

Procurement Development in the UK Construction Industry – A Literature Review

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Abstract

The UK construction industry, over the years, has been flooded with initiatives and programmes of reform. These initiatives include Value Management, Quality Assurance, Quality Management, Private Finance Initiatives, Key Performance Indicators, Procurement Strategies to name but a few. None of these initiatives has help solved the problems in the industry. Some of these initiatives (e.g. Private Finance Initiative) have been proved to be disastrous. Though the industry appears to have reached initiative exhaustion, Construction Procurement is currently undergoing new initiatives under the Conservative-Liberal Democrat Coalition Government. This paper presented literature review of procurement development in the UK construction industry with the aim of exploring recent procurement developments and innovations in the industry.

It was established that though procurement has undergone metamorphosis over the years, (from Traditional, to Management, to Design & Build and currently Cost Centred methods) with the aim of discovering the magic method that will solve the industry's problems, it could be concluded the development is like going round in circle. The new set of procurement strategies (Cost Led, Integrated Project Insurance and Two-Stage Open Book Strategies) are nothing different from the Traditional approach. However, most of the UK Government initiated reports have criticised procuring projects through the Traditional approach. They recommended the need to adopt options like Design & Build, Partnering and PFI. The Author believes that the recent attempt to invent the Cost Centred methods is nothing different from going back to the Traditional method.

Keywords

Construction, Procurement, Contract, Cost Led Procurement, Integrated Insurance Procurement, Two-Stage Open Book Procurement

1. Introduction

The UK construction industry, over the years, has been flooded with initiatives and programmes of reform. These initiatives include Value Management, Quality Assurance, Quality Management, Private Finance Initiatives, Key Performance Indicators, Procurement, to name but a few. Seeney (2010) argued that none of these initiatives or reforms has proved to offer the complete solution to the vast documented problems confronting the industry. Though the industry appears to have reached initiative exhaustion (Seeney, 2010), the author believes the subject of construction procurement is still in the developing stage. This paper presents literature review of development of construction procurement in the UK construction Industry.

This section (Section 1) defines the concept of procurement in the context of this paper followed by overview of common procurement phrases. Section 2 addresses procurement genealogy, examines the Influential UK Government reports that has impacted construction procurement and finally appraise the current procurement development under the UK Government Plan for Growth 2011. The last Section provides the authors concluding comments.

1.1 Definition of Procurement

The term procurement has a wider application in different industrial sectors including commerce, manufacturing, defence, agricultural and construction. Different writers, professionals and researchers, have defined the subject differently. These definitions vary in accordance with the sector in context (Suliaman, 2008). Construction is a complex industry with most projects designed and constructed by temporary multi organisational teams (Rowlinson, 2000) that are usually geographically distant and functionally disparate (Rowlinson, 2006). This complexity is mirrored in the varied definition of the term procurement as perceived by various experts in the industry.

A search through the Oxford Dictionary of Construction, Surveying and Civil Engineering did not find any explanation for the word 'procurement'. However the Oxford English Dictionary defines procurement as "the act of obtaining by care or effort, acquiring or bringing about". Hibbert (1991) adopted this dictionary definition arguing that, this way, the concept raises consciousness of issues involved both in demanding generally accepted practices and establishing strategies.

Rowlinson (2000) defined procurement as combination of activities involved in obtaining a new building including the process of dividing associated risks and obligations to the various parties involved in the project. Ramus et al (2008) also see procurement as the overall processes of acquiring a building. According to Ireland (1985), procurement as an overall management structure and specific management practices in use on a project. El-Hasia (2005) and Suliaman (2008) agreed with Ireland to some extent but however shared the opinion that the most complete construction procurement definition is the one proposed by the International Council for Building and Construction (CIB) Working Group 92. The CIB Working Group 92 defines procurement as the framework within which construction is brought about, acquired or obtained (McDermott, 1999). According to Leonard and Mohsini (1998), procurement is a strategy to meet client's development and operational requirements with respect to the provision of construction project for a discrete life-cycle. To Udom (2013) construction procurement is a series of processes and activities employed to secure the erection of a predefined built structure such as buildings, electrical plants, etc.

1.2 Common Procurement Phrases

Another angle requiring critical review is the common phrases associated with construction procurement including '*procurement method*', '*procurement path*, and '*procurement system*'. The rest are '*procurement policy*', '*procurement strategy*' and '*contract strategy*'. Such proliferation of definitions, and their use, is widely accepted in the Construction Industry (Love, et al 1998). Though these terms are used synonymously (Fellows, 1993; Hibberd and Basden, 1996; Love, et al 1998; El-Hasia, 2005; Potts, 2008), the National Audit Office (NAO) report *Procurement and Contract Strategies* provided a distinct differentiation. According to the NAO Procurement Strategy identifies the best ways of achieving project objectives and the way to achieving such strategies is what is called the procurement routes. The chosen (procurement) strategy influences risks allocation, project management requirements, design strategy and the employment of contractors and consultants (Potts, 2008).

2. Procurement Development in Construction

Construction procurement remained relatively unchanged for over 100 years prior to the Second World War, with the Traditional method being the main form. The concept has undergone several metamorphoses post 1945. This section of the paper addresses procurement genealogy, examines the Influential UK Government reports that have impacted procurement and finally appraises the recent procurement development under the UK Government Plan for Growth 2011.

2.1 Genealogy of Procurement

The concept of procurement has a long standing history. Brumer (2013) traced back this history to the Egyptians. He explains that the Egyptian scribes utilised procurement strategies during the pyramid-building programs back in 3000 BC. Coe (1989) also argued the earliest procurement originates from Syria, dating back between 2400 and 2800 BC. Coe explains that the earliest procurement order was for fifty jars of fragrant oil for 600 small weights grain which was written on a red clay tablet. El-Hasia (2005) is with the view that evidence of earliest historical procurement is the development of the silk trade between China and Greek colony in 800 BC. Procurement gained in importance during the industrial revolution with the main employers of procurement strategies being courts, war and construction (Brumer, 2013). The first procurement text book: *The handling of railway supplies: Their purchase and disposition* was published by Marshall M. Kirkman in 1887. Though procurement development dates far back in history, as evidenced above, the world wars were the high points of procurement. This implies the most crucial developments all happened in the last four decades.

Procurement has gone through several developments from the medieval age through to 21st Century; this development has brought about several forms of procurement – from the Traditional to the Integrated Method. Though the traditional procurement method remained relatively unchanged for over 100 years prior to the 2nd world war, newer forms of procurement methods emerged post 1945. Lamrmour (2011) argued that the rise and fall of the UK economy after the 2nd world war saw a number of different procurement methods. She added that new methods fell in and out of favour depending on trends in the industry.

There are currently different types of procurement strategies. These procurement types have been developed over the years and are still developing. They range from the pre-historic Traditional Strategy to the recently Integrated Project Insurance Strategy which is currently undergoing piloting. Each of these strategies provides the construction client a choice of various management structures, and varying degrees of client risks (Ramus et al, 2008). Ramus et al (2008) highlighted the difficulty involved in classifying these procurement strategies into discrete categories, as they sometimes share common attributes.

Dates	Economic milestone	Construction activity	Procurement trends
Pre-historic	Few corporate clients		Traditional procurement
1900 – 1945	Few corporate clients		Traditional procurement;
1946 – 1969	Post-war regeneration	Rebuilding post war Britain	Cost re-imburement
1970 – 1980	High interest rate, circa 25% p.a.	Property boom	Management Procurement Two-stage tendering
1981 – 1989	Financial regulation; privatisation; stock market clash	Property slump 1980 – 84 Property boom 1985 - 90	Management Procurement
1990 – 2000	Globalisation; low interest rate, world economic slump	Property slump 1980 – 84 Property boom 1985 - 90	Partnering; PPP/PFI
2001 – 2008	Globalisation; sustained economic growth; property boom	Property boom	Prime contracting; Management procurement
2009 – 2012	Sub-prime market collapse; property burst	Property slump Credit crunch;	Design & Build
2013 – onwards	Cost cutting;	Double dip recession; public sector spending cut	Cost Led; Integrated Project Insurance

Table 1: Genealogy of Procurement (Adopted from: Cartlidge, 2010)

2.2 Influential Reports

The past 70 years has seen publications of significant numerous reports on the state of the UK construction industry. Most of these reports (see table 2) were commissioned by the UK Government's Office of Government Commerce (OGC) and the National Audit Office (NAO).

Item	Date	Author	Report Title
1	2012	Procurement & Lean Client Task Group Report	Government Construction Strategy
2	2005	National Audit Office Report	Improving Public Services through Better Construction
3	2003	National Audit Office Report	Achieving Excellence in Construction Procurement Guides
4	2002	The Egan Report	Accelerating Change
5	2001	National Audit Office Report	Modernising Construction
6	1998	The Egan Report	Rethinking Construction
7	1994	The Sir Michael Latham	Constructing the Team
8	1988	NEDO	Faster Building for Commerce
9	1983	NEDO	Faster Building for Industry
10	1975	The Wood Report	The Public Client and Construction Industry
11	1970	Large Industrial Report	
12	1966	The Tavistock Studies into the Building Industry	Interdependency and Uncertainty
13	1965	The Tavistock Studies into the Building Industry	Communications in the Building Industry
14	1964	The Banwell Report	The Placing and Management of Contract for Building and Civil Engineering Work
15	1962	The Sir Harold Emerson Report	Survey of Problems before the construction Industry
16	1948-1950	The Philips Report on Building	The Working Party Report to the Minister of Works
17	1944	The Simon Committee Report	Placing and Management of Building Contracts

Table 2: UK Influential Construction Reports (Adopted from: Cartlidge 2010)

Several arms of the industry including the Royal Institution of Chartered Surveyors (RICS), the Chartered Institute of Building (CIOB), the Association of Project Managers (APM), just to mention a few, have all produced numerous reports about the state of the UK construction industry.

Potts (2008) identified a common theme – poor procurement – in most of these reports. He explained that most of these reports highlighted the inefficiencies of the procurement strategies in-use in the UK construction industry. Though most of these reports made recommendations for improving the procurement strategies, amongst other issues, such recommendations were ignored due to poor client involvement and absence of follow-up legislations to reinforce such recommendations (Brook, 2008; Potts, 2008; Ramus et al, 2008; Cartlidge, 2010). One report which the author believe, is currently receiving the needed attention is the recent Government Construction Strategy Report, produced by the Procurement & Lean Client Task Group. The impact of this report is assessed in Section 2.4 of this paper.

2.3 Procurement Trend in the UK

Royal Institution of Chartered Surveyors (RICS) undertakes UK wide survey every few years since 1985. The most recent editions are: Contracts in use 2004; Contract in use 2007 and contract in use 2010. The RICS

describes this survey as “... the single most authoritative survey of construction contracts used in the UK market ...” (RICS, 2010).

2.3.1 The RICS Contract in Use Survey

The RICS Contracts in Use surveys, whilst not necessary a study of procurement trends, provides useful overview of the Procurement trend in the UK construction industry (see figures 1 and 2). Figures 1 and 2 (adopted from RICS Contract In use surveys) provide a summary of the procurement trends since 1987. According to RICS (2010), the survey attempted to sample all building work undertaken in the UK, both new build and refurbishment; it is worth noting that only 3 to 15% of total value new projects were captured. The number of surveys returned in each of the years 2007 and 2010 survey was almost half the number in the previous years. RICS (2010) noted the 2010 survey captured only 3.9% of new work in the UK and describes this as very disappointing of all the surveys.

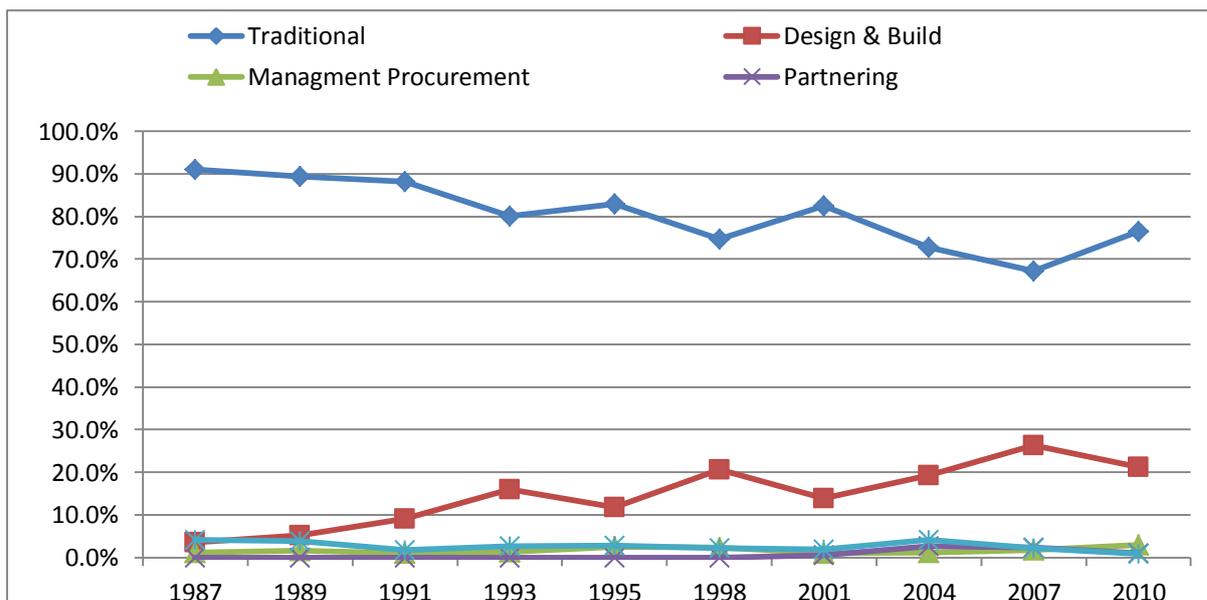


Figure 1: Trend in Methods of Procurement – by numbers of contracts (Adopted from: RICS 2010)

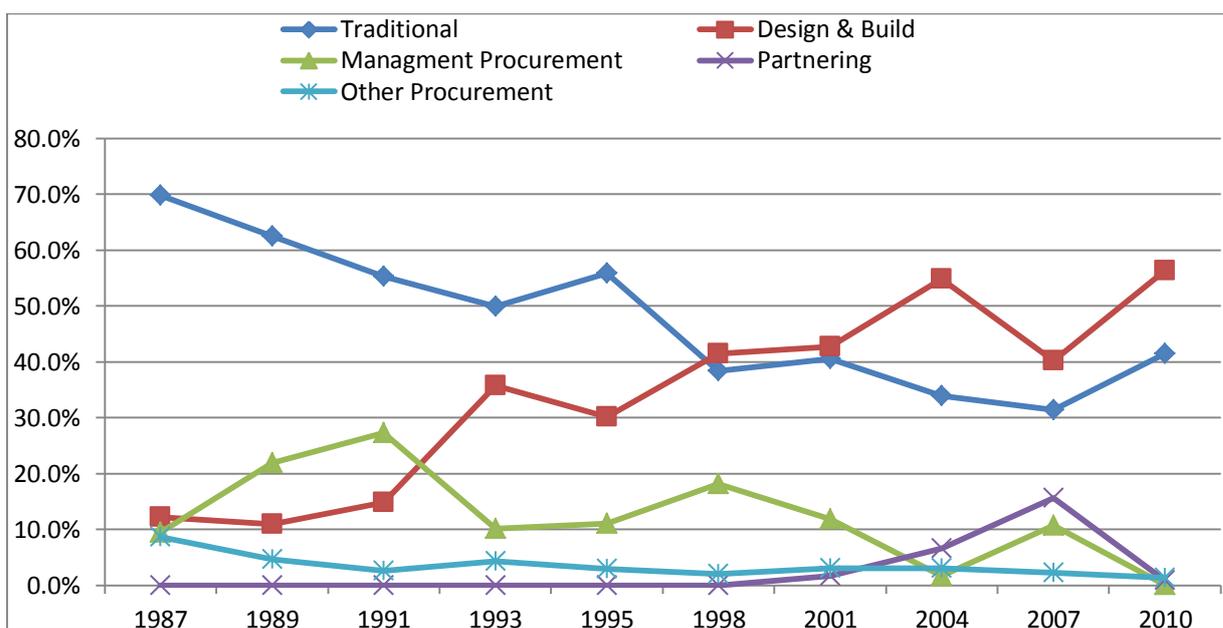


Figure 2: Trend in Methods of Procurement – by value of contracts (Adopted from: RICS 2010)

It is clear that the Traditional Procurement appears the most common and well-known method for the procurement of buildings. This method dominated the survey. This has been used for centuries, and has been the subject of scrutiny from the industry for many years. The key characteristic and problems associated with the traditional approach is the failure to integrate what is to be built (the design) with how it is to be built (the construction) (Ashworth, 2012: 217) subsequently not crossing across this boundary, traditional procurement requires the appointment of a series of different/separate consultants for the design of the project with an independent contractor and take charge of the construction process (Rowlinson & McDermott, 1999: 39) Over the years there has been development of new procurement strategies that aim to address the barriers associated with the traditional procurement. The common ones are the Design & Build, and Partnering. The latter being the main recommendation in the reports by Sir Michael Latham: Constructing the team and John Egan: Rethinking Construction. These reports questioned the rationale behind using traditional procurement despite its drawbacks; subsequently there has been a significant shift from traditional to more modern methods of procurement.

Though the traditional method dominated the survey in the 1990s with minor use of Design & Build, the years 2000s saw the Design & Build getting ahead of the Traditional Method. The 2010 Survey reinforces that fact that the Design & Build is gaining dominance over the Traditional. However, the Design & Build saw a proportionate decrease in number.

The sharp decline in the use of the Management Procurement was evident, though this was still in use in 2010. The slight increase in the use (by number) in the 1990s suggests a blip in the trend with no known reasons.

2.3.2 UK Government Plan for Growth 2011

During the UK Government's Plan for Growth published alongside Budget 2011, the Chancellor of Ex-chequer highlighted the importance of an efficient construction industry to the growth of the UK economy. A Construction Strategy Board headed by Francis Maude, a cabinet office minister, was set up to examine ways of improving the performance of the UK construction industry. The Board was tasked to produce report about current state of the UK construction industry. Similar to most previous reports, the Construction Strategy Report highlighted poor procurement as being the principal barrier to the performance and growth of the UK construction industry. The Cabinet Office minister Francis Maude (2011) believed the obsolete Government Procurement practices were bureaucratic, time consuming and downright expensive and believed that the need for new procurement strategies was imperative.

2.4 Recent Procurement Development

The UK Government Construction Strategy Board commissioned a Procurement Task Group to study the existing procurement strategies and advise ways of improvement. The prime purpose was to achieve 15-20% cost saving for Public Sector Projects by the end of current Parliament – 2015. The Task Group devised three new procurement strategies: Cost Led Procurement Strategy, Integrated Project Insurance Strategy and Two Stage Open Book Strategy.

2.4.1 Cost Led Procurement Strategy

This method of procurement requires the Client to engage two or three integrated supply chain teams in a framework agreement to develop their bids within a challenging pre-established cost ceiling. The competition, driven by early Contractor involvement is hoped to offer cost reductions to the proposed project by sharing knowledge and working collaboratively. The decisive factor is that one of the teams within the framework must have the ability to meet or better the cost ceiling. "Where this is in place, selection is based on the relative attractiveness of the commercial and physical proposition offered by the team" (NBS, 2013).

The subsequent selection of the chosen integrated supply team to deliver the project on site, providing they have met or beaten the pre-established cost ceiling should lead to better relationships for future projects with a firm basis of prior experiences to enable better use of resources and therefore offer better value for money. If the cost

ceiling cannot be bettered or matched by the integrated teams, then the project is offered to suppliers outside the framework, if the pre-established cost ceiling cannot be met then the project should not proceed. The emphasis is therefore on the Client to set a realistic costs ceiling to enable the project to materialise (Mosey, 2012).

2.4.2 Integrated Project Insurance Strategy

This method of procurement requires the Client to hold a competition to select an integrated project team who are responsible for the delivery of the project. The competition may be based and assessed on elements such as “competence, capability, proven track record, maturity of behaviours and fee declaration” (Government Construction Strategy, 2012).

The subsequent chosen team collaborates to achieve a solution that will deliver the specified outcome defined by the Client, with cost savings against existing costs benchmarks. A single insurance policy is then adopted to cover all delivery risks. The single policy would encompass all insurances, which would otherwise be held by the Client, Supply chain members and the Contracting party. To secure the insurance for the project, the integrated team need to provide a realistic proposal, which will undergo a rigorous test to enable validation by an independent expert insurer. Research suggests that by combining the insurance policies, an estimated 2.5% can be saved on costs and commercial risks (NBS, 2013).

A major advantage of this procurement model is that it removes the adversarial blame culture, which can occur when disputing costs overrun. The costs overrun with regard to payment are covered by the insurance up to an agreed liability cap and the requirement is that evidence of loss is demonstrated, rather than assigning blame. Therefore the suitability and objectives of projects which embrace the target gain and pain share would seem to benefit most. This insurance method should act as a mechanism to “render the construction industry more efficient and cost effective” (Griffiths & Armour, 2012).

2.4.3 Two Stage Open Book Strategy

This procurement method requires the Client to invite suppliers on a framework to submit bids for a project formed on the basis of an outline brief and a cost benchmark. “A number of Contractor-Consultant teams compete for the Contract in a first stage with bidders being chosen based on their capacity, capability, stability, experience and strength of their supply chain” (Government Construction Strategy, 2012). The successful team then formulates a proposal, founded on an open book cost that satisfies the Client’s requirements and benchmark costs as a second stage. In comparison to Cost-Led Procurement this model aims to reduce industry bidding costs, arrive on site earlier and allow the Client to “transfer more risk to the supply chain on award at the end of the second stage” (Government Construction Strategy, 2012).

The government wants to become more of an Intelligent Client with greater knowledge to succeed on a costs and quality basis, delivering better value for money for public sector projects. All will be revealed over a quantifying time period to determine the true success of these new initiatives as they work in progress.

There are a number of trial projects currently underway piloting the new procurement methods to assess and test their viability if they could be successful. The trial projects are as follows:

- Cost-Led Procurement - Upper Mole Project and Procure Plus Social Housing
- Integrated Project Insurance – Royal Marines Lympstone New Build Training Rooms
- Two Stage Open Book – Upper Mole Project, Surrey and Rye Harbour – Essex

3. Conclusion

The current economic downturn has fuelled the obsession and continual pressure to reduce construction expenditure irrespective of the outcome. Though the advent of some procurement methods (e.g. Private Finance Initiatives - PFI) have proven to be disastrous, the economic pressures has led to revisiting the way projects are procured in the UK industry.

The literature review has established that though procurement has undergone metamorphosis over the years, (from Traditional, to Management, to Design & Build and currently Cost Centred) with the aim of discovering the magic method that will solve the industry's problems, it could be conclude the development is like going round in circle as depicted in figure 3. The features of these new set of procurement strategies are nothing different from that of the traditional method.

Though most of the UK Government initiated reports have criticised procuring projects through the Traditional approach, the Authors believe the recent evolution of the Cost Centred methods is leading the industry back to the unpopular traditional way of procuring projects.

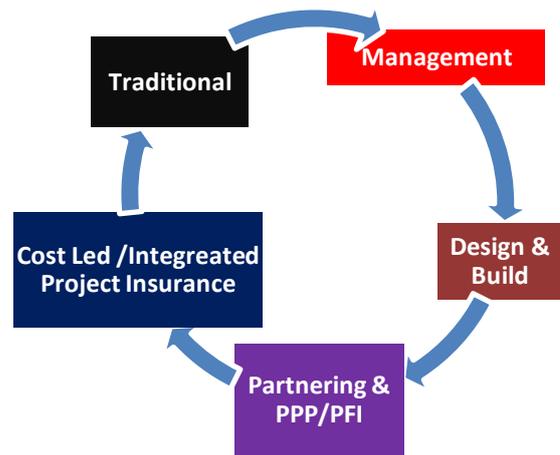


Figure 3: UK Procurement Development Cycle

References

1. Ashworth A (2010) Contractual Procedures in the Construction Industry; Prentice Hall
2. Ashworth A (2010) Cost Studies of Buildings; Prentice Hall
3. Ashworth A and Hogg K (2010) Willis's Practice and Procedure for Quantity Surveyors; Blackwell
4. Brook M (2010) Estimating and Tendering for Construction Work; Butterworth-Heinemann
5. Brumer I (2012) A Brief History of Procurement: Golden Ages Past and To Come [online] Available at: <http://www.procurement-iu.com/blog/2012/2/> [Accessed 20th March 2013]
6. Carlidge D (2010) Quantity Surveying Pocket Book; Butterworth-Heinemann
7. Coe C K (1989) Public Financial Management, Englewood Cliffs, NJ: Prentice Hall
8. Davidson and T A Abdel Meguid (eds) Procurement a key Innovation: Proceedings of CIB W92 Symposium. University of Montreal, Montreal CIB Publication.
9. El-Hasia A M (2005) The Effect of State's Construction Procurment Policy Implementation on the Outcome of Local Construction Project: The Libyan Case. PhD Thesis, Salford University
10. Fellow R F (1993) Contract for Refurbishment, School of Architecture and Building Engineering; University of Bath
11. Government Construction Strategy (2012) Interim Report of the Procurement/Lean Client Task Group [online] Available at: http://www.cabinetoffice.gov.uk/sites/default/files/resources/Procurement%20Lean%20Client%20Group%20Report%20Jan%202012_0.pdf > [Accessed 18 March 2013]
12. Griffiths A & Armour L (2012) The Cover Story – Integrated Project Insurance [online] Available at: <http://www.airmic.com/sites/default/files/Cover%20Story%2010%20Final.pdf> > [Accessed 20 March 2013]
13. Hibbered P and Basden A (1996) Procurement and the use of intelligent systems of contract authoring; Proceedings RICS COBRA Conference, Edinburg
14. Ireland V (1985) Virtually meaningless distinction between nominally different procurement methods, Organisation and Managing construction CIBW – 65.
15. Pott K (2008) Construction Cost management; Learning from case studies; Taylor & Francis
16. Langford D and Male S (2005) Strategic Management in Construction 2nd edn Oxford: Blackwell Publishing
17. Larmour J (2011) A Study of procurement routes and their use in the commercial sector; MSc Dissertation, London South Bank University.
18. Leonard E, and Mohsini R (1998), Recommendation from the organisational Workshop. Inc. C.H.
19. Love, P.E.D., Skitmore M. and Earl G (1998) Selecting a suitable Procurement Method for a building project, construction management and economics, 16, 221-233
20. Maude, F. (2011) Government Construction Summit Building Magazine Supplement
21. Mosey, D. (2012) Flesh on a Lean Strategy Building Magazine [9.3.2012]

22. NBS (2013) New procurement methods coming to a project near you [online] Available at: < <http://www.thenbs.com/topics/contractslaw/articles/newProcurementMethods.asp> > [Accessed 19 February 2013]
23. Potts K (2008) Construction Cost Management: Learning from Case Studies; London; Taylor & Frances
24. Ramus J, Birchall S and Griffiths P (2008) Contract Practice for Surveyors; Butterworth-Heinemann
25. RICS (2010) Contract In Use: A Survey of Building Contracts in Use during 2010; RICS
26. RICS (2007) Contract In Use: A Survey of Building Contracts in Use during 2007; RICS
27. Rowlinson, S. (2000) Building Procurement Systems London: Spon Press
28. Rowlinson, S. McDermott, P. (1999) Procurement Systems London: Spon Press
29. Seeney B (2009) Procure21 and the Evolution of the Construction Process [on line] available at: <http://www.cibse.org/pdfs/2bseeney.pdf> [Assessed 12 March 2013]
30. Suliaman K (2008) A Study of Building Procurement Process As A Potential Tool To Enhance Safety Practices In the Construction Industry – PhD Thesis, Loughborough University.
31. Udom K., (2012) New procurement methods coming to a project near you [online] Available at: <http://www.thenbs.com/topics/contractslaw/articles/newProcurementMethods.asp> [Accessed 12th March 2013]