision for these events is a daunting task.

For this reason, employing an OS for both PFI and Procure 21 ensures that the procurer's view of potential future change in requirements are duly captured so that bidders are given the scope to introduce in their proposals, the necessary in-built flexibility and minimal disruption in implementing such changes.

Opportunism, Asset Specificity and Ownership

As Williamson (1985) puts it, this is when people make calculated efforts to mislead, disguise, obfuscate and confuse. In contractual relationships like that in the PFI or Procure 21 model this can be described as when a party to the transaction in pursuit of self interest with 'guile', fails to live up to and is prepared to breach mutual-interest seeking promises, if it is in his own interest to do so. Asset specificity refers to the degree to which a facility can be redeployed to an alternative use without a significant loss in its value for its owner. Ownership implies which party has residual rights to the facility.

In essence, an OS optimizes the independence of the service provision from the ownership of the facility, by specifying only standard service levels. This affords significant flexibility in the contract. Hart et al. (1997) add that if the contractor

¹ The average duration of a PFI contract according to the NAO is 25 years.

owns facilities, then cost-reducing changes to the facility can be introduced without any problems of contract renegotiation, as it has nothing to do with service provision contract with the client. Thus the sole benefactor of such changes is the contractor and this may encourage efficiency. The contractor is therefore incentivised to ensure quality through good designs embodying, cost-effectiveness, operational practices and management efficiency, fully aware of the associated high level of facility in PFI contracts.

Also, any opportunistic tendencies are effectively discouraged as payments are linked to meeting the specified standard service levels. In fact, where parties stand to suffer losses, if their guile is found out, opportunism is less. This key in ensuring that over the life of the contract, behaviour over renegotiation is consistent with the required level of performance and reinforces trust.