SURVEY ON ELECTRONIC PROCUREMENT IMPLEMENTATION IN MALAYSIA CONSTRUCTION COMPANIES

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Dedicated to my beloved family…
My Wife Gina, Papa, mama, brother & sister who always support and encourage me.

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ABSTRAK

Pembelian bahan pembinaan adalah salah satu proses yang penting dalam projek pembinaan. Konsep pembelian bahan melangkah jauh ke depan daripada cara pembelian secara tradisional melalui penggunaan kertas dan *manual* kepada cara pembelian secara elektronik akibat perkembangan teknologi *Internet* dan laman *Web Internet*. Dalam pertandingan yang sengit antara syarikat-syarikat pembinaan, adalah mustahak untuk syarikat-syarikat pembinaan melaksanakan pembelian bahan pembinaan dengan bijak berkesan untuk mengurangkan kos pentadbiran serta membeli bahan pembinaan pada kos, kualiti dan masa yang tepat dan betul. Sebagaimana yang dicadangkan, E-pembelian adalah aplikasi teknologi *Internet* dalam pembelian bahan pembinaan. Objektif utama projek ini adalah untuk mengenalpastikan faktor-faktor yang mempengaruhi perlaksanaan E-pembelian dan strategi syarikat-syarikat pembinaan Malaysia ke arah perlaksanaan E-pembelian. Kaedah kajian dilakukan dengan membaca buku dan bahan-bahan rujukan yang berkaitan serta soal selidik. Melalui cara membaca, soalan-soalan berkaitan dihasilkan dan soal selidik diagihkan kepada syarikat-syarikat pembinaan di Kuala Lumpur dan Selangor secara surat menyurat. Daripada soal selidik yang dibalas balik dan jawapan yang diberikan oleh syarikat-syarikat pembinaan, objektif projek ini telah dicapai. Analisis jawapan menunjukkan nilai, kepercayaan kepada teknologi infomasi dan kepercayaan kepada pembekal bahan pembinaan adalah antara faktor yang paling penting dalam mempenguruhi perlaksaan E-pembelian. Di sampling itu, kajian ini juga mengenalpastikan bahawa syarikat-syarikat pembinaan adalah sedar tentang perkembangan teknologi E-pembelian tetapi mereka tidak akan menaruh modal yang tinggi dalam melaksanakan E-pembelian di dalam organisasi syarikat mereka.

ABSTRACT

Construction material procurement is one of the most important sections in the construction project life cycle. The procurement concept is moving ahead from traditional manual paper-based to electronically-based due to improvement in Internet and World Wide Web technology. In such a highly competitive environment nowadays, it is necessary for every construction company to maintain an efficient and effective material procurement to cut administration cost and to keep abreast of the market condition to procure materials at the right price, quality and time. Suggested by its name, electronic procurement (E-procurement) is the application of Internet technology in material procurement. The main objective of this study is to identify factors affecting implementation of E-procurement and Malaysia construction companies practice and strategy towards it. Research methodology includes comprehensive literature review and questionnaire survey. Through literature review, questionnaire was designed and distributed to the targeted survey respondent situated in Kuala Lumpur and Selangor using postal mail format. From the survey responded, the factors and strategy were analyzed and identified. As a conclusion, the main objective of this project has been achieved. The results obtained from the survey shown that perceived value, trust on Information Technology and trust on supplier are the important determinant factors towards implementation of E-procurement. Also, it has been identified that construction companies are aware of the development of E-procurement but they will not commit major resources towards implementing it.

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X	-	The Procurement Chain
RI	-	Relative Index
N5	-	Number of respondent whom answered “Most Important”
N4	-	Number of respondent whom answered “Very Important”
N3	-	Number of respondent whom answered “Moderately Important”
N2	-	Number of respondent whom answered “Less Important”
N1	-	Number of respondent whom answered “Least Important”
%	-	Percentage

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CHAPTER 1

INTRODUCTION

1.1 Background

The importance of proper management of material procurement is highlighted by the fact that they account for substantial portion of project cost and time (Naief, 2000).

In such a highly competitive environment nowadays, it is necessary for every construction company to maintain an efficient and effective material procurement to cut administration cost and to keep abreast of the market condition to procure materials at the right price, quality and time. Traditionally, contractor use paper based system to procure materials. They search for material from paper based catalog provided by suppliers through telephone and fax. The traditional material procurement process involves generation, copying and transfer of many paper documents. For example, requisition of material, quotation, purchaser order and etc (Kong *et al*., 2004).

Over the last few years, the internet has evolved from being a scientific network only, to a platform that is enabling a new generation of business (Heng Li *et al*., 2002). The internet is changing the way business is done in construction industry.

The World Wide Web has become a source for information, goods and services (Issa *et al*., 2003). E-procurement had emerged as one of the most discussed topic in material procurement. Without doubt, it will dramatically change the way purchasing is done in the near future (Essig and Ulli, 2001).

Suggested by its name, electronic procurement (E-procurement) is the application of Internet technology in material procurement. It involves the use of various forms of Information Technology (IT) to automate and streamline the procurement process in business organization, improving efficiency and transparency, thereby reducing the cost of operation within and between business parties (de Boer *et al.*, 2001). In short, E-procurement is a user friendly; Internet based purchasing system (Nikolaos *et al.*, 2004)

1.2 Problem Statement

In view of the many advantages of E-procurement, research studies have been conducted to explore the factors for implementation of E-procurement in oversea. Research study by Joyce Chan and Matthew Lee (2002), found that perceived value; trust on Information Technology (IT) and trust on supplier are the most important determinants factor of E-procurement implementation in Hong Kong. While in Malaysia, previous research by Lim *et al.* (2002) on the survey of internet usage shown that procurement through internet is low in the construction industry. The questions arise are, how was the current practice of material procurement in the local construction companies? Why was it implemented and not implemented? What are the factors hindering the success and direction of the local construction firms towards E-procurement.

1.3 Objectives

The objectives of this research are:

(i) To determine traditional material procurement and E-procurement

(ii) To identify current practice of material procurement in construction companies.

(iii) To identify factors affecting the implementation of E-procurement from the view point of perceive value, trust on material supplier and trust on Information Technologies.

(iv) To identify factors hindering the success and direction of construction companies towards implementing of E-procurement.

1.4 Scope of Research

The scope of research will be as follow:

(i) Focus on material procurement process during construction stage of the project life cycle.

(ii) Focus on construction companies operates within Wilayah Persekutuan; Kuala Lumpur and Selangor, Malaysia.

(iii) Focus on G7 construction companies registered under Construction Development Board, Malaysia as the targeted respondent.

(iv) Focus on business to business relationship.

(v) Focus on buyer and seller relationship.

1.5 Research Methodology

This research was carried out by literature review and mail questionnaire survey.

1.6 Organization of Research

A comprehensive literature review was made on procurement process in construction industry in Chapter 2. Definition and traditional procurement practice was studied. Through the review, common problems encountered in construction procurement process were identified.

In Chapter 3, the impact of information technology on the procurement process will be discussed. Definition and development of electronic commerce were studied as the theoretical background for electronic procurement. Advantages and disadvantages were discussed.

In Chapter 4, methodology to carry out the research was explained. Both literature review and questionnaire survey was discussed. Flow chart of research stages was shown.

In Chapter 5, analysis and findings was discussed. Practices, factors and strategy towards implementation of E-procurement were discussed. Tables and figures of finding were shown.

In Chapter 6, conclusion was made based on analysis and finding, recommendation was made, limitation was discussed and further research was recommended.

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