

# E-Procurement in Malaysian Construction Industry: Benefits and Challenges in Implementation

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**Abstract**— In this paper, the benefits and challenges embedded in Electronic procurement (e-procurement or e-Perolehan) are highlighted. Specifically, the benefits of introducing e-procurement for tendering and online registration of businesses and companies in Malaysia was emphasized. The study highlighted E-procurement advantages such as cost reduction, improved efficiency in government business with the aid of internet-based information and communication technology. The study concluded with recommendations to policy makers to pay more attention to the availability of infrastructure such as information technology for a better E-procurement implementation.

**Keywords**— Procurement; E-Procurement; Cost reduction; Improved efficiency; Malaysian Construction Industry.

## 1. Introduction

Electronic procurement (e-procurement), which implies the automation of an organization's procurement of goods and services through web-based applications, has been noted for its potentials to rationalize organisational expenditure, reduce administrative costs, and stimulate efficiency in operations [1]. Typically, procurement is one of the most important areas in organizational cost structure [2]. And public sector organizations applying e-procurement intelligently for contracts could generate several benefits depending on the context of its implementation. Attaining competitiveness, dematerialization and reduction in procurement services corruption among the employees and managers [3] are the major areas that has been noted

to benefit the most from the implementation of e-procurement.

The Malaysian government has introduced e-procurement (termed e-Perolehan) for tendering and online registration of businesses and companies within Malaysia. This e-Perolehan streamlines government activities with the aim of improving the quality of services it renders. Suppliers could easily participate in the government tendering procedures by subscribing to the e-procurement system, as the system not only eliminates the traditional procurement procedures, it also provides reliable outcomes in a complex environment like government establishments [4]. As such, it helps the businesses to simplify regulatory processes, cuts red-tapism and be law-complaint. It also assists the government in online business, especially in such areas like e-marketing strategies. Again, Alshehri [5] noted that e-procurement system is a useful tool in government to business, just like the G2C system, by improving the quality of communication and transactions with business. Also, it improves accountability and transparency in government contracts and projects [6].

The e-procurement procedure allows government contracting authorities to procure goods and services from their suppliers electronically, by transforming the hitherto manual procurement procedure into an electronic, internet-based system [7]. Suppliers, in turn, benefit from being able to present their products on the World Wide Web. They (suppliers) are able to receive, manage and process government purchase orders, and receive payment from government agencies online by using the e-procurement system. With the automation of the entire procurement cycle

in e-procurement System, suppliers benefit significantly from the opportunity to reach a broader base of buyers than ever before coupled with lower operating costs, shorter turnaround time, additional revenue and increased customer satisfaction.

Evidence from the extant literature reveals important benefits of e-procurement implementation in the government sector. E-procurement is known to reduce transaction cost, leading to a better decision and better value in the procurement output. There are also evidences that E-procurement has benefited small business operators to reduce bureaucracy in dealing with the authorities, while also provides access to government electronic market places. Again, some common aims were identified in the implementation of e-procurement in the government sector. These include: Increasing efficiency in government business; Government becomes e-commerce initiator; and public service modernization [8].

## 2. Literature Review

Studies have identified e-procurement as the hallmark and main concern of global e-Government agenda [9, 10]. Some studies also demonstrated e-procurement adoption as a complimentary procedure to e-government systems in many countries [11]. However, a dearth of deep understanding of theoretical and practical underpinnings of e-procurement processes in public policy and administration could limit the benefits inherent in its

adoption [12]. In the same line of thought, e-procurement benefits could be adequately reaped by understanding the roles of Information Technology to run the procurement procedure, considering the fact that system software and hardware makes the e-procurement easier to understand [13].

Furthermore, as technology progresses, various forms of online platforms tend to provide integrated packages like the social networks, that are capable of blurring the lines between one form of technology and another [14]. Besides that, e-procurement has also assisted in the provision of online services through the internet. Another definition is where supplier and buyers exchange goods and services using the internet and information technology application. An e-Procurement system uses Internet-based information and communication technology for purchase, where processes like searching, sourcing, negotiation, ordering and receiving, and after-purchase review are done with ease [15]. As more users are connected via the internet, the application enabled transactions or procurements with other entities over the internet. E-procurement uses integrated information technology for entire procurement functions, from the beginning to the end that is from searching, sourcing, negotiating, ordering, and receipt to post-purchase review, as shown in Figure 1. E-procurement has become popular among businesses, industries and governments as a powerful tool to improve effectiveness and efficiencies as well as service quality for organizations that has adopted it [16].

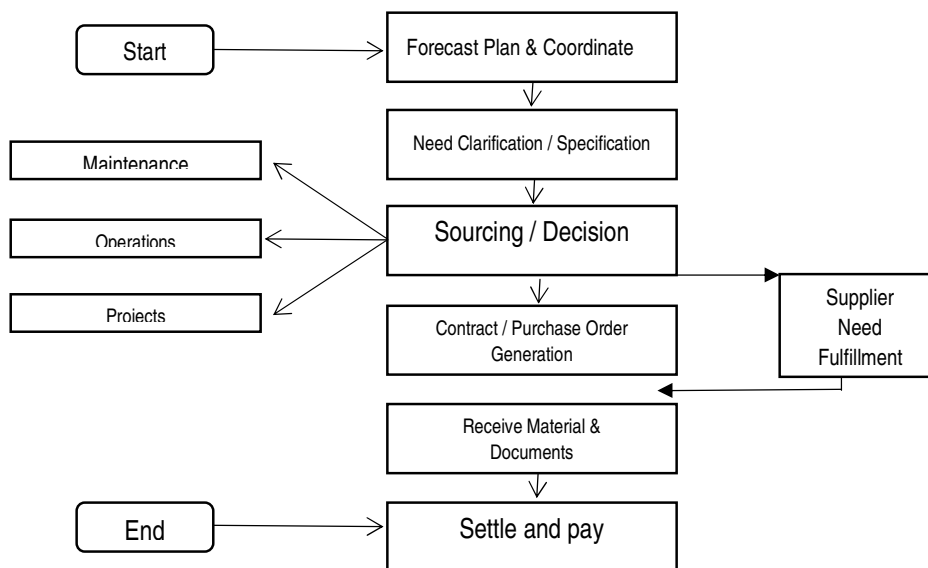


Fig. 1. An Overview of Procurement Process

### 3. Benefits of Practising E-procurement

Adopting E-procurement system has brought great benefits to the government and it has been noted as a way by which governments can save management cost and become more efficient in procurement of goods online [17]. The main advantage that e-procurement can deliver include cost reduction, process re-organization, improved contract fulfilment, among other benefits [18]. The significant cost saving of e-procurement to the government is in the reduction of cost and efforts of processing the purchase order which can be manipulated electronically and reduction in inventory costs and decrease in order fulfilment time. [16] identified four types of cost saving from using e-procurement system. These include, order cost, administrative cost, lead-time order cost and opportunity cost of capital.

Thai, [19] also alluded that practicing e-procurement provides quality bidding, efficient timeliness, cost saving, minimizing efforts in doing business, reduce financial risks and technical risks, and finally increase competition which lead to save cost of buying goods or services at high prices. Also, public sector bidding is one of the best settings to implement e-procurement of goods and services, considering the high transparency of information resulting from electronic bidding [20].

E-procurement system offers more effective and efficient procurement process in line with the country's transformation to the knowledge based economy (K-economy). It is a way for the government to promote the widespread adoption of e-Business in the country. E-procurement helps provide latest product information and pricing to the government which is available online. The system is supposed to be up to date with the latest information that will help the buyer to make a more accurate procurement decision.

### 4. Challenges in E-procurement Implementation

E-procurement system is a relatively recent development in the business application area.

And the lack of benchmarkable reference models especially in new firms that are just beginning to learn of these systems' functionalities and uses in their organizations. Previous studies [21, 22, 23] have identified certain factors contributing to challenges in the implementation of e-procurement such as technology, infrastructure and legislation, environment; besides resource constraints and organizational and management characteristics.

External factors from the industry, market, government and technology change are beyond the control of organizations [24]. However, these barriers can be minimized and even completely mitigated. Technology barrier to the suppliers includes understanding and commitment to a specialist software and the startup fee that are beyond the capabilities of SMEs required by the vendors. Focus of support for the systems are more on the larger companies. The usefulness and security issues of the system are major concerns for potential adopters. Wide-spread use of e-procurement system also depends on the availability of supporting infrastructures such as sufficient broadband coverage.

Inadequacies in government policies and legislation are areas to be highlighted in the system. The standard procedure for governmental tendering process which mandates the buying of printed tender documents in offices by interested parties is a good example. This prohibits the use of e-tendering system and presents a huge setback for the government attempt to establish and electronic government system. Lack of standard in the development of E-procurement system results in users of one system cannot communicate electronically with users of other system, creating a diverse but fragmented E-procurement environment.

### 5. Conclusion

E-procurement is more than just a system for making purchases online. The system has been implemented to achieve significant benefits such as cost savings and increase efficiency. Other advantages in applying e-procurement system are faster government procurement process and higher transparency compared to

traditional procurement and tendering ways. The system helps government agencies in making decision through providing easy access and relevant information about each bid and competitors. Awarding process will be very organized and precise because the decision committees will have better knowledge about these bids and they could obtain better pricing which will save a lot of unnecessary costs.

It is important for the government to pay more attention to the availability of infrastructure such as information technology for a better E-procurement implementation. ICT tools are important to help increase effectiveness and efficiency. Business communications, business process, cost reduction and cycle time, explore new markets and business opportunities, increase transparency in contracts and overall competitiveness are fields to be given more focus in improving the e-procurement system in the government agencies.

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