

# Forces of Change and their Impact on Building Procurement Systems in use in Tanzania

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## Abstract

In recent times the term 'Building Procurement Systems' has become fashionable within the Tanzania building industry. It is a term that is surrounded by controversy and evokes strongly held opinion by both practitioners and researchers. This paper attempts to identify the forces that have caused change to the procurement systems used in Tanzania.

In the first part of the paper we focus on the forces of change that are thought to have motivated the development of new procurement systems in developed countries, primarily Britain. This information is useful because building industries found in most Commonwealth countries are structured around the British model. Problems experienced in Britain have a great impact on the construction industries of the Commonwealth Countries. Forces of change include rampant inflation related to the oil price hikes of the 1970's, information technology, education programmes for builders and demands made by customers.

The second part of this paper compares the forces of change that may have impacted upon the introduction of new procurement systems in developing countries, primarily Tanzania. It describes those that are described as the reasons for change in Britain and other countries, such as client demands and economic depression and compares the Tanzanian experiences where issues such as commercialisation of parastatal organisations, proliferation of 'in-house' professional teams, increase in project complexity and expansion of the private sector, were found.

The paper concludes by showing that the forces of change that have caused the introduction and use of new building procurement systems in developing countries are not the same as they are in developed countries and that there are some unique reasons in Tanzania. It would seem that technology transfer is the greatest driver of change but that such attempts need to be adapted to suit local conditions.

**Keywords:** *Building Procurement Systems, Developing Countries, Forces of Change, Tanzania.*

## INTRODUCTION

At present, there are a number of 'new' procurement systems in use in many developing countries. Whilst most of them have been offered in 'developed countries' for some time, their use in 'developing countries' is much more recent. In these countries the Traditional Building Procurement System (TBPS) has been the

sole system, or at least has dominated, in the past. The TBPS is a procurement system that originated in the nineteenth century, designed by the traditional built environment professions at the time when 'general contractor' began to emerge, such as Cubitt in London in 1870 [Rwelamila & Ngowi, (1996)].

However, despite its dominance and popularity in the building industry for more than a century the TBPS has been criticised as a poor building procurement or delivery system and is blamed for the decline of industry performance [Boudjabeur (1995)]. Mohsini, Sirpal and Davidson (1995), singled out the separation of design responsibility from construction responsibility as the main source of poor construction industry performance. The traditional experience based on the compensation mechanism can no longer be taken for granted in meeting client's perceptions. The project invariably cost more and a relatively inferior product is delivered as the TBPS is thought to place project objectives into a second place (Howes, 1995).

### **Forces of procurement change**

It is generally thought, and often stated, that the proliferation of alternative methods of procuring building projects was caused by a combination of factors. These include growth of building technologies and the ever-increasing technical complexity; and the client's continuing desire for speedy commencement and shortened completion periods [for instance, Franks (1990), Masterman & Gameson (1994)]. However, a number of other forces, that could be said to have been catalysts of change, have been identified and these are described below.

#### *Customer demands*

By far, the most common reason for change that is described by building researchers and writers is that of customer demands for change. Bowen, Hindle & Pearl (1997) assimilated the views of Moore (1984), Ball (1988), Franks (1990), Hillebrandt & Cannon (1990) and Naum & Coles (1991) to concluded that, the changes that are now taking place in the area of building procurement are due to the fact that demands by clients cannot be met through the TBPS. Boudajabeur (1995) was also of the opinion that to be able to meet the clients' demand, there was a need for a greater degree of financial planning; to reduce design and building time and reduce the burden of contract administration on the part of the client. In general terms the above have brought increasing pressure to find other ways to 'deliver' the final product through improved design and building process.

Initially, these demands for speedier delivery were found only in the private sector but in recent times, public sector clients have also demanded change. In Britain one of the first government reports to make specific demands was found in Latham (1994), then in partnership with the private sector through Egan (1998) where the message was more bluntly stated and quantified demands were made across a broad spectrum of deliverables. However, in Singapore and in South Africa (to name only two) Government is demanding more of the industry, through building procurement. Here the emphasis is on industry capacity, affirmative action, job and skills creation [PWD (1997)].

#### *Economic crises and demand reduction*

Franks (1990) noted that interest in alternative procurement systems and methods began in the mid 1970's when the oil producer cartel, OPEC was formed, resulting in a significant increase in the price of crude oil. This created an economic crisis around the world and most non-oil producing countries experienced double-digit inflation. Most industries were hit but few more so than building [Hillebrandt & Cannon (1990)]. Building demand declined dramatically and all building role players were affected. It caused building companies that had previously looked to the architect and engineer as the provider to find customers outside of the traditional system. Many adopted 'normal' business practices from other industries by targeting customers and finding ways to sell their services. This included offering the full service (design and build, package deals, property development) or by convening a group of people or businesses that's combined needs or skills were satisfied or used to deliver buildings and structures. Many consultants also became

aware that the only means to overcome unfavourable prospects was to strengthen their marketing efforts considerably [Hindle (1991)].

This same oil crisis of 1973/4 opened up the Middle-East markets in the 1970's. Companies determined to take these opportunities in the Middle - East had to tailor their marketing approach to the scale of private funds available, as well as to the scale and glamour of some of the projects [Hillebrandt & Cannon, (1990)]. Innovative methods and customer satisfaction became important considerations to successful role players.

Much more recently, a series of prolonged economic recession periods, experienced in many countries, have had the effect of repeating the phenomenon described above, particularly since the effect over a period of time has been to reduce the size of the market [Building (1991)]. In South Africa the building industry has experienced market shrinkage in excess of 30% over the past eight years [Snyman & Langenhoven (1998)].

One of the obvious effects of a deep or sustained reduction in demand for buildings is a corresponding increase in competition amongst service providers and when the traditional sources and methods fail, new methods of selling and delivering services are found. Ambrose and Tucker (1999) observed that traditionally, the Australian building industry has utilised only a limited number of procurement systems. However, with increasing competition, financial constraints and risk minimisation, the need for a more effective and flexible procurement system has become essential. The aim is to utilise a system that is best able to deliver the project on time, on budget and to the required quality level.

#### *State intervention*

Several authors have noted that Governments around the world have attempted to use the industry as an economic regulator by increasing demand when the economy needs to be boosted and reducing it when it is thought to be overheated. But this is found in very few countries today, since the advent of economic policies that are termed 'Thatcherism' or 'Reaganomics'. As indicated, these policies were made popular in the UK and USA in the 1980's, using two main strategies.

- (i) Cut Government expenditure on capital investment to a minimum.
- (ii) Let the private sector become responsible for a greater share of the economy through 'privatisation'.

Clearly, both strategies have a major impact on the demand for buildings, since, public corporations that are expected to be privatised, cut-back on capital expenditure in preparation for privatisation. When these are combined with an economic down-turn, the recession becomes a very deep one.

Another result of privatisation is to be found in the fact that these privatised corporations now form part of the private sector and they can be much more innovative in their procurement practices.

#### Expansion of the private sector

This is a phenomenon that is linked to Thatcherism and Reaganomics. When Governments withdraw from infrastructure development and privatise state corporations, a natural consequence is a growth in the private sector. Even if there is no real growth, the public sectors withdrawal from capital expenditure projects increases the private sectors share of the market and, hence, the importance of the private sector client. A natural consequence is a diversity of methods of building procurement. These client organisations are not constrained by a need to account to the public in terms of using bidding as the preferred selection system and always accepting the lowest bid.

#### Increase in project complexity

It is clear that building is increasingly becoming more complex. In terms of, new design, assembly and facilities management technologies; new materials; speed of information transfer; increasing numbers of specialists and independent role players; shortening project durations; safety; quality and industrial relations [Gidado (1996)]. Managing these increasing levels of complexity have proved to be more than the

managers of the TBPS can handle and this has become one of the reasons for the demise of this system [Rwelamila (1996)].

### *Weakening of the grip of the professions*

In Britain in the 1980s the changes in Government regulations concerning monopolies and cartels caused the traditional built environment professions to remove several restrictive practices such as, fixed fee scales, a ban on advertising and promotion and restrictions on architects who wished to involve themselves in the construction process [Crinson & Lubbock (1994)]. This effectively broke the cartel and caused practices to compete with each other for clients and commissions. For this and the reasons described under the previous two sections the role of the professions as delivery agents has weakened, as clients seek the services of Projects Managers, more of their number try to get closer to clients by offering a new range of services including Project Management and Procurement Advisor. Without steady volumes of work the professions are not able to deliver enough projects to keep general contractors employed, causing them to have less power to enforce the procurement system of their choice. Contractors who seek to find customers directly develop or adopt those procurement systems that are most appropriate and are then loath to revert to traditional practices and the will of the architect.

### **Education of builders**

According to Bowley (1966) the separation of the design responsibility from construction responsibility, caused a separation in the education of designers and builders. Builders were restricted to craft training whilst the education of architects was superior but neglected construction practice. In the mid-sixties builders promoted university and technical college programmes for builders that included management as a core discipline. Powell (1988) confessed that the product of tertiary education programmes, is producing 'professional builders' who are equipped with business skills. Hindle and Rwelamila (1998) attributed the loss of the building leadership position by architects to the fact that they had not attempted to include management and process development in the curriculum of 'design schools'. The result was situation which frustrated building graduates who were placed in sub-ordinate position to designers who often displayed management deficiencies. Hindle and Muller (1997) described how modern building managers developed an inherent feeling of dissatisfaction of the traditional structure and procedures of the industry. This together with the initiatives of the Institute of Building in the UK who developed continuing education programmes and examinations for its members, prepared builders to interface with consultants and clients on equal terms. To this end, professional builders and managers in construction are not only able to compete as equals but as leaders in the building delivery process.

### *Information Technology*

According to Powell (1988) the project management procurement system came about as a result of two major factors; shortcomings on the part of the traditional consultants and growth of computer technology for swift manipulation of data. One of the inevitable results of the information technology age is the acceleration in the exchange of ideas and methods. This has led to the development of improved delivery systems in the building industry [Hindle (1991)].

According to Gann (1996) Toyota the motor vehicle manufacturer in Japan, is already producing houses using similar production techniques as are found in the automotive factories. Using similar sales methods, customers are able to see a finished product by means of a computer model and they can decide upon a layout, select components and finish and be provided with an estimate almost instantly. At the end, these details are captured on the program and converted into resource schedules within seconds.

Mohsini *et al*, (1995) described one of the major differences between the TBPS and other procurement forms as the exploitation of information technology as a resource in the construction industry. Certainly this is the case in respect of tools that the new role-player uses, 'the project manager' who is able to access and utilise a series of management and scheduling systems via specialist software.

### *The construction industry in developing countries*

The structure and systems of the building industry in most Commonwealth developing countries has emulated the United Kingdom system. Wells (1986) described the fact that the TBPS has been preserved more or less intact in developing countries. The same types of specialists interact in the fragmented organisation of a building project and the TBPS is applied mechanically to all projects, large and small, and each professional jealously guards his territory at every stage of the building project implementation. Rwelamila (1996) found a similar situation in Botswana. However, this study is concerned with the case of Tanzania and change is occurring and it would seem that there are a number of drivers of change.

### *Building procurement systems in Tanzania*

Unfortunately, none of the many reports about the building industry that have been produced since the mid-1960s, by Government sponsored committees and others, have accurately and/or adequately defined the level of use by different clients of the various available procurement systems. According to Nkinga (1995) the public sector procurement procedure (not limited to buildings) is embodied in Section 143 of the constitution of the United Republic of Tanzania (1997). The general regulations of that section require public sector procurement of works, services and supplies to be done through the Central Tender Board, Regional Tender Boards and various accounting officers in accordance with the powers conferred to them.

At the time of achieving political independence in 1961 the building industry in Tanzania was based upon the British model of which the TBPS was an important part. Wells (1986) described how, at that time, Tanzania under the British mandate had a Ministry of public works, which was responsible for overseeing the implementation of all government building programs. In principle, the Ministry of Planning first approved all building plans for new construction projects. All commissions for building projects channelled to NEDCO for design and then MECCO for construction through the Ministry of Works. Since the design responsibility (by NEDCO) was separated from construction responsibility (by MECCO) the main characteristic of the TBPS and that of building works in the public sector accounted for 70% of the total country building projects (ILO report 1983), it can then be seen that the TBPS was the dominant procurement system in Tanzania in the past.

However, in recent times there has been a dramatic change as was shown by Kamala (2000) who conducted a survey in Tanzania and showed that, whilst the TBPS dominated in the past many new systems have are now used. This questionnaire survey was based upon the response from 15 leading architectural offices and the four leading engineering consulting firms in the country (total of 33 registered practices available). Similarly, 10 out of 17 quantity surveying offices were surveyed. Table 1. describes the response of these surveys:

*Table 1: The use of Building Procurement Systems*

<b>Building Procurement Systems</b>	<b>Past</b>	<b>Present</b>
Traditional Building Procurement System	91.0%	38.0%
Design and Build	3.6%	16.0%
Management Contracting	0.1%	6.4%
Construction Management	1.7%	7.5%
Turnkey / Package Deal	0.4%	11.1%
Design and Manage	3.2%	4.2%
Develop and Construct	0%	3.2%
Build–Own–Operate–Transfer	0%	13.6%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>

Source: Kamala (2000)

### *Drivers of change and procurement system usage in Tanzania*

It would appear that there are a number of factors that have contributed to the reduction in use of the TBPS in Tanzania. Whilst these may be seen to be similar to the ones described for developing countries there are a number of differing reasons.

#### *Customer demands*

Further decline of the use of the TBPS in the Tanzanian public sector has been facilitated by a relaxation of Government tender regulations and a more informed business approach to procurement. This involves designing, supervising building and maintenance work in a number of other ministries and in most of the parastatals and hence has enabled them to effectively by-pass the TBPS previously advocated by government regulations. They are adopting alternative systems that suit their respective projects.

The National Housing Corporation (NHC) is an instance where, during its inception, an over-riding objective was to build houses, particularly low-cost houses [Wells (1986)]. However, its current method of operation is quite different. It has set about building-up and boosting its own capacity for design and construction. At the moment NHC is acquiring plots, designing, building and selling completed buildings to its customers. Some of these schemes are located at Tabata, Mbezi Beach and Boko in Dar es Salaam. Plans are underway to establish similar schemes in Arusha and Mwanza next year by the same organisation.

Clients have found greater rationality and effective in this method of organisation in terms of time and quality. Yet it is believed that the cost of construction per square metre of a living space by NHC is probably the lowest prevailing in East Africa.

#### **Economic crisis and demand reduction**

Despite being an important factor in many other developing countries, this would seem not to have been a factor of any importance in Tanzania. The Tanzanian economy has experienced reasonable growth in the past decade but this was not constant though the periods of decline were not severe.

#### **State intervention**

The Tanzanian Government has privatised many parastatal organisations. In the 2000/1 budget speech the Minister of State for Planning and Economic Development revealed that out of about 400 parastatal organisations, 295 have been privatised. Through privatisation such organisations are released from the need follow prescribed procurement procedures, whilst, the few that have remained are instructed to operate as private or commercial organisations.

Kamala (2000) carried out research based upon ten case studies randomly selected projects recently completed in Arusha and Dar es Salaam cities. Out of the ten case studies six were projects executed by few remaining parastatal organisations. Five of them used alternative Building Procurement Systems other than the TBPS. These included PPF House, PPF Tower, IPS building and UDSM lecture theatre all based in Dar es Salaam and Tanzania National Parks (Tanapa) Headquarters in Arusha.

#### *Expansion of private sector*

Tanzania is among developing countries with insufficient money to embark upon infrastructure growth projects. This means that such developments only occur if donor funds are available or if the private sector identifies an opportunity and if the Government concerned is prepared to guarantee the income stream, which would allow Build-Operate-Transfer (BOT) projects or similar schemes such as Build Own Operate to be used.

Recently, the Tanzanian private sector experienced a period of rapid expansion after the trade liberalization measures in the mid-1980's. Nkinga (1996) stated that the public sector is pegged against more complex and long-term criteria. He further explained that other considerations, besides economy, are accountability, non-discrimination among potential contractors and respect for national and international obligations.

This argument is similar to the one by Hindle (1993) that the traditional system has been held in place in South Africa by the public sector that use the competitive bid method of contractor selection for accountability reasons. On the other hand, according to Nkinga (1996) the private sector does not follow any set procedure. It simply serves to achieve an acceptable economic result for the client in terms of time, cost and quality.

The increasing use of alternative procurement systems in the private sector is further advocated by Oakman (1997). For the past 10 years he has successfully completed at least thirteen projects for private sector clients with himself as the project manager; worth more than US\$ 70m on which other forms of Building Procurement Systems were applied. The projects included 250 beds at the Sheraton Hotel; 40 beds at Pangani Game Fishing Lodge; 50 Mirambo Street Office Block; new Canadian Chancery (Dar es Salaam) and Office Block for Leyland Daf (Tanzania) Limited.

#### Increase in project complexity

This is certainly a factor in developing countries where new industrial and commercial properties, in industrial and commercial hubs, are designed to similar standards and use similar technologies as those found in developed countries. It means that there is always a very wide variance in technologies in use because traditional methods are used in rural areas whilst a mixture of technologies is to be found in towns and cities.

In support of the above, six respondent out of ten, when asked to give reasons for the failure of the TBPS described; technological changes; increased complexity of buildings and a need for specialisation to be the causes [Kamala (2000)]. In Tanzania there seem to be an almost general reluctance among clients to commission any kind of high quality building work involving complicated finishes or structures using the TBPS. Buildings such as Sheraton Hotel, Mitsubishi/International House, PPF Tower and now Holiday Inn were being implemented using other forms of Building Procurement Systems, such as, 'management oriented' or 'design and build' that can adequately accommodate complexity of buildings.

#### *Weakening of the grip of the professions*

There is no real evidence to show that this is a factor in Tanzania, though it is clear that international trends do influence the country, particularly as a result of the impact of globalisation and the impact of foreign funding for major projects.

#### **Education of builders**

The role of educated builders as agents of change seems not to have been a factor of change in procurement systems usage in Tanzania. In this country a contractor is often an important instrument of economic development and much effort has been expended to promote their managerial skills. In developing countries a contractor is often viewed as an unpatriotic, dishonest businessman who, given half a chance, would either use shoddy materials or leave out some parts of the structure. May also make unjustified claims or abscond with advances or loan paid to him or influence consultants to certify unjustified payments to him.

On the other hand Contractor's initiatives to acquire management skills in Tanzania have been far below expectation. The response from contractors themselves to invitations to attend management and other courses has been far from enthusiastic. This is mainly because of financial commitment involved but many contractors do not see the need for training since they make an adequate profit without it.

## **Information Technology**

Whilst Tanzania was poorly served, in terms of communication systems, in the past it is now well served. Systems that depended upon cable and wire were available in cities but few rural areas were included in the network and the system was unreliable. In effect, this hampered access to Information Technologies. However, in recent times satellite and cellular (wire-less) systems have been installed that allow communications more efficiently and over a much wider area. Clearly the sudden upgrade to the latest technologies has had an impact, this is a phenomenon known as 'technology leap-frogging'.

## **Technology transfer and 'leap-frogging'**

Gidado (1996) described the situation in Nigeria where most of the alternative procurement systems were in use without any apparent recognition of or adjustment for the local situation or needs. It seems that, just as with the TBPS, methods that have been developed, and found appropriate, in Europe have been transplanted directly into Africa without waiting for similar systems to evolve. This is an example of technology transfer and possibly 'technology leap-frogging'. These systems are imported by clients who are international business organisations, and have used the procurement systems elsewhere. Otherwise, clients and consultants who have learned of the success of such systems and are trying them in order to test them.

As described in the section above dealing with the expansion of the private sector, a major source of infrastructure development in Tanzania is often donor funding. Such funding usually brings with it, not only the donor's money, but the donor's design, procurement system, contractor and materials. In this way, systems and procedures may be seen to cross borderlines very easily.

However, a survey carried out recently indicated that, in Tanzania there is a great criticism of the lack of real technology transfer. This is due to the minimal involvement of local players (Kamala, 2000).

### *Impact of foreign aid agencies and Globalisation*

Many of the consultants and clients included in the surveys noted earlier described the fact that donor agencies often appoint consultants and even contractors who are based in the donor country. These foreign donors and their consultants select a building procurement system with which they are familiar and they simply import it into the country. In this way local contractors, consultants and clients get exposure to such procurement systems.

Many construction clients are foreign firms or corporations that have seen a business opportunity and have moved into Tanzania, such as the many mining firms. They also bring with them their own skills, consultants and experience. They also use procurement systems that they are familiar with. In this way, and through the advances in information technology, external forces and systems have 'invaded' the country in the form that is described as globalisation.

## **SUMMARY AND CONCLUSIONS**

New building procurement systems are proliferating in Tanzania at the present time but it would seem that the forces of change which are thought to have caused them to evolve are not the same as those found in more developed countries, particularly Britain. Table 2 summarises these forces of change upon procurement in Tanzania:



Table 2: Impacts of the Forces of Change on Procurement Systems

Forces of Change	Developed Countries	Tanzania
Customer Demands		Yes
Economic Crisis and Demand Reduction		No
State Intervention	Strong	Yes
Expansion of Private Sector	Yes	Yes
Increase in Project Complexity	Yes	Yes
Weakening of the Grip of the Professions	Yes	No
Education of Builders	Yes	No
Information Technology	Yes	Yes
Impact of Foreign Aid Agencies	Yes	Yes
Technology Leapfrogging		Yes
Globalisation		Yes

It would seem that the primary driver of change has been from the demand-side in the form of 'customer demands'. This would seem to have emanated, particularly, from parastatal organisations and external based organisations such as multi-national companies and aid agencies. Those parastatals that have become privatised have helped to swell the ranks of the private sector and those that have not are free to procure in ways that are often only seen in the private sector. Other coinciding forces are, an increase in project complexity, and information technology.

Those forces of change which were thought to have had an impact in Britain and other developed countries but which did not seem to have played a part in Tanzania were, economic crisis and demand reduction, weakening of the grip of the professions and the education of builders. In effect, the supply-side initiative that is thought to have played a role elsewhere would seem to have played no role here. Two other forces were identified that were not found in the literature and include, technology leap-frogging and Globalisation.

It is clear from the sections above, that construction clients have chosen BPS that differs from the TBPS. Private sector and in parastatal clients have moved away from the system that they had used for so long. This must indicate that they were not happy with aspects of traditional delivery and that they have chosen other options in order to obtain improved levels of service and satisfaction.

This study has not attempted to measure the success of the various procurement systems or if they were selected in order to suit the needs of the client and the project. It is possible and likely that wholesale importation of procurement systems that may have been appropriate elsewhere will not be appropriate in Tanzania. In this respect it is acknowledged that the use of many of these procurement systems is in its infancy and they are 'being tested' and the situation may well change in the near future. It is only in recent times that the match between the stage of socio-economic development and choice of procurement system has been considered. Further research in this direction is planned for the future.

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