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# The future of construction procurement in the UK: a shift to service provision

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**Abstract:** Procurement is a process and observable phenomenon entwined both culturally, politically and practically into the fabric and history of the construction industry. Historical reviews have highlighted recent changes in procurement systems which reflect the developments within the industry as a whole. This development is argued to be influenced mainly by a myriad of inter-connected contextual drivers and issues both internal and external to the industry. Ability to adapt to change via a comprehensive understanding of these inter-connected issues is a prerequisite for the industry to better meet the requirements of the society and deliver added value to the customers. This paper reports on research findings which identify procurement issues and trends from past construction reports and uses these issues as a foundation on which to build future scenarios in the area of construction procurement. Future scenarios constructed by experts in the area of construction procurement are also presented. The scenarios depict two polarised paradigms, namely 'free market' and 'intervention', which will largely determine the future state of the industry. The scenario of health care provision suggests a developmental shift from infrastructure production to service provision, and highlights the importance placed upon delivering end user value. Future work will validate these plausible scenarios and develop an interactive simulation tool based on system dynamics (SD) principles to assist practitioner's in their decision making.
**Keywords:** competitiveness, construction industry, futures studies, historical, procurement.

## 1. Introduction

Procurement is commonly defined as the process of acquiring new products or services (Bower, 2003). There are many ways in which this process can be conducted, and is influenced by a myriad of factors including social, political, technological and environmental. Understanding this process and factors within their context are critical due to the direct and indirect influence of procurement on the future competitiveness and well-being of the construction industry. These factors have caused changes in procurement practice in the past. In the late 1960s and 70s, purchasing and procurement were generally considered to be a service to production (Farmer, 1997). Essentially, procurement was positioned in a supporting role to the manufacturing or production activities of the firm, an administrative, rather than a strategic activity (Ansoff, 1970), and one which was purely transaction based, quantified and specified. Market changes and events in the 1970's, such as the 1973 oil crisis and the impact of Japanese manufacturing, began to show the weaknesses of the traditionally disparate systems of purchase, supply and procurement. This blurring of roles continued and was mirrored in the organisational changes away from highly structured and rigid company structures to more multi-functional and cross-disciplinary companies. Indeed, the government and several industry reports had already identified the problems of relying only on contractual obligations in order to coordinate work (HMSO, 1964). Many regard that

contractually-based procurement practice has been largely responsible for the poor performance of the construction industry (e.g. Walker and Hampson, 2003).

In the last decade, procurement practices in construction have undergone a considerable transformation, partly due to a shift in the business environments in which the procurement systems operate. In the early to mid 1990's procurement experts and practitioners were involved mainly with debating the more strategic issues of the time such as privatisation, market liberalisation, and the role of culture and trust in negotiations, as well as the more traditional themes of procurement systems, contractual arrangements and forms of contract (McDermott, 1999). In the late 1990's some wider issues relating to procurement began to emerge, such as organisational learning and knowledge management, sustainable procurement and "developmentally orientated procurement systems" i.e. those procurement systems/strategies that are charged with delivering wider social or economic benefits, rather than just cost and time criteria (McDermott, 2006). Recent reports also acknowledge that the more 'softer' skills of persuasion and alignment are required by industry in order to best incorporate value creation and best practice in purchasing and procurement (FPA, 2003).

Today's clients and markets demand flexibility and innovation and consequently firms must be leaner, quicker and more proactive to keep their 'head above water' and in front of the competition. As a prime example, a holistic view of supply chain management is seen to provide the much needed competitive advantage. Procurement is no longer concentrating on operational activities, but on strategic objectives linked to the long-term survival and development of the organisations as a whole (Male, 2003). Using procurement as a 'competitive tool' brings many implications that have to be appropriately addressed before this tool can deliver the benefits promised. For instance, changing skill and attitudinal requirements penetrate organisations within the supply chain. To this end, clients have to be more active and sophisticated, whereas supply chain members have to adopt collaborative working attitudes. Appropriate incentives and rewards have to be fairly decided and given when the common project objectives are achieved. This, in turn, will heighten the motivation and satisfaction of everybody involved, hence enhancing the likelihood of delivering added value for the project. It seems that maximum benefits can only be achieved through a thorough understanding of all related issues/ factors and their complex interconnectivities. This is the crux of an ongoing project called *"Sustained competitiveness in the UK construction sector: a fresh perspective,"* or the *Big Ideas* for short, which is explained in the following section.

### *1.1 The Big Ideas: Project and Methodology*

The Big Ideas is a large multidisciplinary collaborative research project aimed at developing possible future development scenarios for the UK construction industry over the next 20 years in order to support the industry in delivering the future requirements of society and industry. The central tenet is that a better understanding of the structure of underlying issues, events, barriers and trends through their causal relationships will enable the industry to address the persistent and deep-rooted problems that have hampered its performance for many decades. The overarching aim of the research is to develop multi-level strategic frameworks and policies for sustained competitiveness in the UK construction industry. This multi-level approach should address the full spectrum of firms within construction, including small subcontractors and suppliers which are often overlooked by the mainstream performance improvement agenda. The research is grounded on the real terrain in which

these many firms operate through a thorough investigation of the current structural and cultural configurations of the industry.

The initial stages of this work involved reviewing the many construction futures reports which had been published in the last 8 years in the UK and internationally (Harty *et al*., 2006a). More than 300 separate issues were identified from this literature and content analysis was used to group these in high-level clusters of related issues (Soetanto *et al*., 2006). These issues were used as a basis for developing future scenarios, which can be used as a tool to explore plausible states and pathways to an envisioned future. From this literature analysis and review, procurement was identified as one of a series of important issues for the future (Harty *et al*., 2006a). Interviews with two procurement experts were conducted to capture their perceived future scenarios in their chosen disciplines. These interviews, lasting about two hours, yielded detailed maps of issues, drivers and barriers, together with an associated recorded verbal narrative of the maps. This data was then converted into pictorial Visio™ maps (depicting relationships between issues, events, barriers and outcomes) and an associated textural explanation of the scenarios. Further detailed description of the methodology is presented elsewhere (Harty *et al*., 2006b).

The first interview scenario concerned two paradigms of ‘free market’ and ‘intervention’ and their impacts upon the possible developmental pathway of the industry. This resonated closely with the second interview regarding the trend in the procurement of healthcare facilities. In reflection, the first indicates the general trend in construction procurement, whereas the second provides a specific example of how the trend is enacted in practice. A brief historical development of this subject is presented as follows.

The project has also undertaken further work in the area of procurement comparing recent procurement initiatives with both an analysis of the changes within the industry and the actual business path developments of a number of construction firms i.e. firms’ responses to the procurement initiatives (Kao *et al*., 2006).

## 2. Healthcare Procurement Today

In May 2000, UK Ministers launched 'Sold on Health', jointly with Her Majesty's Treasury and the Public Services Productivity Panel (NHS Estates, 2000). The document set out a range of programmes to improve the NHS's planning, procurement, operation and eventual disposal of its estate (NHS, 2006a). These include NHS ProCure21 as a direct response to the government report 'Achieving Excellence' (OGC, 2006). ProCure21 was developed by NHS Estates with the main objective of promoting better capital procurement in the NHS by developing a partnering programme using pre-accredited supply chains engaged in a long-term framework agreement. The aim was to cut out waste and duplication of effort in the tendering process, but also to bring the best of the construction industry together to deliver better value for money and in the end better clinical facilities for patients (NHS, 2006a). It was intended that ProCure21 would negate the need for traditional adversarial procurement and tendering by using pre-agreed supply chains and long-term framework agreements managed by Principal Supply Chain Partners (PSCPs). Under NHS ProCure21, it was recommended that the PSCPs were involved in a project from the outset, to contribute to the planning and design phases, encouraging long term, collaborative working to achieve quality. Two hundred and thirty projects are currently underway using ProCure21, with 54 completed (NHS, 2006b).

LIFT (Local Infrastructure Finance Trust) was announced in the NHS Plan in 2000 and involves private businesses taking over the ownership, financing and management of public sector infrastructure and services and tying the public sector into exclusive long-term contracts with private sector companies (Unison, 2003). The plan was for health and social care premises (e.g. GP's surgeries) to be built or refurbished and owned by new profit-making companies made up of public and private sector partners, with the private sector having a controlling interest. These would then be leased back to NHS bodies, GPs, local authorities, possibly voluntary sector and commercial organisations.

### *2.1 Healthcare Procurement Today and in the Future*

The government's Sustainable Procurement Task Force was launched on 12 June 2006, charged with drawing up an action plan to bring about a step-change in sustainable public procurement so that the UK is among the leaders in the EU by 2009 (SPTF, 2006a). The Task Force recognised that this was important in moving the country towards a more sustainable economy, partly because the public sector's equivalent spend of 13% of GDP is capable of stimulating the market for more sustainable goods and services and partly because only with government leadership can the consumption patterns of business and consumers be shifted onto a more sustainable path (SPTF, 2006b). The Task Force presented a National Action Plan with six key recommendations for government, namely lead by example, set clear priorities, raise the bar, build capacity, remove barriers, and capture opportunities. The National Action Plan is intended to give government a clear direction on how to make real progress toward better, more sustainable procurement which will in turn allow it to move forward on sustainable development and set an example both to business and consumers in the UK and to other countries.

Organisations such as Building Futures have identified the future trends in the construction and healthcare industries in order to generate debate about their future paths. An example is the 2020 Vision research project, which identified the current social, economic and technological trends and how they might influence the design of healthcare environments over the next 20 years (Building Futures, 2001). They found that over the next 20 years the UK will experience:

1. very rapid developments in information and medical technology;
2. a demographic shift to an increasingly aged population;
3. citizens becoming more informed about healthcare choices and decisions;
4. modernization of the health and construction industries (including new forms of procurement);
5. new IT will change the location of different parts of the health service;
6. public access to health information will continue to grow rapidly; and
7. tele-medicine will bring care closer to the patient.

Other recent futures work has also looked at specific areas of the health sector, such as the 2029 report (IAF, 2005) which produced four alternative timelines for the future of biomedical R&D, together with recommendations for the future of healthcare provision.

## 3. A Shift to Service Provision

Many leading practitioners in UK construction are becoming aware of the increasing move away from product delivery towards the delivery of clients' needs through service provision. This shift from product delivery to service provision is already well established in aerospace, defence and manufacturing procurement. Several well known traditional construction contractors have in recent years re-listed themselves on the Stock Exchange as service companies, the main reason being the changing procurement policies in both the public and private sectors. This, coupled with the extensive market segmentation in construction means that the companies have to team up together in order to possess the necessary financial 'weight' to win these increasingly larger and larger contracts. Public Private Partnership (PPP) and Private Finance Initiative (PFI) schemes have been extensively used for public sector procurement in the UK such as hospitals, prisons and schools and has resulted in a significant degree of supply-side consolidation and re-positioning of firms. 'Prime contracting' and other types of serial contracting arrangements provide the basis for clients to evaluate competence on the basis of service provision, the idea being that this approach encourages cost reductions by improving the capacity for supply-side innovation and increased efficiency. Concerns do remain however, regarding perceived value-for-money and design quality within PFI/PPP. This is mainly due to concerns on how much actual innovation and collaboration these procurement routes encourage as it is suggested that much of the work within these consortia is still undertaken by disconnected teams and sub-contractors, and that the owner/operator/maintenance operation frequently find it difficult to influence the actual design decision-making process.

Hughes (2003) provides an insight into how the future of the industry might look if these trends in procurement and service provision continue:

> "*Integrated procurement systems became strategic alliances. Strategic alliances were formed in the name of partnership, mutual trust and collaborative working practices. Loosely based on limited networks of trading partners, they formed the basis for more formalized business relationships within groups of companies up and down the supply chain. Strategic alliances became mergers and acquisitions, increasing consolidation of the market into a few major conglomerates. These became so large that they were capable of funding PFI and PPP projects without the support of the banks, and selling completed schemes to pension funds provided them with the cash that they needed to invest in new ones. The consolidation of businesses affected the whole construction sector. As the trend toward leasing rather than buying gathered pace, most of the SMEs in the sector found that work dried up unless they joined in a strategic alliance. Eventually they were bought out or they simply went insolvent.*"

## 4. Two Alternative Future Scenarios for Construction Healthcare Procurement

As outlined earlier, 2 experts were interviewed to capture their perceived future scenarios for procurement, including the identification of the inter-linked issues, drivers and barriers. The first scenario concerned two paradigms for procurement of 'free market' and 'intervention' and the second outlined the possible trends in the procurement of healthcare facilities in practice.

### *4.1 Scenario: "Two Procurement Paradigms and Their Possible Outcomes" (see Figure 1)*

The manner in which the procurement of services is planned and implemented, has a great impact on the future state of society. Two contrasting scenarios are viewed to exist and are driven by the extent of control or governance. They are 'free market' and 'interventions accepted'. In many ways, they resemble two opposite paradigms of economic governance, the 'capitalist' and 'socialist'. In reality, the market situation (such as in the UK) is often in-between these two extremes. The balance is influenced by many factors such as the political situation, leadership changes, and the international money market. Two possible future states are hypothesised to represent the 'good' and 'bad' outcomes. The 'good' outcome is seen to be an industry that emphasises continuous performance improvement in cost, speed, quality, safety, sustainability, pattern of employment, and community benefits. In contrast, the 'bad' outcome is an industry with poor time and cost performance, poor health and safety, and with no consideration for sustainability (social, economic and environment). 'Free market' and 'interventions accepted' tend to, but do not necessarily yield 'bad' and 'good' outcomes. A few exceptions may occur however, that lead to the other way around. The two scenarios are described as follows.

Free market

The driver for the 'free market' trend emerged in 1968, when the Labour party introduced their monetary policy, under pressure from the International Monetary Fund (IMF). This trend continued, reinforced by Thatcherism during the years of Conservative government. The principal reason for the privatisation of public sector is the increasing demand for better quality infrastructure that can not be met by the public purse, and therefore needs a shared funding from private investment. To one extreme, this could lead to the private sector providing 100% of the required investment. Within this regime, several emerging problems are seen to exist, including shortage of funding, cost being too expensive, and lack of management expertise. These will exaggerate the level of fragmentation (especially the client base) and the absence of aggregate procurement. This free market may result in a lack of long-term investment including no training and R&D, and a poor level of satisfaction. Overall, the sum of procurement decisions do not create an efficient construction sector, leading to a 'bad' outcome. However, properly managed privatisation may yield to aggregate procurement, achieved through an integrated programme of deliveries, which may yield a 'good' outcome.

Acceptance of interventions

Interventions can have a positive and/or negative impact. On the negative side, industry / government policy initiatives (e.g. legislation / planning) can lead to 'initiative overload'. The difficulty of changing existing culture can negate the implementation of these initiatives and create an attitude of ignorance. Also, intervention-laden procurement may stimulate the emergence of collusion and corruption. All these will divert the intention of intervention towards a 'bad' outcome. A positive exemplar of intervention on procurement is modern procurement, which considers wider criteria, more than traditional cost, speed and quality. Used properly, modern procurement systems can appoint design and construction teams based upon criteria that will create the behaviors that will lead to the industry that we desire. Modern procurement embraces principles of strategic procurement, prequalification criteria and invitation to negotiate, emphasising best value rather than lowest price competition. Recent research has commended the use of tools to capture stakeholder's values and criteria such as VALiD and DQI. This value-based procurement system will positively shape the market and the structure of the industry. Key players will concentrate on market

specialisation by type (e.g. health care) and region. They will be more effective and efficient, and engage designers, suppliers and subcontractors in real sense in their quest for best value. Modern / strategic procurement will mitigate against capacity issues where everyone is 'playing the game properly', leading to more work and a more predictable workload. This will deliver more for less and a better quality product at lower cost. The resultant outcome will be a superior industry, in terms of efficiency, employment, H&S, R&D, and more and better buildings for society.

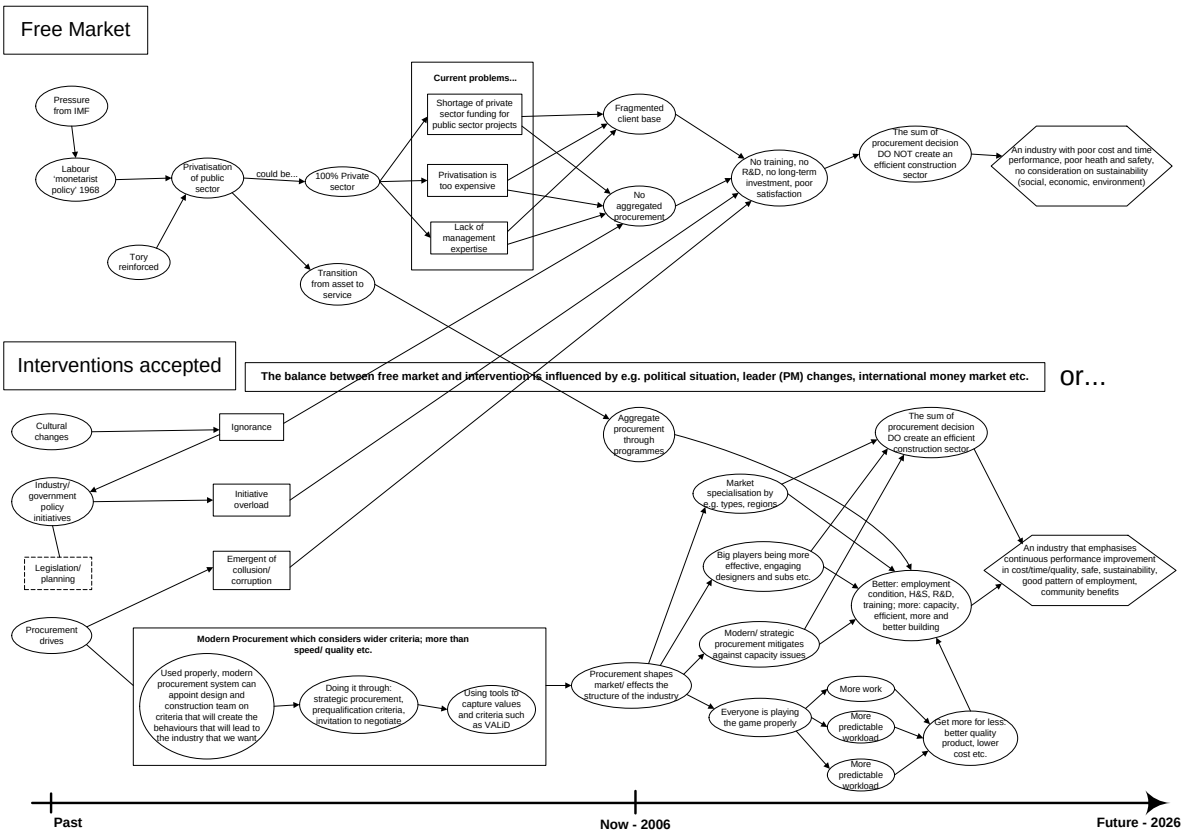



**Figure 1 Two paradigms of 'free market' and 'intervention' and possible future outcomes**

### *4.2 Scenario: "Trend of Commissioning Services" (see Figure 2)*

The biggest driver in the healthcare business at the moment is the procurement of services, not facilities, which has an enormous impact on the supply chain. This trend is towards output rather than specification. For some, this is synonymous to 'backdoor privatisation' as if privatisation in the Thatcher era has emerged in a different guise. For the contracting business, this trend requires different skill sets to respond to tender. Contractors are being 'pushed down' the supply chain to service suppliers. This would also mean that they may wish or need to establish partnerships and/or joint ventures to obtain the necessary skills. They may also procure Doctors from abroad (e.g. Poland). By law, EU governments can not employ doctors from other countries, but private sectors are permitted to do so. This would also mean more overheads for the contractors and the Department of Health. Several potential barriers should also be considered by the potential contractors, such as establishing 'true

partnership', the amount of risk to take, the allocation of risk to appropriate parties, and level of competition.

The pertinent question concerning this major shift is the quality of service provided, i.e. what happens to the standards? Government will set minimum standards for services and review the existing standards in the UK. In the future, comparison of standards will be undertaken against EU countries and others globally. These comparisons will stimulate innovations and enhance design, as well as competition. This trend opens up alternatives for the provision of services, such as the mixed use of buildings and the use of mobile facilities. Although these alternatives may provide flexibility and an economical solution, issues such as infection control do exist.

Overall, the trend towards providing services will dramatically change both health provision and care, but there are technical, social and cultural barriers that need to be overcome.

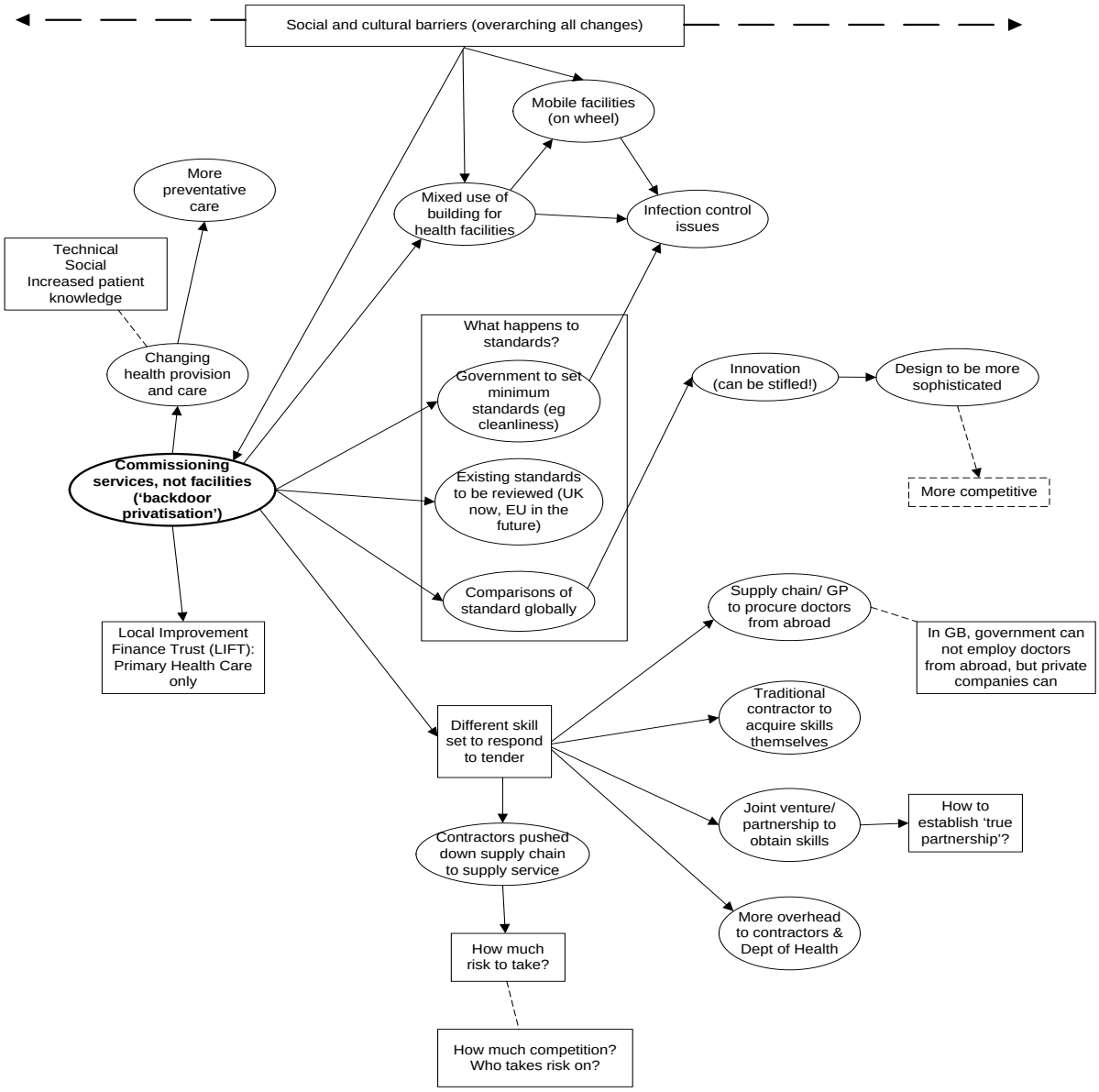



**Figure 2 Trend of commissioning services in the healthcare sector and their implications**

## 5. Modeling procurement

In order to understand the internal interconnectivities within the industry and the external interconnectivities between the industry and its environment and how these inter-relate, a methodology, called System Dynamics (SD), is employed to enable systemic interconnectivities to be modeled and analysed. SD has been selected as a modeling technique for this project, due to its capability to model systems with the purpose of improving behavioral understanding of the system. The construction industry and its wider environment are considered to be complex in terms of their components and inter-relationships. SD offers a technique that models these components and inter-relationships in a methodological rather than intuitive fashion. The early phases of SD modeling share similarities with case study methodology. Initially they both gather and organise information from the actual case. However, the case study leaves the information in a descriptive form whereas SD takes the information and simulates it to reveal the variety of dynamic behaviors that result from different policy choices. It is felt that the technique is appropriate for modeling construction as it is particularly adept at modeling complex entities.

In this project, the technique will be capable of modeling and simulating the trends and structural factors that are identified to produce scenarios. These scenarios will provide an insight into the construction industry's behavior to enable key policy makers to review existing policies and determine appropriate policies for future implementation. SD is also being used to help interpret the findings from the classical literature and construction company case studies that have been undertaken as part of the Big Ideas project, the results of which are published elsewhere (Fleming *et al*., 2006).

## 6. Conclusions

This paper has presented some background on the history and present status of construction procurement in the UK heathcare sector. Two future scenarios constructed by experts in the area of construction procurement have been presented which depict a general shift from infrastructure production to service provision, with one providing examples of two possible future markets, 'free market' and 'intervention'.

The purpose of these scenarios is not to predict which is going to happen, but to generate open debate amongst practitioners and policy makers so that plans can be put in place to ensure that the industry progresses towards the more 'desirable' future, whilst simultaneously being aware of the risks associated with the 'less-desirable' scenario. The scenarios are considered as stakeholder sensitive. When discussing possible future scenarios, it should also be remembered that one individual's 'desirable' outcome can often be another's 'undesirable'.

Future work will validate these plausible scenarios and develop an interactive simulation tool based on system dynamics (SD) principles to assist practitioner's in their decision making.

## 7. Acknowledgements

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## 8. References

Ansoff, H. (1970) *Corporate Strategy*. Pelican, London.

Bower, D. (2003) The role of procurement in the construction industry. In *Management of Procurement, Bower*, D. (ed.), Thomas Telford Publishing, London.

Building Futures (2001) *2020 Vision: Our Future Healthcare Environments*, www.buildingfutures.org.uk, joint CABE/RIBA report, ISBN 0117028010.

Farmer, D. (1985) *Purchasing Management Handbook*. Gower Publishing, London.

Fleming, A., Larsen, G. and Kao, C. (2006), *The development of a competitive index for construction firms to enable informed procurement*, paper submitted to CIB W92 conference, 29/11 - 01/12/06, University of Salford, UK.

HMSO (1964) *The Placing and Management of Contracts for Building and Civil Engineering Works (The Banwell Report)*. HMSO, London.

Kao, C., Larsen, G, Soetanto, S. and Goodier, C. (2006) *Understanding procurement methods in practice: an alternative perspective*, paper submitted to CIB W92 conference, 29/11 - 01/12/06, University of Salford, UK.

Unison (2003) *LIFT: a Briefing for Non Experts*. Local Information Unit 2003, UNISON Stock No: 2235, ISBN 190373150X.

Future Purchasing Alliance (2003) *Connecting Purchasing and Supplier Strategies to Shareholder Value*. FPA, UK.

Harty, C.F., Goodier, C.I., Soetanto, R., Austin, S.A., Dainty, A.R.J., Price, A.D.F. (2006a) The futures of construction: a critical review of construction futures studies. *Construction Management and Economics* (in press).

Harty, C.F., Goodier, C.I., Soetanto, R., Austin, S.A., Dainty, A.R.J., Price, A.D.F. and Thorpe, A. (2006b) Scenario development: a methodology for aligning contemporary practices with the potential futures of UK construction. In *Proceedings of ARCOM Twenty-second Annual Conference*, Boyd, D. (*ed*.), Birmingham 4-6 September, pp. 601-610.

Homer, J., Ritchie-Dunham, J., Rabbino, H. Puente, M., Jorgensen, J. and Hendricks, K. (2000) *Toward a Dynamic Theory of Antibiotic Resistance*. *System Dynamics Review*, 16(4), Winter, 287–319.

Hughes, W. (2003) *De-professionalized, automated construction procurement*. In *The Professionals' Choice: The Future of the Built Environment Professions*, Build Futures report for CABE/RIBA.

Institute for Alternative Futures (IAF) (2005) *The 2029 Project: Achieving an Ethical Future in Biomedical R&D*. Alexandria, Virginia, USA, www.altfutures.com.

Male, S. (2003) Future trends in construction procurement: procuring and managing demand and supply chains in construction. In *Management of Procurement*, Bower, D. (*ed*.), Thomas Telford Publishing, London.

McDermott, P. (1999) *Strategic and emergent issues in construction procurement*. In Procurement Systems: A Guide to Best Practice in Construction, E&FN Spon, London.

McDermott, P. (2006) *Think Piece: Policy through Procurement?* In The Future of Procurement and its Impact on Construction, a workshop of Joint Contracts Tribunal & the University of Salford, 19/07/06.

NHS (2006a) from www.nhs-procure21.gov.uk.

NHS (2006b) *ProCure21 Elements-Facts and Figures*, from www.nhs-procure21.gov.uk.

NHS Estates (2000) *Sold on Health.* NHS Estates, Leeds, UK.

OGC (2006) *Achieving Excellence*. Office of Government Commerce (OGC), www.ogc.gov.uk/guidance_achieving_excellence_in_construction.asp

Soetanto, R., Dainty, A.R.J., Goodier, C.I., Harty, C.F., Austin, S.A., Price, A.D.F. and Thorpe, A. (2006) Synthesising emerging issues within key futures study reports in construction. Accepted for publication in: Construction in the XXI century: Local and global challenges, Joint Int. Symp. of CIB Working Commissions W55, W65 and W86, Rome, 18-20 Oct. 2006.

SPTF (2006a) *Sustainable Procurement Task Force*. www.sustainable-development.gov.uk/government/task-forces/procurement/

SPTF (2006b) *Procuring the Future- Sustainable Procurement National Action Plan: Recommendations from the Sustainable Procurement Task Force*, Department for Environment, Food and Rural Affairs, PB11710, London, downloaded from: www.sustainable-development.gov.uk/government/task-forces/procurement/

Walker, D. and Hampson, K. (2003) Preface. In *Procurement Strategies: A Relationship-based Approach*, Walker, D. and Hampson, K. (*eds*.), Blackwell Science Ltd, Oxford.