The increasingly complex and varying demands placed upon the construction industry by its clients not only stem from the need to provide more sophisticated commercial and industrial working environments, at minimum cost and maximum speed, but additionally from the fact that client organisations are also complex with different categories of customers requiring discrete solutions to their procurement needs. Clients are not a homogeneous organised group of individuals, or organisations, and are thus unable to apply uniform standards from their own, or consultants', knowledge of available procurement systems. This paper begins by looking at the categorisation of clients, and is followed by an examination of client needs in relation to the selection of procurement systems. It concludes by identifying the main available aids to procurement selection.

Introduction

One of the key characteristics that determines a client's choice of a procurement system is their level of experience of implementing construction projects. For experienced clients decisions are made about procurement systems mainly as a result of their corporate environment, previous experience of members of the client organisation and advice obtained from external consultants. Unlike inexperienced clients those organisations that regularly carry out construction work have little difficulty in obtaining information from, or dealing with, the construction industry in terms of establishing procedures for managing projects and choosing procurement systems. Past research and studies, relating to levels of client experience, have found that the process is unlikely to be carried out in a systematic and logical manner and that such decisions are often made by default. This paper examines the issues raised above.

Client Experience

Client organisations are undoubtedly diverse in terms of their construction-related expertise. Blackmore (1990) suggests that there is no one definition of 'a client' as such, and quotes John Brandenburger, a founder member of Ove Arup, as saying, "clients are simply an assorted collection of men and women seeking advice from a member of one or more of the professions."

However, most of the literature devoted to classifying clients tends to concentrate on their prime business functions. A survey by Newman et al (1981) produced a list of 18 client types, such as: private commercial, industrial, developers, leisure, education, hospitals and public authorities, and divided some of these into more specific sub-groups. There are also different client sectors, primarily with the distinction between public and private sectors. Although the public sector is concerned with a wide range of construction work the main difference is that, in the vast majority of cases, the public sector authorities employ in-house professionals to assist and monitor project development. Such clients are therefore experienced in construction. They do, however, have very distinct characteristics. Many of these are caused by the need for public accountability so there is a tendency to use forms of contract, such as traditional tendering, where direct comparisons can be made (Turner, 1990).
The level of experience of clients will greatly influence the method they use to appoint some form of advisor to assist in the development of their building requirements, and ultimately select procurement systems (Hillebrandt, 1984; Morledge, 1987). For example, large client organisations who have built before, or build frequently, can use past experience, or may even employ in-house advisers with construction expertise (Masterman, 1992). Most problems arise with clients who have little or no previous experience of building, and have no in-house expertise in this area to assist them in their decision-making process (N.E.D.O., 1983).

**Client Types**

The next area to consider is that different levels of client construction experience exist, with a number of authors having produced definitions of types of clients. Higgin and Jessop (1965) state that when the client decides to build decisions made during the earliest phase will determine the sorts of approaches made to members of the building industry. They go on to distinguish between levels of sophistication of clients and categorise them as either 'sophisticated' or 'naive'. With regard to naive clients they suggest that they will seek some advice, but their initial move will be made from a point of some ignorance. Whatever their decision, it will have an important effect upon the nature of the building team that follows, and upon the pattern of communications it will develop. This point is supported by N.E.D.O. (1978) who state that the inexperienced clients will be influenced in their choice by their first point of contact with the industry.

A report by Nahapiet and Nahapiet (1985) considered that the needs of clients are likely to be influenced by the following two important characteristics: 'whether they are primary or secondary constructors', and 'their level of project experience'. Newman et al (1981) also put forward a series of client types as follows: 'once in a lifetime / inexperienced', 'regular / repeat', 'expert' and 'special'.

It can be seen from the above that certain distinctions need to be made in the level of experience of potential building clients as a number of definitions have been put forward by authors. An important issue to raise at this point is that to categorise a client as experienced cannot solely be based upon the premise that they have previous experience of building alone. The critical factor in such a case is whether a client organisation have previous experience of a particular type of building. Once again using the example of an airport authority, they may have built up an enormous amount of expertise over the years in the construction of airport terminal buildings. However, faced with the requirement for a new corporate head office building, the level of previous expertise, within their organisation, of this type of building would be limited in comparison to that of producing terminals.

Having considered the established classifications of clients, and considered the factors which determine this classification, definitions of client type, derived from research conducted by Gameson (1992), and based primarily upon the definitions offered originally by Higgin and Jessop (1965) and Nahapiet and Nahapiet (1985) with some refinements, are now proffered. It is proposed that the classification of clients should be based upon the following two characteristics:

(i) whether they are primary or secondary constructors;

(ii) their level of construction experience.

The definitions of constructors are:

(A) **SECONDARY**: 'Clients for whom expenditure on constructing buildings is a small percentage of their total turnover, and for whom buildings are necessary in order to undertake a specific business activity, such as manufacturing.'

(B) **PRIMARY**: 'Clients such as property developers, whose main business and primary income derive from constructing buildings.'

Levels of construction experience are defined as:

(1) **INEXPERIENCED**: 'No recent and relevant experience of constructing buildings, with no established access to construction expertise.'
EXPERIENCED: 'Recent and relevant experience of constructing certain types of buildings, with established access to construction expertise either in-house or externally.'

The words, 'certain types' have been incorporated into the definition of 'EXPERIENCED' because of the previously discussed issue of building up expertise relating to a specific building type. The definitions of construction experience have been derived, partly from Higgin and Jessop's (1965) concept of sophisticated and naive client sectors, but also take into account the previous discussion concerning client access to construction expertise.

When these two characteristics are considered together the following four alternative client types are produced:

(A1) SECONDARY INEXPERIENCED
(A2) SECONDARY EXPERIENCED
(B1) PRIMARY INEXPERIENCED
(B2) PRIMARY EXPERIENCED

These classifications will now be discussed briefly in the following three sub-sections, with the exception of primary inexperienced. An organisation whose main business and primary income derive from constructing buildings are very unlikely to have no relevant and recent access to construction expertise. The case study material used by the Nahapiets (1985) shows no evidence of clients classified as primary inexperienced. Therefore this classification is excluded from further discussion.

The Secondary Inexperienced Client

A number of reports and articles have highlighted the difficulties encountered by inexperienced clients when approaching the construction industry for advice (Bennett and Flanagan, 1983; Building, 1983; N.E.D.O., 1983; Newman et al., 1981). At the beginning of his study of the construction industry in the United States Glaser (1972) makes the observation that 'lay' clients, "...bow to the wisdoms and whims of experts by complying with their orders and following their advice...giving the experts power over their working relationship." Moore (1985) comments on changing contractual relationships stating that, "...there is still a gap in the industry's attempt to educate the inexperienced client."

The above quotations present viewpoints which relate to the client-professional relationship and the problem of communicating information and advice on the various services the construction industry has to offer to potential clients, in particular the inexperienced ones. When inexperienced clients make the decision that they need a building they then need to find advice on the people they require to assist them in obtaining the building (Swan, 1987). Higgin and Jessop (1965) state that this move is made from a point of almost complete ignorance. This initial move for advice also affects clients in that they will be considerably influenced in their choice of method by their first point of contact with the industry (Goodacre et al., 1982; N.E.D.O., 1978; N.E.D.O., 1988).

The most common first point of approach to the construction industry, by the inexperienced client, is to an architect (N.E.D.O., 1983; N.E.D.O., 1988). Indeed, the client may identify this contact informally via other business contacts (Glaser, 1972; Higgin and Jessop, 1965). For example, a business acquaintance may recommend an architect who has previously designed a building for them. The danger here is that this point of contact may lead to the client getting a similar building to their business acquaintance using the same method. However, this may not be the most appropriate solution as the two clients may have very different sets of building requirements. If such a process were followed the client may be satisfied with the completed building simply because it was the only option presented to him or her.

The Secondary Experienced Client

Most business organisations require some form of premises within which they perform their business function, ranging from multinational companies to small industrial concerns. Therefore their prime business function is not solely related to constructing buildings.
Newman et al. (1981), in their client category 'regular/repeal', state that this type of client may regularly commission buildings of the same type with the major variable being the size of the project. Such clients build up an in-house expertise of a type of building, engaging external professionals on a long-term basis to work on projects with them, in addition to having in-house experts (C.S.S.C., 1990).

Secondary experienced clients need to appreciate the limitations of their own construction expertise. For example, when faced with a new type of building to construct, the client may need to investigate different methods and standards and identify new professionals outside of their previous area of experience. In such a situation clients may find themselves in a relatively inexperienced situation. However, experience gained in another type of building may prove advantageous in terms of a level of understanding of the building process as well as established contacts with construction professionals. A potential disadvantage could be that the client may adopt an identical approach to obtaining their building based upon their previous experience, a process defined by Bresnen and Haslam (1991) as 'habituation'. Such an approach may be inappropriate in the situation where a different type of building is required. For example, an architect with years of experience of designing airport terminal buildings may not be the most appropriate person to design a new corporate head office building. Therefore it is important that secondary experienced clients recognise the boundaries of their construction expertise. Should a requirement arise for a building type outside of their normal scope of work, the approach which they adopt should not necessarily follow their historically established procedures.

The Primary Experienced Client

There has been a large growth in institutional investment over the last twenty years in property. Organisations such as pension funds and insurance companies now invest large capital sums in property development. Such organisations will employ professionals with experience of construction to represent them in looking after their interests in any projects which they are involved in, selecting staff and defining authority (Salisbury, 1990), and will go to great lengths to achieve their exact requirements (N.E.D.O., 1983). It is from this particular client that dissatisfaction with the established traditional approaches to buying design and construction has led to certain alterations being proposed.

The British Property Federation (B.P.F.), which consists of large property development companies, published its own manual, (B.P.F., 1983), which lays down a procedural system to be followed. This manual is an example of a system, produced by a client dominated body, that lays down procedures for the construction industry to follow. Prior to this, clients who have approached the industry have had various established alternatives from which to choose. Bennett and Flanagan (1983) suggest that this was tantamount to the construction industry marking out a pitch, setting guidelines, producing a rule book and going into battle with clients. It was the large clients' dissatisfaction with this situation that led to them producing their own set of rules. These large clients are fortunate enough to be in a position where they can put forward such changes as they have the purchasing power to influence the industry (Building Contractor, 1987). A recent example of this is a proposal by 20 leading UK client organisations to establish a 'clients' forum' to tackle conflictual issues such as payment abuses and adversarial contracts (Barrick, 1994).

Primary experienced clients possess construction management and control expertise and, with the assistance of in-house professionals, have a clear understanding of their contribution to the process. This includes their ability to produce comprehensive briefs and prioritizing their objectives, along with a desire for detailed, consistent and continuing involvement throughout the project (Masterman, 1992; N.E.D.O., 1988).

Client Procurement Selection

Client Needs

In order to ensure a successful choice of building procurement system the client's brief must be clear and comprehensive and contain not only the aesthetic and technical criteria for the project, but of equal importance, the primary and secondary objectives in terms of functionality/quality, time and cost (N.E.D.O., 1975). It has been recognised that these three objectives are interrelated and conflicting and that it is impractical to try and achieve all three. One, or maybe two will need to be sacrificed to some extent and individual clients will need to weight each of the criteria to suit their own organisation's particular circumstances and the project's technical, commercial and other characteristics (Walker, 1989).
Once the dimensions of the three basic objectives have been determined and weighted, and a compromise reached between them, there is a need to identify and take into account the secondary objectives. This group of objectives can, particularly in combination, have considerable influence on the selection of the most appropriate procurement system (Perry, 1985). The client's primary and secondary objectives can only be identified and determined by firstly establishing the client's needs relative to the characteristics of the project. The Wood Report, (N.E.D.O., 1975), revealed a consistent demand by clients to meet the cost, time, quality, functionality and aesthetic criteria in order for a project to be considered to be successful.

Bennett and Flanagan (1983) defined a comprehensive list of clients' needs which included:

- functional building, at the right price;
- quality, at the right price;
- speedy construction;
- a balance between capital expenditure and long term ownership costs;
- identification of risks and uncertainties;
- accountability (in the public sector);
- innovative design/high technology building;
- maximisation of taxation benefits;
- flexibility to enable the design to be changed;
- a building which reflects the clients activities and image;
- an involvement in, and a need to be kept informed about, the project throughout its life.

A survey of 21 clients, carried out by Hewitt (1985), identified the 'real needs' of clients as including:

- certainty of cost and time, a reduction in unanticipated extra costs and time over-runs;
- the flexibility to change the design during the construction period;
- a strong desire to be actively involved, and to be kept informed, throughout the whole of the design and construction process;
- a wish that consultants would be more forthcoming with positive and constructive advice and be more prepared to recommend new procurement methods.

The report "Faster Building for Commerce", (N.E.D.O., 1988) and the Centre for Strategic Studies in Construction report "Building Britain 2001", (C.S.S.C., 1988) both confirmed that, generally, clients wanted certainty of performance in all three criteria of time, cost and quality, did not want any surprises during the implementation of their projects and specifically, in relation to the selection of procurement systems, required:

- value for money;
- clear allocation of responsibility amongst members of the project team;
- a minimal exposure to risk;
- an early indication of a firm price for the project;
- early notice of, and comprehensive information on, any future contractual claims;
- an early start on construction work;
- non-confrontational relationships.

Whilst these reports and studies have identified clients' needs and primary, and in some cases secondary, objectives there has been little attempt to establish the priority accorded by clients to these criteria.

Masterman (1994), in his study of the procurement system selection process, found that the following needs were considered to be most important by the majority of clients when choosing the method they eventually adopted for designing and constructing their project:

- a desire to be actively involved and informed at all stages of the project;
- certainty of final cost;
- certainty of completion date;
- value for money;
- lowest possible tender.
The first three of these needs were ranked highest by the majority of the clients surveyed during the study.

**Aids To Procurement System Selection**

Once the client’s objectives have been established and incorporated into the project brief, all of the potentially appropriate procurement systems need to be identified so that the characteristics of these methods can be compared with the requirements of the brief, and to select the most suitable system. “Thinking About Building” (N.E.D.O., 1985) and H.M. Treasury’s guidance note on the selection of contract strategies for major projects, (H.M. Treasury, 1992), both summarise the characteristics of the most common procurement systems and provide a crude means of reducing the possible alternatives to a manageable number.

The selection process has become increasingly complex, mainly as a result of the continuing proliferation of alternative methods for procuring building projects, their ever increasing technical complexity and the client’s continuing desire for speedy commencement and completion, all of which has led to the demand for more sophisticated methods of selection being devised. The major difficulties in devising such methods have been identified by Skitmore and Marsden (1988) as: the non-existence of an individual ‘knowledge czar’ who is fully conversant with all the main procurement arrangements, no consensus amongst experts as to a method which easily systemises procurement selection and the conclusions of the study by Ireland (1985) of the factors affecting procurement selection that no mutually exclusive sets of criteria uniquely and completely determine the appropriate procurement arrangements for a specific project.

Despite these strictures methods have been devised by various researchers which partially overcome these difficulties or, in the case of the simpler approaches, ignore them completely. H.M. Treasury’s Guidance Note, (H.M. Treasury, 1992) proposes that the evaluation of possible systems can be carried out by scoring how each system is able to satisfy the client’s needs and project objectives. The resulting scores are then individually weighted in accordance with their relative importance; the total of the weighted scores then reflects the suitability of the various systems for the project under consideration. This method, and other similar means of evaluation, can only provide guidance in selecting the most appropriate system; each option will have some disadvantage, or element of risk, associated with it although some will be better suited than others. When using such methods of assessment there is unlikely to be, in most cases, a clear cut decision. Therefore managerial judgement will need to be exercised in order to determine the final choice (H.M. Treasury, 1992). In this context other factors, particularly the ever changing political and economic climate and social environment, will also affect the decision making process.

Skitmore and Marsden (1988), in their attempt to formulate a universal procurement selection technique, used a similar approach to that described above but, in addition, devised a method of selection based upon discriminant analysis. This method examined data collected under a set of criteria which were the characteristics on which the various procurement systems differed; using these criteria the researchers were able to discriminate between procurement paths for decision making purposes. Whilst this latter method proved to be successful in trials and should in theory be more reliable due to its use of more of the available information, in practice the fact that it relies on the use of an advanced statistical technique, involving a great deal of tedious calculations, probably renders it unsuitable for use by most clients. Bennett and Grice (1990) used the first of Skitmore and Marden’s techniques as a basis for tabulating the strengths and weaknesses of the various procurement systems so as to provide an opportunity for clients, during discussion with their advisers, to weight the various criteria so as to reflect their priorities.

The procurement module of the ‘ELSIE’ expert system computer package, (Brandon et al, 1988), provides recommendations on the most suitable procurement system via a software program accessed through any IBM compatible computer hardware. A series of questions relating to the timing, quality, design cost parameters and other characteristics of the project are posed by the programme on the terminal screen; once the questions have been answered, and an evaluation of the information has been made, recommendations are given by means of a list of the most appropriate systems, ranked in order of suitability, together with an indication of the extent to which the various systems will satisfy the client’s requirements.

Finally, Nahapiet and Nahapiet (1985) whilst agreeing that the key to successful procurement is the identification of the clients objectives and the matching of these to the most appropriate procurement system,
also point out that there is no one best method but what is likely to be most appropriate depends on the particular circumstances of the client and his or her project.

Conclusions

Many authors have acknowledged that a range of clients exist and certain classifications of client types have been produced. This diversity of clients undoubtedly affects the nature of clients' interactions with professionals during the early phases of the procurement of their buildings. At one end of the client spectrum the secondary inexperienced client has the greatest need for assistance. However, this type of client is fairly easily identified. Perhaps the greatest diversity comes within the client category secondary experienced. Many of these clients are likely to build up expertise in procuring a particular type of building to house their operations, with size of facility being the main variable. This leads to clearly defined requirements with possible long-term contact with professional advisors. However, should such a client produce a requirement for a different type of building the designated standards, processes and professional advisors may no longer be appropriate. Therefore previous experience of a type of building is a key concept. The most specific client classification is that of primary experienced. Taking property developers as an example of such a client, their prime business function is to build buildings, normally of a particular type, such as offices. They will have clearly defined requirements and procedures, including the appointment of professional advisors.

The client's needs must be established before the primary and secondary objectives of the project can be identified and determined. Once this has been done, and a compromise reached on the importance of each of these, the project brief can be prepared. The following needs appear to be most important to the average client when choosing the most appropriate procurement system for his or her project:

- a need to be kept informed and be actively involved at all stages of the project;
- a need for certainty of the final cost;
- a need for certainty of the day for completion;
- a need to achieve value for money;
- a need to obtain the lowest possible tender.

As a result of the continuing proliferation of alternative methods for the procurement of building projects the selection process has become increasingly complex and difficult. In an effort to deal with this difficulty both government and academia have produced an assortment of aids ranging from simple checklists of advantages and disadvantages of the main systems to complex multi-attribute techniques and computer assisted selection procedures. Even with the most sophisticated of these aids a single preferred option is unlikely to be identified and managerial judgement will still need to be exercised in order to make a final decision. It has to be recognised that there is no one best method. What is likely to be most appropriate depends on the particular needs of the client and the timing and circumstances of the project.

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