CONSTRUCTION PROCUREMENT SYSTEMS - WHAT CHOICE FOR THE THIRD WORLD?

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Summary
The procurement concept has been defined in many ways. The usefulness of the common definitions, as a means of comparing projects or project performances across national boundaries, is limited to developed, market economies. Even comparisons between developed economies are fraught with difficulties. The Latham Review (of procurement and contractual arrangements in the UK), has noted the difficulty of drawing conclusions from existing studies. Any discussion that occurs inevitably takes place within the assumptions that are contained within the procurement concept as defined. In the UK much of the research work has concentrated upon topics such as procurement classification and comparison and procurement method selection.

Two of the key assumptions contained within the above work - those of client choice and the availability of a range of procurement options - renders the procurement concept as defined irrelevant to the Third World countries.

This paper expands and explains the above ideas prior to consideration of specific experiences drawn from Malaysia and from a major project in Algeria which was financed by the Italian Government and managed and built by an Italian contractor. Conclusions drawn concern the establishment of project (success/objectives) criteria, and the adequacy of the procurement concept in Third World contexts.

Introduction
The procurement concept has been defined in many ways. Most definitions have concentrated on the contractual arrangements for individual projects (the tactical level) whereas Davidson and Mohsini (1987 & 1989) suggest that "strategically, the set of contracts prepared for any one project must enable the building owner to meet his building needs as effectively as possible...", and "...the procurement strategies of all the active building owners has an impact on the overall performance of the building industry". Having identified procurement as a strategic management decision Davidson and Mohsini give a more formal definition as "the acquisition of new buildings, or space within buildings, either by directly buying, renting or leasing from the open market, or by designing and building the facility to meet a specific need".

The key assumptions contained within the above definitions of the procurement concept - those of client choice (a strategic management decision within a free market for design and construction services) and the availability of a range of procurement options (i.e. different ways of meeting the clients objectives) - render the procurement concept as defined as irrelevant to Third World countries.

Even comparisons between developed economies are fraught with difficulties. The Latham Review (of procurement and contractual arrangements) (Latham, 1993) currently under way in the UK, has noted the difficulty of drawing conclusions from existing studies - "some international comparisons reflect differences of culture or of domestic legislative structures which cannot easily be transplanted to the UK". Davenport (1993) has reported that the French do not recognise the British/ North American concept of procurement.
This paper proceeds to examine these factors from a UK perspective and then seeks to establish their relevance, if any, to Third World countries. The majority of C.I.B. W92 papers to date have concerned the UK and its former colonies. This paper draws upon experiences from Malaysia and Algeria, to meet the conference objectives of "East meets West". More detailed background information is given for Algeria as its’ procurement systems have been influenced by its’ former colonial power, France.

**Procurement: A Client Centred Concept and a Range of Procurement Options?**

Any discussion that occurs inevitably takes place within the assumptions that are contained within the procurement concept as defined. It is suggested that procurement is a concept directed towards the aims of clients. In the UK much of the research work in this area has concentrated upon topics such as procurement classification and comparison (NEDO, 1983 and 1988) and procurement method selection (Skitmore and Marsden, 1988).

Granovetter (1985) argues that business strategy and economic activity in particular cannot be divorced from the social context within which it is "embedded". Hence, classical economic notions of the behaviour of individuals and firms, developed in north America and Europe are inappropriate when applied in other countries. What applies to the strategic management of business units is likely to apply to procurement or the strategic management of projects. In support of this, Aniekwu and Okpala's (1988) study of the Nigerian construction industry identified "systemic" factors which demonstrated "ineffectiveness as a result of the application of systems not suitable to a particular environment". Walker (1989) has emphasised that "an appropriately designed organisation structure for a project will provide the framework within which the other factors that influence the effectiveness of the project management process have the best chance of maximum performance in the interests of achieving the clients objectives." It is this notion that:- "clients are the core of the process and their needs must be met by the industry (Latham 1994, p.3), that is fundamental in all strategic decision making. However, in keeping with the work of Granovetter and Aniekwu and Okpala, it must subsequently be asked in what context are we considering the construction "client"?

To address this a brief study has been conducted that attempts to support the initial suggestion, and identify the context in which this concept operates.

Clients interests have, in a way, always be dominant. The conventional approach to procurement in the UK was established primarily to protect the clients interests against unscrupulous building contractors. In their final submission to the Latham Review (1994), the Royal Institution of British Architects and the Association of Consultant Architects, claim that the architect still continues to fit John Soane's description in 1788 as "the intermediate agent between the employer (i.e. the client), whose honour and interest he is to study, and the mechanic (i.e. the builder) whose rights he is to defend" (Anon, 1994).

In order to cater for an increasingly wide range of client demands the number of procurement approaches on offer to clients in the UK has increased rapidly (Franks, 1989; Masterman, 1992). Each are claimed to have distinct advantages over other systems. These demands or criteria are well represented in the 'procurement path decision chart' as developed by the National Economic Development Organisation (NEDO, 1985). This chart lists the criteria as a set of "client's priority questions", and relate to matters of speed, certainty, flexibility, quality, complexity, risk and competition.

Since the late 1960's alternative approaches to construction procurement have been of increasing interest to the UK industry. Indeed, by 1990 procurement had, according to Turner "become a fashionable subject". As Franks (1989) observes, the number of different approaches to construction procurement had increased steadily over the 22 year period of his study from 1967 to 1989. The most recent of the RICS surveys of contracts in use (RICS, 1992) also showed a "substantial growth" and "dramatic acceptance" of management forms of procurement over more traditional or "conventionally" approaches, over a recent eight year period.

The use of management forms of procurement has advantages over conventional, design-team led, approaches in that they allow clients to work more closely with contractors than would normally be ‘acceptable’ in traditional forms where the design and construction elements of a project are deliberately divorced. This may be seen as the industry’s response to a change in the demands of clients, as detailed by reports such as Banwell
However, the conventional approach to construction procurement remains the most widely used, with many clients preferring the cost advantages offered by such methods.

The attention to clients' needs has increased significantly over many years. However, it must be noted that the direction in which this attention is focused is not necessarily appropriate in all circumstances. Franks (1989) provides an indication of the level of interest in alternative procurement systems in the UK. The raw bibliographical data used for his study, was reassessed for the purpose of this study. The bibliography contained brief abstracts of the focus of each article listed. From this information each article was reclassified in terms of how it dealt with the issue of procurement. Six main categories were established: contractual issues, organisational issues, tendering issues, financial issues, time issues, and, other. [Ref. Fig.1]

Over a period of 22 years from 1967 to 1989, the focus upon contractual issues has significantly increased more so than any other issue dealt with by a sample of articles studied (see Fig.1). This supports, what is a commonly held view that the UK construction industry has become increasingly adversarial. To allow the identification of possible trends, all articles have remained grouped by year. Two significant peaks were clearly identifiable in the "other" classification. The first, appearing during the late 1970's, may be attributed to an increase in interest in the international construction market during this time. Indeed, many of the articles listed in this time relate to aspects of foreign construction industries and projects. The second peak is attributed to a rise in the number of articles concerned with risk. It was decided not to place such articles in the contract classification, as many broader aspects of risk (investment, etc.) were covered.

This alternative analysis of the changing interests in UK procurement, whilst only superficial, indicates the extent to which the procurement concept is contextually dependent. Therefore, even with a range of procurement options, choice is evidently dependent upon the existence of a (be it ever so imperfect) market based economy. For example, tendering, financial and time issues (see above), are all dependent upon the existence of a sufficient number of contractors who are able and willing (and invited) to compete for projects.

The Relevance of the Procurement Concept in the Less Developed Countries with particular reference to Malaysia and Algeria.

The focus for this paper now switches to a consideration of the relevance of the procurement concept to the Less Developed Countries. In particular, it argues, with regard to the issues of client choice and availability of alternative procurement systems, that for clients in many less developed countries there is little or no choice in the procurement of construction projects. Factors considered are the role of the Bretton Woods agencies (i.e. the World Bank and the International Monetary Fund), client and client government financial inferiority in financial markets, counter-trade arrangements, the use of resources appropriate to the nations wider objectives, and, the impact of former colonial powers.

Increasingly, a condition for Western Aid to Developing Countries has been the adoption of World Bank and International Monetary Fund deflationary and trade liberalisation policies. Watkins (1994) has argued that attempts to bring African products to world markets (firstly through large-scale infrastructure and agricultural projects, and, more recently, through Structural Adjustment Programmes (S.A.P.'s)) has resulted, not only in economic, but also environmental and social failure. For example, he cites the Rwanda Mutura Agriculture and Livestock Development Project as a factor in exacerbating the Hutu-Tutsi conflict.

Either economically, politically and/or technologically, many less developed countries lack what could be termed 'credibility' in the international community. Many have a poor balance of trade, are often subject to foreign exchange controls, and have difficulty in accessing markets for their export products (Desta, 1986). Thus, when a less developed country does obtain enough finance for a development project, of which many are construction related, that country's position as a construction client is undermined by its relative inferiority compared to the multinational firms that undertake such projects. The issue of foreign exchange is largely irrelevant in the funding of domestic projects. However, at an international level, and especially in the case of LDC's, the ability to acquire a product is dependent upon a country's ability to fund it (by generating cashflows or obtaining loans) in hard currency. This places most LDC's in an inferior financial position, with no real choice in the appointment of foreign contractors (who are usually supported by their own governments).
The finance for major development projects is frequently obtained through development aid funds. International trade is financed either via access to private sources, multilateral agreements (e.g. World Bank or IMF) or via bilateral agreements between countries. Private finance is very difficult in periods of economic decline due to the risk of insolvency, risk of political instability, short-term horizons of financial markets. Multi-lateral agreements have become more difficult as the World Bank and IMF have toughened their assessment criteria for loans to include the imposition of structural adjustment programmes. In some countries these have led to political and social unrest.

For such reasons, rather than fund a project with a loan, (which may or may not contribute enough to the economy to enable the repayment of the loan) many LDC's use counter-trade arrangements with foreign (developed) firms and governments to effectively spread the risk of the project into other sectors of the economy. Thus, aid projects are linked to, among other things, military trade, oil and gas exploration, manufacturing industries (e.g. cars, high technology). Bilateral agreements usually include a financial package although it is argued elsewhere that this latter is normally provided by the international firms themselves (Seymour, 1987). In such cases where overseas contractors provide not only construction services but also financial services (whether from internal or external sources), they gain "transactional advantages" over LDC clients. Thus, where the client is dependent upon these financial services it is likely that their procurement and contractual options will be diminished.

It could be argued that all such financial arrangements effectively do is devalue the primary project. Thus, the issue of client choice in the procurement of a major construction project becomes secondary to the perceived benefits of the wider counter-trade or financial arrangements. This was one of the potential reasons why Zahlan (1980), in a study of the Arab construction industry, argued that consideration of the political, social, cultural and technical implications at the concept and pre-feasibility stages of a project were often bypassed. Other reasons suggested were, the view that these issues were irrelevant, or, that the system of decision-making simply did not permit participants to raise contextual issues. A prime recent example of these problems is the recently completed Pergau hydro-electric dam project in Malaysia. This 600MW dam was constructed at a cost of $627m (M$1.8bn). Investigations by many journalists noted that this project, part funded by an overseas development aid loan of approximately $350m, from the UK, was linked to a military supply agreement between the UK and Malaysia, worth $1bn. The Malaysian government was noted at the time to have a defence spending budget amounting to $5bn (Dodwell, 1993a,b).

On its own, the Pergau dam project was identified by the Overseas Development Administration as "a very bad buy" for Malaysia (Dodwell, 1993a). Reports by engineers and environmentalists disclosed that the project was unnecessary in terms of scale (Tsuruoka, 1992). The World Bank even reported in late 1988 that the Malaysians should concentrate on gas fired electricity production (Dodwell, 1993a). The result is a dam that due to the level of water supply along the stretch of the Pergau river, will never operate at peak capacity (Tsuruoka, 1992). Malaysian consumers are therefore expected to pay over £100m extra for their supply in the future (Dodwell, 1993b). The Malaysian government meanwhile seems to have paid a more direct cost. At M$1.8bn, the Pergau project exceeds estimates by the project's many critics by 100%; estimates that are seemingly backed up by the cost of a similar hydro-electric facility in Terenggau, which was completed in 1984 for M$684m (Tsuruoka, 1992).

In a review of the work in 'construction industry development' in developing countries, Ofori (1993) found that persistent problems included shortage of materials, plant, and equipment, qualified personnel, as well as inadequate contract documents and contractual procedures. The choice of procurement system clearly impacts upon the choice, use and mix of resources on projects, and hence the choice needs to be influenced by a knowledge of the availability and impact of these resources on the construction industry concerned. For example, the importance of labour-intensive industries in Africa has been emphasised by Watkins (1994) who argued that many have been destroyed by public expenditure cuts, high interest rates, and "over-rapid" trade liberalisation.

Aniekwu and Okpala (1988), in a study of systemic factors on contract services in Nigeria, suggested that most developing countries had systems or frameworks which they had inherited from their various colonial administrators. The colonising countries have found that these systems are inappropriate for their own needs in the modern age (see for example the Latham Review (1994) of UK procurement and contractual procedures), and, hence it is not surprising that they are inadequate for use in developing countries.
As with many of the Arab states, development in Algeria has struggled to satisfy both rising economic aspirations and the strong Islamic values of its people (Findlay, 1994). Through its codified legal system, inherited from the French colonial regime, Algeria has, over the past ten years, proceeded to change its socialist orientation to embrace a market economy. It is a period of transition similar to many of the countries of Central and Eastern Europe. Liberalisation of agriculture in the mid 1980's was followed by wider price liberalisation and currency devaluation. A new code on Money and Credit introduced in 1990, which has opened Algeria to direct foreign investment, has been followed by a new investment code aimed at increasing both Algerian and foreign investments in most sectors of the economy (Anon, 1993).

In international counter-trade transactions, Algeria is noted as one of the major trading partners (along with Japan, Iran, Pakistan and the USA) (Palia, 1992). The total of these transactions constitute some 40% of the world economy (Miller, 1992). Algeria's principal foreign investment attraction has been its petroleum sector. In 1992 alone, Algeria was identified as negotiating bids for development projects covering 10 oil fields with 15 companies (among them firms from Canada, France, Italy, Japan and the USA) (Anon, 1992). However, it has been claimed that Algeria is now more of a gas country than a petroleum one (Audu, 1990).

Whilst Algeria has traditionally been under the economic influence of its' former colonial power, France, the formation of the Union du Maghreb Arabe (U.M.A). and its' proposed closer ties between the European Community (E.C.) will add a dynamic element to an already fast changing situation. It has been reported that eventually there could be an E.C.- Maghreb free trade area (Sutton, 1992). In addition to French, Italian, and Spanish contractors being active in Algeria, Bechtel (U.S.A.) have recently been awarded the contract to design and construct the Algerian segment of the Maghreb-Europe gas pipeline, and, Japanese companies were recently awarded construction contracts for gas separation and distribution plants at Alrar Ouest and Hassi Messaoud. The UK Government has also emphasised its strategic economic and political interests in Algeria (Howell, 1993).

In the procurement of international design and construction services Algeria has been severely handicapped by foreign exchange shortages generated by the service of a heavy debt burden, the weariness of home and overseas investors, as well as fluctuations in the value of oil and the US dollar.

The term procurement is not used in Algeria, though as a concept it would be understood. The general structure of the construction industry still follows that of the former colonial power, France. Recent economic change - an attempt to introduce elements of a market economy - has seen the emergence of some small independent professional organisations; most work however is still affected by, and through the machinery of the centralised state. A prime example of this is derived from a major project undertaken in Algeria. The events studied took place at a time were world oil prices crumbled to a 1970's low, which resulted in Algeria experiencing financial problems. This case illustrates problems, similarly experienced in the case of the Pergau Dam in Malaysia previously referred to.

In a policy of Urban redevelopment of Algiers, the government since the 1970's, wanted to relocate all industrial activities outside of the Capital and redevelop the Centre of Algiers into Commercial, financial, leisure and prestigious housing. By 1983, a special agency (OFARES - Office d'Amenagement et de restructuration de la Zone du Hamma - Hussein Dey) was set up by the Government. This agency is directly responsible to the Presidency rather than the Ministry of Construction. Its purpose being to oversee the redevelopment of the capital, Algiers. This is a long term project with different phases [See Fig.2]. The first phase is now almost completed.

Although the design was the result of an international competition, the main contractor was appointed on the basis of the financial package that was offered by the Italian government to Algeria. As a consequence, there was no alternative but to accept the services of the Italian main contractor, and also the Italian subcontractors subsequently appointed by the main contractor [Ref. Fig.3]. In this situation it is very difficult to assess the quality of the work completed by the Italian contractor and subcontractors, as well as whether Algeria has had value for money.

This second example shows clearly that in the context of international procurement of construction projects, developing countries because of the economic situation, have no choice as to the best alternative that would, in theory, give them value for money.
Conclusions & Recommendations

This paper has drawn attention to the appropriateness of applying the procurement concept, as defined and used in highly developed countries, to the particular circumstances of the developing countries.

It is suggested that the decision making aids which have been designed for use by clients and their advisers in the UK are inappropriate for clients in developing countries. An analysis of the changing interests in UK procurement has demonstrated how the concept is contextually dependent. The development of appropriate procurement assessment criteria for clients in Third World countries is therefore required. This must be preceded by a reassessment of the relationships between clients and contractors, in a Third World context, emphasising a proactive role for clients.

The usefulness of such an exercise would of course only be so, if the aid agencies in particular, were to adopt and implement such criteria, thereby giving clients in developing countries real choice in the financial and procurement systems available to them.

Future work - ongoing research

The work reported in this paper is a part of the preliminary investigations of a wider research programme. In particular, the following issues are under investigation:-

a) the establishment of appropriate Procurement Assessment Criteria and policies for clients in the Less Developed Countries,

b) the inadequacies of the current industrial development strategies adopted by the LDC's and Bretton Woods Agencies, with particular reference to the construction industry.

c) the establishment of Joint-Ventures for the promotion of research and development, management efficiency, and skill development in a developing environment, with particular reference to the Algerian construction industry.
Fig. 1 Construction Procurement - an indication of areas of interest 1967 - 1989
Raw Data from Franks (1989)

Fig. 2 Project Characteristics
Fig. 3 Project Organisation

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