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IDEAL PROCUREMENT SYSTEM FOR MALAYSIAN PRIVATE SECTOR CONSTRUCTION CLIENTS

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Abstract

Making the right choice of a procurement system at the onset ensures successful project delivery, a satisfied client, a successful service provider, and a reputable construction industry. Research has shown that client's requirements have not been properly addressed due largely to wrong choice of procurement systems. This research aims to identify the priority needs of clients and the appropriate procurement system that can ensure the delivery of satisfactory outcomes. Investigations were limited to the views expressed by private sector construction clients and consultants registered with their respective umbrella organizations in Malaysia. The descriptive survey method was used, which involved pilot interviews and structured questionnaire surveys. Results showed that client's would prefer a procurement system that can ensure the delivery of the project within time, budget and quality/specification targets. Other priority needs include fixed price tender, competitive or lowest price tenders, separate service provider for the design and management of the construction, life cycle cost, and risk preference and to accommodate variation orders without incurring financial penalties. Construction management type of procurement system with responsibilities monitoring and coordinating the construction process is the ideal procurement route that could best meet the needs of the Malaysian construction clients.

Keywords: Private Construction Clients, Construction Industry, Clients' Needs, Construction Management, Procurement System.

1. Introduction

Procurement system provides an avenue for bringing together various service providers in a construction project, and for identifying and fulfilling the priority needs of the client for procuring the building or facility (Mbachu and Nkado, 2006). Furthermore, Kwakye (1994) is of the view that the successful execution of construction work depends on the procurement approach adopted. This is because, "the key to procurement is to identify the priorities in the objectives of the client and to plan a path, a procurement route, that will be the most appropriate to realize the objectives" (Turner, 1990).

Construction clients in Malaysia and elsewhere prefer traditional procurement systems to other forms, even in conditions where the use of the traditional systems are inappropriate. For instance, Faisal and Adnan (2002) argues that the traditional procurement system is frequently used in Malaysia due to its appeal as a means of achieving fixed or lowest price for the construction of the project. However, Tan (1985) opined that the traditional method of project implementation in Malaysia as being too lengthy and needs a radical overhaul and reconstructing to make the process more efficient. The author further argues that this method is taking a severe battering from all quarters and the most severe complaints are coming from the clients themselves. By adding that as the project become larger and more complex, the author believes that this method has come under increasing attack due to the cost and time overrun. On the other hand, Henriod (2007) identifies the inherent disadvantages of this system are could lead to a much longer development period as well as engendering adversarial relations amongst the project team. All those examples show that the needs of construction clients are not adequately addressed by the prevailing procurement system. The literature is replete with discussions on the novel procurement systems that could better meet the needs of construction clients than the prevailing traditional method.

In spite of other procurement systems proffered in the literature as avenues for addressing clients' needs in the procurement process, client dissatisfaction is still the order of the day, with incessant complaints of cost overruns, poor quality, time overruns and consultants' and contractors' attitudes to service (Chan, 2007; Mbachu and Nkado, 2006). The fact remains that clients are reluctant to adopt the novel procurement systems proffered in

the literature. It is argued that the ideal procurement system that could be adopted by clients which could provide solutions to the procurement system related problems in the construction industry is one that balances the priority needs of the client with the practical issues clients are grappling with, in their decision making and selection processes. Therefore, there is the need to research the key variables underlying the ideal procurement system that would best meet the client requirements, and wider issues influencing choice of procurement system in the Malaysian construction industry.

2. Literature Review

The choice of the appropriate procurement system is vitally important in ensuring the success of any construction project as the use of inappropriate procurement system is believed to result in project failure (Chang and Ive, 2007; Mbachu and Nkado, 2006; Kwakye, 1994). Procurement is crucial as it determines the overall framework for construction, embracing the structure of responsibilities, risks and authorities for construction practitioners (Zuo et al, 2006).

From a strategic perspective, procurement can be seen as a strategy designed to satisfy the client's development needs (Moore, 2002). This aligns with the Latham Report (1994) that, "Clients are at the core of the process and their needs must be met by the industry". Unfortunately, in recent years, there has been much inquiry on the construction industry's ability to deliver projects that meet the client's requirements. The literature is rife with reports that not all of client's requirements have been addressed by the industry.

2.1 Classification of Procurement System

Alhazmi and Mc Caffer (2000) observe that a number of different procurement systems had increased over the last few decades. However, no standard definition and classification of procurement approaches has become generally acceptable (Hibberd, 1991). This is because there are no formal structures or agreement on the terms and the underpinning criteria. According to Rowlinson and Mc Dermott (1999) in all of the attempts by previous researchers to distinguish between procurement systems, it is forgotten that they are actually more similar than different. In this study, the procurement systems are classified into the following as gleaned from the literature:

- Traditional
- Design and build
- Total package
- Management oriented
- Collaborative

2.2 Procurement Needs

Basically, procuring a construction project within the designated time, cost and quality is the prime objective of clients (Mbachu and Nkado, 2006; Raftery, 1999; Luder, 1986). Latham (1995) identify that client's needs and expectations in relation to construction projects will include the following:

- i) Value for money
- ii) Pleasing to look at
- iii) Free from defects on completion
- iv) Fit for purpose
- v) Supported by worthwhile guarantees
- vi) Reasonable running cost
- vii) Satisfactory durability

2.3 The most Popular Procurement System

There is a consensus of opinions by all researchers and building practitioners around the world that the traditional procurement system is the most popular and widely adopted by this industry to procure a construction project (For example Latham (1994); Taylor et al (1999) Richards (2005)). The popularity of the traditional procurement system is due to a range of benefits but the most prominent reasons are; most clients and contractors have wide experience of it; the system offers some price certainty if the design has been fully scoped out prior to construction; and it gives the client greater control of design as by default, the client controls the design team.

2.4 Selection of an Ideal Procurement System

Many attempts have been carried out to develop various models to assist in decision of the selection procurement system process. Unfortunately, according to Chan (2007), none of those models has been widely adopted in

practice. The most significant possible reason is the lack of a universally applicable set of criteria to determine the appropriateness of a procurement system (Ireland, 1985).

In the process of procurement system selection, Rowlinson (1999) suggests the client's guides to assist in procurement system selection that produced by NEDO (1985). This guide lists nine separate criteria by which the client is expected to set priorities for its construction project. The criteria are as follows:

- Time: is early project completion required?
- Certainty of time: is project completion on time important?
- Certainty of cost: is a firm price needed before any commitment to construction is given?
- Price competition: is the selection of the construction team by price competition important?
- Flexibility: are variations necessary after work has begun on-site?
- Complexity: does the building need to be highly specialised, technologically advance, or highly serviced?
- Quality: is highly quality of the project, in terms of material and workmanship and design concept, important?
- Responsibility:
 1. Is single-point responsibility to you, after the briefing stage, desired?
 2. Is direct professional responsibility to you from the designers and cost consultants desired?
- Risk: is the transfer of the risk of cost and time slippage from you important?

However, the author noted that in certain circumstances, it may be impossible at the outset clearly to define the key issues of procurement criteria. Thus, in such a situation it must be borne in mind that the selection process can only be a satisfying process rather than providing a definite answer to the procurement system question.

3. Methodology

A descriptive research can use a variety of data gathering techniques and for this research unstructured interview and structured questionnaire were used as the medium in providing reliable data for accomplish the objectives of the study, which were administered to the construction industry via survey. The conceptualisation of the literature review framework was carried out where the data and information were sought from various sources such as books, journal, magazines, working papers, published and unpublished thesis, internet and etc. The data needed are opinions of respondents that would be gathered from the observation via questionnaire surveys. Prior to the sending of questionnaire, the pilot interviews would be conducted with a convenient sample of private construction clients and consultants team who registered under their respective umbrella organization – the target populations.

4. Result and Analysis

Following the pilot research process, postal and self-administered questionnaire surveys were carried out. The participants in the survey were respondents from private construction clients and consultants team who registered under their respective umbrella organization which operates through their main office in the Klang Valley. A total of 100 questionnaires were distributed. However, only 40 questionnaires were returned by the cut-off date, resulting in a 40% response rate. Out of total respondents, 13% were private clients and 27% were consultants. The views were therefore predominantly those of consultants. This bodes well for the quality of the research findings, as the inputs were mainly from those who are responsible for giving procurement advice in the construction industry. The respondent's categories encompass property developer (30%), property/port folio investor (7.5%), owner occupier (5%) and 57.5% from consultants. Table 1 shows the five frequently used categories of properties which are Commercial/retail/office (25%), Schools/institutional (15%), Industrial (15%), Residential (45%) and others (0%). The survey indicates that Residential was the largest property procured by the respondents followed by procurement of Commercial/retail/office, Industrial and Schools/institutional. Most of the Schools/institutional building are mainly procured by public agency such as the government while other properties are normally procured by private agency.

Table 1: Category of property that procure by respondents

Properties Procured	Frequency	Percentage
Commercial/retail/office	5	25%
School/Institutional	3	15%
Industrial	3	15%
Residential	9	45%
Others	-	-
TOTAL	20	100%

4.1 The Criteria that Encompasses the Procurement Needs of the Malaysian Private Construction Clients.

The first objective of the study is to identify the criteria of the clients' needs in procuring a construction project. There were thirteen (13) criteria of clients' procurement needs identified that gained from extensive review of literature and pilot interviews. The respondents were asked to rate the level of importance of each criteria based on their capacity as the people that have wide experience in construction industry.

Table 3: Prioritization of clients' procurement needs (Clients' responses)

Procurement Assessment Criteria	Level of Important						TR	MR	Ranks	Result
	I 3		S.I 2		N.I 1					
	No	%	No	%	No	%				
Cost ¹	33	83%	7	18%	0	0%	40	2.83	1	I
Time ³	25	63%	15	38%	0	0%	40	2.63	2	I
Project control ²	23	58%	17	43%	0	0%	40	2.58	3	I
Complexity ⁴	20	50%	18	45%	2	5%	40	2.45	4	I
Quality ⁵	17	43%	23	58%	0	0%	40	2.43	5	I
Price certainty ⁶	13	33%	27	68%	0	0%	40	2.33	6	S.I
Lowest price ⁷	5	13%	35	88%	0	0%	40	2.13	7	S.I
Variation ⁸	4	10%	36	90%	0	0%	40	2.10	8	S.I
Life cycle costs ⁹	0	0%	40	100%	0	0%	40	2.00	9	S.I
Limited disruptions ¹⁰	0	0%	40	100%	0	0%	40	2.00	9	S.I
Risk preference ¹¹	0	0%	40	100%	0	0%	40	2.00	9	S.I
Project management responsibility ¹²	0	0%	35	88%	5	13%	40	1.88	12	S.I
Non-financial issues ¹³	0	0%	5	13%	35	88%	40	1.13	13	N.I

- 1 : Zero cost overrun
- 2 : Need to be in control, or actively involved during the implementation of the project
- 3 : On time completion
- 4 : Need for technically advanced construction or highly serviced building
- 5 : Compliance with the specifications; high quality job
- 6 : Need to have a reliable price estimate for the completion of the project at the onset
- 7 : Need to have competitive tenders for the job
- 8 : Flexibility to alter the project requirement at any stage
- 9 : Need for reasonable running costs at the operation phase
- 10 : Need to minimise disruptions to ongoing business activities during the construction phase
- 11 : Need to pay someone to take the risk of cost and time slippage
- 12 : Need to delegate project management responsibility to others
- 13 : Need to consider socio-cultural, political and non-financial issues as important parameters that inform decisions in the procurement process

Table 3 shows the rating scored by private clients' and consultants' respondents on the level of importance of each procurement criteria. With the mean rating (MR) value of 2.83, zero cost overrun, lowest price tender, high quality, risk preference, on time completion and flexibility to variation were perceived to be the significant important criteria for clients' respondents that form their decision to procure a construction project. A closer look at these indicates that the wishes rated by clients' respondents can be classified in terms of cost (zero cost overrun, lowest price tender, variation), time, quality and risk objectives. This showed that the factor of cost, time, quality and risk were the prime objectives of private clients in initiating a construction project. This finding accords with the study by Luder (1986), Raftery (1999) and Nkado (1991) where the "worth" of a construction project mostly depends on these factors.

4.2 Ideal Procurement System

Figure 1 shows the flow chart process for establishing the ideal Procurement Arrangement Options (PAO). A modified version of Turner (1990) matrix chart for choosing the procurement arrangement option that best meets the needs of client is adopted. The chart shows a list of client procurement assessment criteria incorporating additional needs established at the pilot interview stage. Also the list of procurement arrangement options (PAOs) was increased to include additional types identified during the interviews. On the chart, an 'X' is marked in a matrix cell where a given PAO meets the preferences of the client in relation to the preference eliciting optional answers. By summing the 'Xs' under each PAO column, the ideal procurement system is found as that

with the highest sum of 'Xs'. In other words, this indicates the PAO that best addresses the needs of clients in the procurement process.

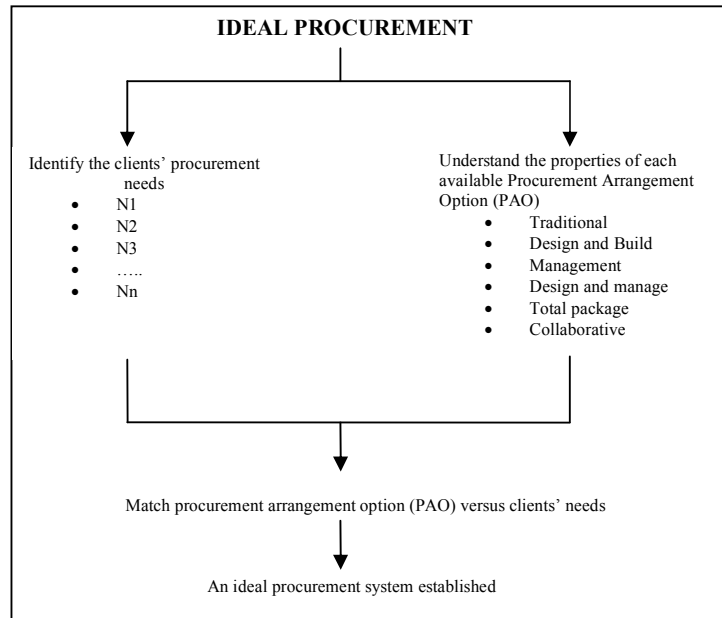
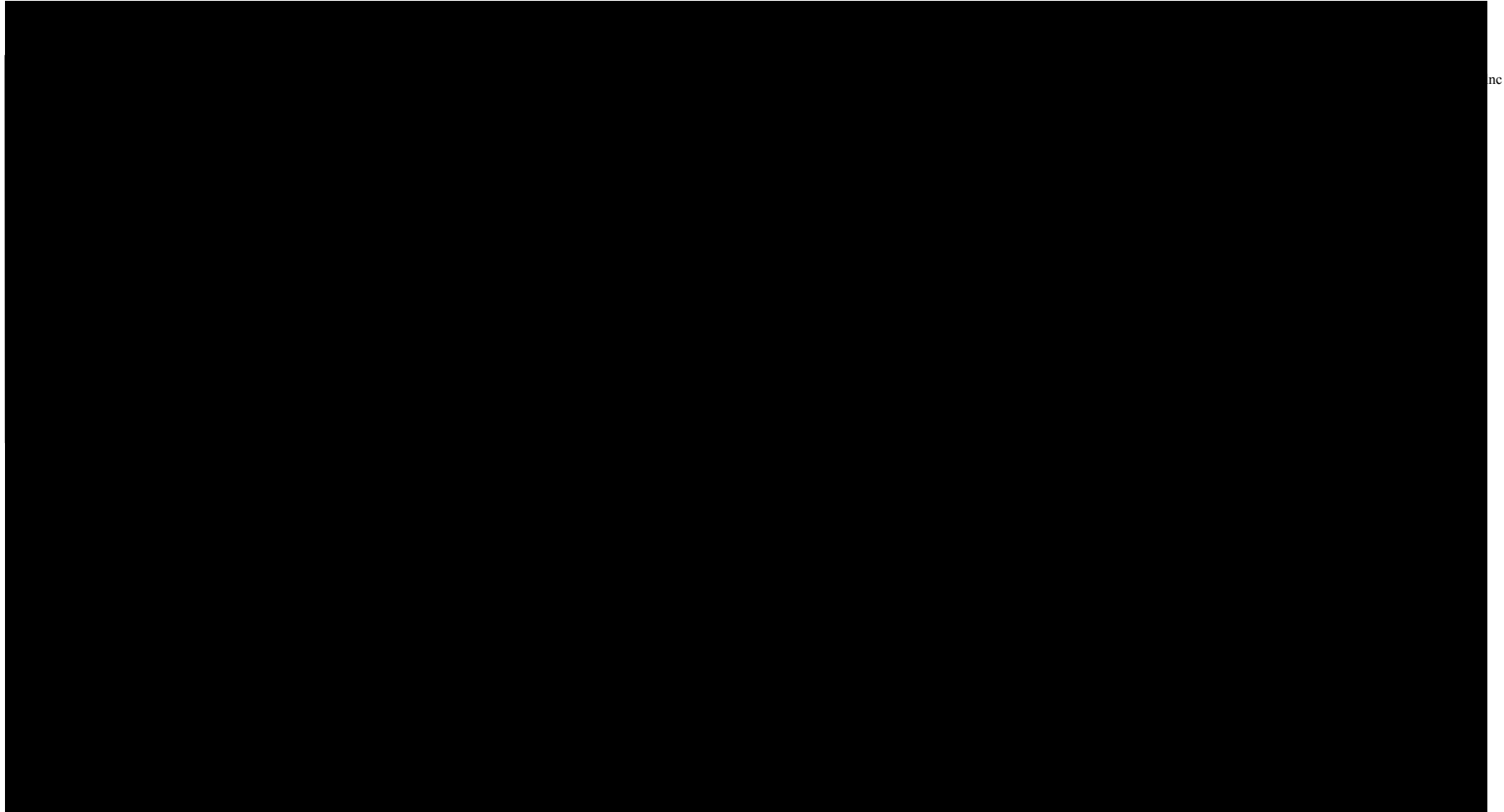


Figure 1: Establishment of ideal procurement system's flow chart

Table 4 shows the total score of each PAO where the properties of each PAO were matched with clients' preferences in procurement based on private clients' and consultants' responses. The highest score which matched with private clients' needs was considered the most ideal procurement system which believes could be applied in Malaysian construction industry.

By referring to the Table 4 it can be concluded that, Construction Management was the most ideal procurement system that are capable to cater and fulfill almost all Malaysian private sector clients' needs. This system was perceived to offer the client more control over the project, expedites the construction process through encouraging overlapping of design and construction phases, reduces adversarial relationship, and ensures better control on variations. However, the system is incapable of offering price certainty and places more risks on the client due to lack of established standards benchmarking quality of workmanship and outputs. Morledge (2006) noted that the procurement system places most risks on the client's shoulders, including the design and construction risks.

Table 4: Procurement Agreement Option (PAO)



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5. Conclusion

Results of investigations and analyses into the series of clients' procurement criteria reveal that the criteria were zero cost overrun, on time completion, quality, project control, lowest price tender, flexible variation, risk preference, price certainty, complexity, limited disruption, life cycle cost, project management responsibility and non-financial issues. Results of investigations and analyses into the most ideal procurement system that best meets the needs of private sector construction clients in Malaysia revealed that Construction Management system was the ideal one which offers a range of benefit that could accommodate their procurement needs.

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