

# ATTITUDES TO UK CONSTRUCTION PROCUREMENT SYSTEMS FOR REFURBISHMENT WORK

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## **Abstract**

This paper reports some of the findings of a study on construction procurement systems for refurbishment works which involved **86** postal questionnaires completed by key personnel from client's representatives (architects, quantity surveyors), contractors and other consultants from specialist and general UK refurbishment organisations. This was augmented by 10 semi-structured interviews conducted with directors of construction refurbishment organisations. The study addresses, *inter-alia*, the frequency of use of procurement systems for different sizes and types of refurbishment projects; appropriateness of different procurement systems for refurbishment works, and the variety of factors affecting clients' choice of procurement systems for refurbishment works. It is suggested that the majority of refurbishment projects are still procured via the Traditional route, the main reasons being price competition and price certainty. Similarly, the inherent risks associated with refurbishment works are not given due consideration in the choice of procurement route. There is little, if any, authoritative guidance documentation on the selection of appropriate construction procurement systems for refurbishment works, yet evidence from this study suggests that there is an urgent need for guidance documentation. The challenge, therefore, is for the industry to produce guidance documentation on selection criteria and practices for procuring works in this very important sector of construction - the refurbishment sector.

**Keywords:** Contract, construction procurement system, professional attitudes, refurbishment works.

## **1.0. Introduction**

Few will argue that matching the right procurement system with the right type of project to be carried out by competent professionals will benefit the client, the consultants and the construction industry as a whole. Construction procurement routes have received a wide coverage in the literature [1]. Similarly, studies have been conducted in order to improve the industry's awareness in selecting construction procurement systems [2]. In the main, however, these studies have been on new build works with very little attention being given to the refurbishment sector. In looking into the future direction of the UK project procurement, Hamilton (1990)[3] suggests that the client body is not yet fully satisfied with the services offered by the industry, and that there are likely to be more variations in the basic range of procurement systems. Hughes (1992)[4] is also of the view that 'the construction industry and its clients are still trying to sort out reliable methods of procuring construction'.

In his article entitled "Contractual terms for property maintenance and refurbishment projects: Their development, selection and interpretation", Robinson (1990)[5] argued that the standard form of contracts developed for new build applications have little relevance to the complexities and diverse nature of works on existing shells'. A thorough review of literature in the general areas of refurbishment [6, 7] would suggest that there is little or no authoritative guidance documentation on selection criteria and practices for procuring construction refurbishment works.

## **2.0. Methodology**

The carrying out of the study was premised by the fact that a thorough literature review revealed that little or no empirical study has been conducted in the UK, in the past five years, in the area of construction procurement systems for refurbishment. It was therefore important to understand the current industry's attitudes to procurement systems for refurbishment works.

The study on which this paper is based was conducted between February and August 1997. From 250 postal questionnaires sent out, a total of 86 usable questionnaires from building contractors, architects, quantity surveyors, building surveyors and other consultants were received. Table 1 presents a frequency distribution of the postal questionnaires received by types of construction organisations. In addition, 10 ethnographic interviews with directors of construction refurbishment organisations and archive documentation obtained from construction organisations form the database for the study. For this paper, however, only some of the information derived from the quantitative data will be explored.

Types of Organisation	Number	Percentage (%)
Building contractor	45	52.3
Architects	23	26.7
Quantity Surveyors	9	10.5
Building Surveyors	4	4.7
Other Consultants	5	5.8

Table 1: Respondents to postal questionnaire by type of organisation (N = 86)

### 3.0. The Nature of Refurbishment Works

In this paper, refurbishment means such works as improvement, adaptation, upgrading, renovation, rehabilitation, modernization, conversion, retrofit, and repair; carried out on existing buildings for a variety of reasons. This definition, however, excludes works carried out on a routine basis such as cleaning, painting and decorating, and also emergency maintenance work.

In 1970, the repair and maintenance sector which accommodates refurbishment works accounted for £1109m (or 22.46%) of the total UK construction output. By 1996 this figure had increased to £21087m (or 42.32 % of total construction output). Despite the growth and increasingly recognised importance of refurbishment, only a meagre amount of empirical studies have been conducted in the management domain and in the areas of construction procurement systems [6, 8]. In their review of what has been published in the international journal - Construction Management and Economics in the ten year period between 1983 and 1993, Betts and Lansley (1993)[9] noted that ' . . . given their importance in developed construction markets, the use, maintenance and refurbishment phases have received little attention”.

Yet, some writers have argued that refurbishment work is less predictable than new-build work, with a higher level of risk and uncertainty [8,10]. It has also been shown that tender bids for refurbishment works are more variable than new build works [ 11, 12]. There is also a higher incidence of variation orders in a refurbishment contract, and a tendency for the job to expand to meet the budget [ 13]. There are others who have suggested that refurbishment processes are more difficult to manage than new build works [6, 10, 14]. It is therefore important that some attention is levelled at the selection criteria and practices used for procuring refurbishment projects.

### 4.0. Construction Procurement for Refurbishment Works

Construction procurement in the context of this paper means the framework within which construction work is brought about, acquired or obtained.

The Royal Institution of Chartered Surveyors [15] in their publication entitled “Refurbishment and Alteration Work”, noted that ‘... traditional bills of quantities prepared in accordance with Standard Method of Measurement, are generally not suitable for the average refurbishment project. Similarly, Hakman (1975)[16] has argued that the repair and alteration work ‘... have their own special problems and conditions which need to be addressed in the preparation of the bills of quantities ‘.

Fellows *et al* (1985)[17] are also of the view that a more participative and flexible approach to contractual arrangement and procedure are needed. Ferry and Brandon (1991)[18] advised that ‘... the uncertainties of refurbishment work mean that it will be almost impossible and, certainly inadvisable, to undertake the [refurbishment] project on the basis of lump sum competitive tenders for the works, and other more collaborative methods of procurement will have to be used; either cost-plus or some form of management contracting.

The meagre amount of empirical studies conducted in the areas of construction procurement for refurbishment works would appear to have been conducted over 5 years ago. The UK construction industry is a changing industry, and so is the refurbishment sector [8]. It is therefore important to understand the current views of the refurbishment sector on construction procurement systems. This is important, at least, for two main reasons, Firstly, for policy makers in construction and those involved in strategic management within construction organizations. Secondly, it will provide some useful information for the development of appropriate and authoritative guidance documentation for selecting procurement systems for refurbishment works.

## **5.0. Study Results and Discussions**

This study sought to ascertain the current frequency of use of construction procurement systems for refurbishment works. The study revealed that four main procurement routes are used for refurbishment works. These are presented in Table 2 in decreasing frequency of use.

An inspection of Table 2 reveals that almost 80% of refurbishment projects are procured through the Traditional form of procurement method. The study also shows that Design & Build is the next favoured form of procurement route. According to this study, only 3% of refurbishment projects are procured using the Management Contracting route. Although not analysed in this paper, the study also investigated the relationships between sizes of refurbishment projects, types of refurbishment projects and the usage of procurement systems. The study also sought to ascertain the underlying reasons behind the usage and selection of construction procurement systems for refurbishment projects.

Construction procurement systems	Frequency (No.)	Percentage (%)
Traditional	68	79.0
Design & Build	9	10.5
Construction Management	6	7.0
Management Contracting	3	3.5

Table 2: The frequency of use of procurement systems

The selection criteria from the views of the 86 respondents who participated in the questionnaire phase of the study are listed in Table 3 in decreasing level of importance for the most used procurement systems.

Rank	Traditional	Design & Build
1	Price competition	Risk avoidance and responsibility
2	Price certainty	Price certainty
3	Quality level	Quality level
4	Risk avoidance and responsibility	Speed of construction
5	Speed of construction	Price competition
6	Control of variations in the project	Control of variations in the project
7	Reserving client's right to alter specification	Clarity of client's contractual remedies
8	Dealing with complexity of projects	Involvement of client in construction process
9	Involvement of client in construction process	Reserving client's right to alter specification
10	Familiarity of procurement system	Dealing with complexity of projects
11	Clarity of client's contractual remedies	Familiarity of procurement systems
12	Separation of design from management	Separation of design from management
Rank	Construction Management	Management Contracting
1	Quality levels	Speed of construction
2	Reserving client's right to alter specification	Risk avoidance and responsibility
3	Control of variations in the project	Price certainty
4	Dealing with complexity of projects	Control of variations in the project
5	Speed of construction	Quality level
6	Price certainty	Reserving client's right to alter specification
7	Price competition	Involvement of client in construction process
8	Risk avoidance and responsibility	Clarity of client's contractual remedies
9	Involvement of client in construction process	Dealing with complexity of projects
10	Clarity of client's contractual remedies	Separation of design from management
11	Familiarity of procurement system	Familiarity of procurement systems
12	Separation of design from management	Price competition

Table 3: Criteria for selecting construction procurement systems for refurbishment works

An inspection of Table 3 which is data from an aggregate level indicates that the relative ranking of selection criteria differs from one procurement system to another. For example, price competition and price certainty were cited by the respondents in this study as the two most important criteria for selecting the Traditional procurement route, whereas the two most cited criteria for choosing management Contracting for refurbishment works were speed of construction and risk avoidance and responsibility. Interestingly, familiarity and knowledgeability of procurement options was rated very low as a criterion for selecting procurement systems. It is therefore important that any authoritative guidance documentation for the selecting construction procurement systems for refurbishment projects takes due cognizance of the necessary weighting factors associated with types of procurement systems, the views of different groups of construction professionals associated with refurbishment works, sizes, types and nature of refurbishment projects.

The study also sought to ascertain the extent to which there is an urgent need for a guidance documentation for the selection of appropriate procurement system for refurbishment works. To this end, the vies of participants to the questionnaire phase of this study were sought on the extent to which they agreed or disagreed on the need for a appropriate guidance documentation, Table 4 presents the result of this study.

	<b>Frequency</b>	<b>Percentage (%)</b>
Strongly Agree	<b>22</b>	<b>25.6</b>
	<b>42</b>	<b>48.8</b>
Not Sure	17	19.8
Disagree	<b>4</b>	<b>4.7.</b>
Strongly Disagree	1	1.2

**Table 4:** Degree of agreement for guidance documentation on construction procurement for refurbishment works

An inspection of Table 4 reveals that whilst over 74% of respondents in this study either agreed or strongly agreed on a need for a guidance documentation, just under 2% showed strong disagreement. The challenge for the industry, therefore, is to produce an authoritative guidance documentation for refurbishment works that takes account of the vagaries of refurbishment processes.

## **6.0. Conclusions and Recommendations**

A recent study on construction procurement systems for refurbishment work has been conducted. It shows that the Traditional form of procurement, Design & Build, Construction Management and Management Contracting are the favoured forms of contract for refurbishment work. Whereas as almost 80% of refurbishment works are procured through the Traditional route, only about 3% of refurbishment works are procured by Management Contracting. Twelve factors have been identified that impact upon the selection of procurement systems for refurbishment works. These include: price certainty,

importance of these factors in the selection of procurement options **differ** from one procurement system to another.

There is little or no authoritative guidance documentation on selection criteria and practices for procuring refurbishment works, yet this study has show an overwhelming need for one. The challenge, therefore, is for the construction industry to produce one, Such documentation should be based on appropriate weighting factors which take due **cognisance** of **different** types of procurement systems, the views of different professionals associated with refurbishment works, sizes, types and nature of refurbishment works.

## 7.0. References

1. Franks, J. (1990), "Procurement in the 1990s", Chartered Quantity Surveyor, The Royal Institution of Chartered Surveyors, UK, February.
2. Skitmore, R.M. and Marsden, D.E. (1988), "\*Which Procurement System? Towards a Universal Procurement Selection Technique", Construction Management and Economics, 6, pp. 71 - 89.
3. Hamilton., N. (1990), "A Review of United Kingdom Procurement Methods", Proceedings of the CIB-W92, procurement systems, 1 Oth- 13 th September, Yugoslavia.
4. Hughes, W. (1992), "Developing Construction Procurement Law", Proceedings of the 8th Annual Conference, ARCOM., 18th-20th September, Isle of Man., UK., pp. 97 - 110.
5. Robinson, N.M (1990), "Contractual Terms for Property Maintenance and Refurbishment Projects: Their Development, Selection and Interpretation", Proceedings of International Council for Building, CIB - W70 Building Maintenance Worldwide, 7th- 9th March, Singapore, vol 2, pp. 1253 - 1262.
6. Egbu, C. O. (1994) " Management education and training for refurbishment work within the construction industry", Ph.D Thesis, Vols. I and II, Department of Civil Engineering and Construction, University of Salford, England..
7. Egbu, C. O., Young, B. A. and Torrance, V. B. (1996) "The procurement of project works in the ship refurbishment and construction industries", Proceedings of CIB W92 symposium North meets South: Developing ideas, 14 - 17 January, Durban, South Africa, pp. 130 - 140
8. Egbu, C. O. (1997) "Refurbishment management: Challenges and opportunities". Building Research and Information, The International Journal of Research, Development and Documentation, Nov/Dec, Vol. 25, No. 6, pp. 338 - 347
9. Betts, M. and Lansley, P. (1993) "Construction Management and Economics: A review of the first ten years", Construction Management and Economics, Vol. 11, No. 4, pp. 221 - 245.
10. Construction Industry Research and Information Association (CIRIA, 1994) "A guide to the management of building Refurbishment", Report 133, CIRIA, UK.
11. Chartered Institute of Building (CIOB) (1987) "Code of estimating practice", Supplement No. 1, Refurbishment and Modernisation, December, UK.
12. Quah, L.K. (1992), "Competitive Tendering for Refurbishment Work", Building Research and Information, Vol. 20, No. 2, March/April, pp. 90 - 95.
13. Quah, L.K. (1986), "Contact Documentation for Reducing Variability in Refurbishment Work", CIB, 10th Triennial Congress, Washington, USA, 22-26 September, Vol. 9, pp. 3916 - 3923.

14. Egbu, C. O. (1995) "Perceived degree of difficulty of management tasks in construction refurbishment work", *Building Research and Information*, vol. 23, No. 6, pp. 340 - 344.
15. Royal Institution of Chartered Surveyors (1982), "Refurbishment and Alteration Work", *Quantity Surveying Documentation*, R.I.C.S., October, UK
16. Hakman, I. (1975), "More Rational Alteration Work", *Report R14*, National Swedish Building Research.
17. Fellows, R.F.; Newcombe, R. and Langford, D.A. (1985), "Client Control of Commercial Refurbishment Projects", Final Report of a pilot study sponsored by the Science Engineering Research Council (SERC), Grant No. GR/D/10923, December.
18. Ferry, D.J. and Brandon, P.S. (1991), "Cost Planning of Refurbishment and Repair Work", In *Cost planning of Buildings* (Eds. Ferry, D.J. and Brandon, P.S.), Chapter 19, pp. 247 - 250, Sixth edition, BSP Professional Books, Oxford, UK.