

THE DEVELOPMENT OF PUBLIC AND PRIVATE CONSTRUCTION PROCUREMENT SYSTEMS IN MALAYSIA

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ABSTRACT

As demand on building construction projects rises, various procurement methods have been adapted to suit with unique project requirements. However, poor industry performance and rapid developments within it indicate the need for a research on the procurement systems in the industry. In order to explore the development of procurement systems in Malaysia, a discussion on different economic phases which influence the routes of procurement systems and its evolution in Malaysia's construction industry is initiated. Subsequently, based on a questionnaire survey collected from 73 public and 68 private parties and interviews with selected personnel in the industry, this study confirms the significant and dominant role of traditional procurement system used by both the public and private sectors in Malaysia. The discussion part helps to elaborate further on the research findings.

INTRODUCTION/HISTORICAL SCENARIO

The client sector in the construction industry can be classified into two; the public and the private. The public sector client, primarily the government, is observed to be the initiator of major developments on social amenity projects. The contribution of the public sector to the growth of the construction industry has been dominant since the country's independence. Along with the launching of Vision 2020 in the Sixth Malaysia Plan (6MP) in 1991, there was a need to increase or maintain the country's gross domestic product (GDP) at certain levels of achievement. The high public demand on the industry provided a maximum growth impact of 17.3% in 1995, and continuously recorded significant contributions of 6.6% to the country's GDP for the two consecutive years i.e., 1996 and 1997. According to Ibrahim et al., (2010), the Malaysian construction industry has largely been spurred by government spending to improve the nation's infrastructure. The implementation of many public buildings and infrastructure projects such as Kuala Lumpur International Airport (KLIA), the Petronas Twin Tower and new administrative capital of Putrajaya provided a multiplier effect to the growth of the overall economy.

The global economic crisis in 1997/1998 saw a sharp drop of construction growth for two consecutive years, -24% in 1998 and -4.4% in 1999. The completion and suspension of many mega projects, over supply of houses and shop lots, high interest rate and the bearish share market reduced the demand for the industry. To stimulate the industry's growth, the government injected RM7.3 billion fiscal stimulus package, resuscitating projects and implementing construction of various infrastructure, social and transportation initiatives. Consequently, the construction sector recorded positive growth of 1% in the year 2000 until 2003 before recording a negative growth of -1.9% in 2004.

In the Ninth Malaysia Plan (9MP) which covered the period from 2006 to 2010, the government again injected RM2.4 billion worth of projects to maintain the growth of the construction industry. In order to ensure the multiplier impact to the various parties, large projects are parcelled into smaller packages. In November 2008, an economic stimulus package of RM7 billion was allocated to maintain economic growth, reinforce the Malaysian economy and strengthen elasticity against global economic recession, precipitated by the sub-prime crisis in the United States. The completion of a number of construction projects awarded in the earlier phases of the 9MP and high demand from residential and non residential sectors are said to be significant contributing factors to the strong growth of the construction sector for the year 2009. The construction industry recorded a growth of 5.7% compared to only 2.1% in 2008 (CIDB Annual Report, 2009).

The 9MP saw larger contributions of the private sector to the construction industry. The government started to get private sector involvement aggressively in implementing public projects through Private Finance Initiatives (PFI) modalities. This move was congruent with the New Economic Model (NEM) which focused on enabling the private sector to lead project developments. Following the launch of the 9MP, the Government also announced the implementation of three Regional Economic Corridors, namely the South Johor Economic Corridor (SJER), the Northern Corridor Economic Region (NCER), and the Eastern Corridor Economic Region (ECER). All comprised

significant elements of PFIs as a funding mechanism for many of the projects. For example, the total investment for ECER is RM112 billion, of which 47% of the total cost will be financed by the private sector, including 27% via PFI.

The NEM has been introduced to underpin the strategy to support the achievement of developed country status in 2020 with the private sector being the main engine of growth. Statistics from CIDB (2009) indicated that the private sector has been a significant contributor in creating demand to the industry with total project numbers of 3,906 (57%), worth RM40,398.99 million in 2009. As for 2010, the percentage ratio of public and private project is 28:72 from the total number of 6344 projects valued at about RM75,610.29 million. Under the Tenth Malaysia Plan (10MP) covering 2011-2015, CIDB is expecting 3.7% growth per annum over the said period. Besides the continuous implementation of high value fiscal stimulus package projects, the demand for high end residential properties helps to boost the performance of the industry.

The chronological changes affecting the procurement development in the Malaysia construction industry can be summarized into these three important stages:-

1) Before the 1990s, where the industry enjoyed normal construction growth. The public sector dominated the demands to the industry in constructing new buildings and infrastructure facilities such as quarters, schools and roads. The project implementation was heavily dependent on traditional procurement systems inherited from the British.

2) In the 1990's until the recession period of 1997/1998, when construction industry growth was the highest, and when the public sector through its technical department, the Public Work Department (PWD) could not cope with the high number of public projects. New procurement systems, such as Project Management Consultancy (PMC), Built, Operate and Transfer (BOT) and Design and Build (D&B), were introduced.

3) After 1997/1998 recession and up to and including the current stage, where the government is aggressively pursuing the developed nation status. Following the 9MP, the Construction Industry Master Plan (CIMP) was launched by CIDB in 2006 as an industry strategic plan with seven strategic thrusts to transform the industry to be a global player, innovative and knowledgeable solution provider. The introduction of the CIMP strengthens the need to understand the basic importance of procurement development in Malaysia. Strategic Thrust 1 (ST1) of the plan acts to focus on integrating the construction industry value chain to enhance productivity and efficiency. In addition to that, Industrialised Building System (IBS) was introduced, to expedite the delivery system which was in line with government efforts to confront the heightened challenges in a competitive global economy.

Procurement systems still remain a major concern of the construction industry if the output of the industry is the main consideration. Perceived as a key to project success, a study on procurement still received attention from the industry (CIOB, 2010). Procurement systems has been defined as something to do with the type of contract, obligation, rights and liabilities of the parties involved that is between clients, consultants and contractors (Ashworth, 1990). Thus, it is important to carefully consider all factors when selecting the procurement type used at the very beginning of the project (Rashid, et. al., 2006) because different procurement systems will have different effects on cost, time and quality of the project. The various changes within and demands of the industry will impact the productivity and efficiency of the whole industry supply chain and need to be tailored with careful selection of the procurement routes to ensure proper project performance.

The above discussion highlights the significant changes that has happened and justifies the push for the industry to adopt various alternative procurement systems towards fulfilling the client's needs and satisfaction. Accordingly, the next stage is to delve into the various procurement types used by different client sectors in the industry.

PROJECT IMPLEMENTATION AND PROCUREMENT SYSTEMS IN MALAYSIA

The existing procurement systems in many developing countries were inherited from their former colonial administrators, (Ofori, 2007; CIDB, 2009). For example, Malaysia inherited the procurement system from the British (Jaafar and Aziz, 2006; CIDB, 2009). In the earlier days, traditional procurement system was practiced by both the public and private sectors to develop their projects. Beginning from 1990s, Malaysia adopted a new procurement system to cope with the increasing number of project implementation, complexity of building requirement and mega infrastructure projects to support the country's growth (Rashid, et. al., 2006). He added that the introduction of different 'fast-tracking' project procurement systems is an effort by the industry to offer better deals to its clients or customers, as they start realizing the importance of 'value for money' for their projects in terms of cost, time, and quality. The new procurement practices which were said to be 'fast tracking' are D&B, BOT and PMC. However, the PMCs, which supervised and managed a majority of government projects, failed to control costs, design and scope of those projects, resulting in higher costs (Ibrahim, et.al. (2010). According to Nitithamyong and Tan, (2007), in 2003, the Ministry of Works revealed that some public projects handled by a few PMC's were unable to be completed within the time scheduled and the worst effect of this system was the poor

workmanship (Kerk, 2003; Mohamad, 2004). The failures of these projects have led to a nationwide misconception of the benefits of PMCs to the construction industry; this research therefore, has excluded the PMC system to be among the procurement systems under scrutiny.

In general, there are three types of procurement systems adopted within the Malaysian construction industry which includes the Traditional/Conventional, Design and Build and also the Management system (Hasyim, et. al., 2006; Rashid, et. al., 2006; Seng and Yusof, 2006; Ismail, et. al., 2006; Adnan, 2008; CIOB report, 2010). Hashim, et al, (2006) found that both client sectors in Malaysia are currently using the traditional procurement system compared to other procurement types. Statistics from CIDB (2011) reveal that conventional method still dominates the industry with 96.6% and 97.3% usages in years 2009 and 2010 respectively based on total number of projects. The other procurement methods used in the industry are D&B, Turnkey and BOT.

METHODOLOGY

Questionnaire development

This article is part of a larger study on procurement systems in the Malaysian construction industry. In relation to the given objective, this article will reveal data on the procurement usage for both the public and private sectors. For quantitative data technique, a real questionnaire survey that was edited after the pilot test, was conducted and distributed to the industry players; this phase involves postal surveys via mail. Before the questionnaire surveys were sent out, telephone calls were made to the various respondents seeking their permission to participate in our questionnaires.

Questionnaire surveys were distributed to 800 samples, i.e. 300 clients consisting of both sectors that is public and private sector, 200 contractors, 100 architects, 100 engineers and 100 quantity surveyors. The sample was selected on a random basis. Respondents were selected from the Malaysian Association of Architects (PAM) website, the Engineers from the Institution of Engineers' Malaysia (IEM) website, the Quantity Surveyors from Board of Quantity Surveyors' Malaysia (BQSM) website and from the Construction Industry Development Board (CIDB) website. For clients' organizations, the list was obtained from Real Estate Housing Developers Association (REHDA) and Ministry of Housing and Local Government (MHLG) websites from the internet. The involvement of respondents from both sectors are quite balanced between public 73 (48.3%) and private sector clients 68 (45%). To enhance the findings, interviews with 6 industry players were conducted after the questionnaire survey.

ANALYSIS

The main target of this study is industry players with experience dealing with procurement systems in the Malaysian construction industry. Most of the respondents (56%) have degrees. 38% of respondents have qualifications below degree level (i.e., secondary-school level of education) and only 6.0% stated that they have a higher degree level. For their specialisations or their fields of expertise, most of the respondents are in Quantity Surveying (25%), Contracting (23%) and Civil Engineering (19%). Almost half of the respondents are in current positions as project manager (28%) and quantity surveyor (23%) while the others are in current positions as civil engineer, site manager and architect. A small number of respondents i.e. 9.9% have experience of more than 20 years while the others have below 20 years of experience in the Malaysian construction industry.

Respondents of this study were solicited from 3 categories i.e., client's firm, consultant's firm and the contractor's firm. Questionnaires were analysed according to the client's sector, whether they were involved with public or the private sector. Most of the respondents were from Contractor firms (38%) and Consultant firms (36%) which include Architects, Quantity Surveyors and Civil Engineers. Private client firms/developers and Public client firms, each consist of 14% of the total respondent.

PROCUREMENT SYSTEMS USED IN THE MALAYSIAN CONSTRUCTION INDUSTRY ACCORDING TO SECTORS

Table 1 presents 10 types of procurement systems used in the Malaysian construction industry. The results from the table indicate that the Lump Sum-Drawing and specification (LSDS) have been chosen by both sectors to be the most 'used' procurement system with a total percentage of 93.3% usage with public sector client (50.7%) and private sector client (42.6%), and both sectors ranked this procurement at 1st place. The LS-Firm Bills of Quantities (LSBQ) system scored the second highest usage by both sectors with 59.2% total usage in which the public ranked this procurement at 2nd (34.2%) place while private sector client ranked this at 5th (25%). Third highest scorer on the

procurement type usage is the Approximate BQ's (ABQ) system with total usage from both sectors amounting to 58.7%, in which the public sector client ranked this system at 4th (20.5%) while the private ranked it at 2nd place (38.2%). Next, the Design and Build (D&B) system was scored by both sectors as the 4th highest scorer of usage with 51.7% as the public sector ranked this system at 5th ranking (16.4%) while private sector ranked the system at 3rd (35.3%). Finally, the lowest scorer on the top 5 'used' procurement systems by both sectors is the Turnkey system with a total score of 49.8%, where the public sector ranked this system at 3rd (23.3%) while private sector ranked this at 4th place (26.5%) among ten types of procurement systems.

The data shows that among our respondents, either public or private sector, the use of LSDS, LSBQ (ABQs) also known as traditional methods as their main procurement routes followed by Turnkey and D&B, very much categorized under Alternative method.

Used procurement systems according to client sectors

Procurement types		Public sector	Ranking	Private sector	Ranking	Total percentage
Conventional Method	LSDS	50.7%	1	42.6%	1	93.3%
	LSBQ	34.2%	2	25.0%	5	59.2%
	ABQ	20.5%	4	38.2%	2	58.7%
Alternative	Package Deals	2.7%	8	7.4%	8	10.1%
	Turnkey	23.3%	3	26.5%	4	49.8%
	D&B	16.4%	5	35.3%	3	51.7%
Management	Management Contracting	6.8%	7	19.1%	7	25.9%
	Construction Management	8.2%	6	22.1%	6	30.2%
Modern Method	Private Finance Initiative (PFI)	1.4%	9	2.9%	10	4.3%
	Public-private partnerships (PPPs)	2.7%	8	4.4%	9	7.1%
	Job Ordering Contracting (JOC)	0.0%	10	2.9%	10	2.9%
	BOT (Built, Operate and Transfer)	2.7%	8	1.5%	11	4.2%
	Cost Plus	1.4%	9	2.9%	10	4.3%

Table 1 Procurement methods used by public and private clients sector

Previous literature reveals that there have been very limited studies on the usage comparison. Many studies only focus on the practice of public procurement sector. The public sector clients in Malaysia have been observed to choose the traditional procurement system more than the private sector clients. The public sector clients are said to be close-minded but they are slowly moving to newer procurement systems while the private sector is adopting both; a traditional as well as alternative procurement systems. Private sector clients (normally small organizations) are observed to be more flexible to change compared to the public sector. It is normally difficult to impose changes on a large organization like PWD because it is already embedded and highly entrenched in their work culture. In response to the country's pursuit in achieving vision 2020, whether they agree or not, will need to be replaced a faster more contemporary procurement systems such as D&B and PFI will need to be replaced. According to Takim, et.al., (2008), currently, there are many government projects required to use new procurement method such as UiTM Medical Centre building at Enstek and 9Bio project implemented by The Ministry of Health Malaysia.

The data in table 1 showed that both public and private clients still choose Traditional procurement system that includes LSDS, LSBQ and ABQ. However, there is no significant difference in terms of types of procurement usage between the two. Besides that, among the popular alternative procurements are the D&B and turnkey system. The results support Hashim, et al, (2006) and CIDB survey in 2009 and 2010. The dominance of traditional procurement system also prevailed in UK (CIOB, 2010) and Singapore (Ling, 2008). Specifically, Love, (2002) revealed that Traditional Lump-Sum method is the most popular form of procurement in Australia as in many other Commonwealth countries such as Malaysia, Hong Kong (Chan et, al, 1999), Singapore (Lam and Chan, 1995), South Africa (Bowen et, al. 1997) and the U.K, (RICS, 1996). Love, (2002) said that Non-traditional methods such as D&B and Construction Management have been encouraged as methods for overcoming some of the problems inherent in Traditional methods (Masterman, 1994; Turner, 1990) however the usage of these procurements are still minimal in findings.

The public sector clients, normally consist of government or semi government agencies, tend to repeatedly use the same old or conventional procurement systems. However, the private sector which is claimed to be more effective as their stakeholder desire a faster delivery of their project, which is suitable with the 'design and build' and 'management' procurement system (Hashim, et. al., 2006 and Rashid, et. al., 2006). Hence, these two systems, which are said to be 'fast-track' systems, are observed to be more easily adapted to the project needs by the private sector clients. Our interviewees from the private sector were quoted as saying that 'the D&B system can shorten the duration of the finished project compared to the traditional that takes too long in the pre-construction stage when all the approval works are required'. The D&B system is therefore more popular among the private sector compared to the public sector.

The familiarity of using the conventional procurement system also influenced the selection of the traditional routes as the industry players are not confident to use other procurement methods and take financial risk in case of failure of the new method (Hashim, et al, 2006). They are comfortable in using the conventional one rather than trying new system which are precarious for them as they had experienced the problems of the conventional and know the benefits or the characteristics of the procurement used. Even Ibrahim, (2010) agrees that the traditional procurement is still the major approach of construction; however, he suggests that the local construction industry needs to experience a visible advancement from the old construction practices, as the traditional ways of performing and managing construction processes face unpredictable challenges. The industry players acknowledged the benefits and advantages of using the theoretical alternative procurements such as D&B and Turnkey system, but lack the courage to change. In addition, they already know the characteristics of the previous procurement used and thus will be able to handle it if they face problems 'real time' at construction sites.

CONCLUSION.

The results conclusively indicate that of all the procurement types used in Malaysia, the public sector clients still opt for the traditional system with heavy usage of LSDS, followed by LSBQ and ABQ system. However, the private sector client is observed to increasingly use the alternative procurement system like the D&B and turnkey systems besides also choosing the traditional procurement system as their main choice. It has also been seen that limited knowledge possessed by the industry players on the procurement system presents a barrier in terms of accurate information provided by them. The evolvement of hybrid procurement system is not an exception for those who modified specific procurement system practices to suit with the needs of certain individual, organization and project requirements. These specific objectives imposed on each project (especially large projects) have changed the original practice of a particular procurement system. However the continuous issue arising from public project failures illustrates the ignorance of the industry about the significant impact of procurement systems on project performance. The internal and external environments of each country represent unique contributing factors towards

the need of having specific practice of procurement system to suit with local environment. These unique requirements need to be explored in detail in relation to the procurement systems of each country. Industry changes are one of the leading factors for adopting alternative procurement system in Malaysia. As the industry moves to exploit added use of IBS, partnering could be one of the more suitable procurement routes as suggested by the CIDB. However, partnering may lead to a few parties dominating the industry, mainly the IBS manufacturer, installer and contractor. Having a large number of small and medium-sized organizations in the industry, CIDB will need to look into their future sustainability as well. As an important and much-used procurement system in the industry, the traditional system will still continue to benefit a majority of groups and parties within the industry. The decision to choose rests solely on the client who will normally judge based on their familiarity and suitability to the particular project development. So far, there is no 'best procurement' method that can be recommended to the industry as the subject on procurement systems is still being continuously researched.

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