CHALLENGES IN E-TENDERING IMPLEMENTATION IN MINISTRY OF YOUTH AND SPORTS MALAYSIA

AHMAD ZAMIE BIN AZIS

FACULTY OF BUILT ENVIRONMENT
UNIVERSITY OF MALAYA
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AHMAD ZAMIE BIN AZIS

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CHALLENGES IN E-TENDERING IMPLEMENTATION IN MINISTRY OF YOUTH AND SPORTS MALAYSIA

ABSTRACT

The Ministry of Youth and Sport, like most ministries in Malaysia, tenders its projects through the traditional paper-based tendering process, which has many weaknesses, including bureaucracy and lack of transparency. In 2008, e-Tender was one of government incentive under e-Government application was introduced to replace manual tendering system in public agencies to systematic procurement which using internet as platform of transaction. Like any other transition project, implementation of e-tender in Ministry of Youth and Sport, is associated with several challenges. This research aims to explore the challenges facing the implementation of the e-tender system in the Ministry of Youth and Sport and to propose some recommendations that should be adopted. 18 challenges are highlighted based on survey conducted, and 5 categories; Lack of System Integration and Standardization, Immaturity of system, Lack of supplier's preparation, End User Resistance, Technology Risk / Technical Readiness and Top Management Support are identified by literature. 65 respondents are were involve with this study to examine and ranked with respect to their importance. This study also intentions to understand relations of implementation of e-tender with procurement performance and did it give an affect the procurement performance of the Ministry of Youth and Sports.

Keywords: *Ministry of Youth and Sport, e-tender system, challenges, procurement performance*

CABARAN PELAKSANAAN E-TENDER DI KEMENTERIAN BELIA DAN SUKAN MALAYSIA

ABSTRAK

Seperti kebanyakan Kementerian lain di Malaysia, Kementerian Belia dan Sukan, menawarkan projeknya melalui proses tender berdasarkan cara tradisional iaitu kebergantungan kepada penggunaan kertas yang mempunyai banyak kelemahan, termasuk birokrasi dan kurangnya ketelusan. Pada tahun 2008, e-Tender sebagai salah satu insentif pemerintah di bawah aplikasi e-Kerajaan diperkenalkan untuk menggantikan sistem tender manual di agensi awam kepada system perolehan yang lebih sistematik dengan menggunakan internet sebagai platform transaksi. Namun begitu seperti projek peralihan lain, pelaksanaan e-tender di Kementerian Belia dan Sukan, turut menghadapi dengan beberapa cabaran. Tujuan utama kajian ini adalah untuk meneroka cabaran yang mempengaruhi pelaksanaan sistem e-tender di Kementerian Belia dan Sukan dan menyarankan beberapa cadangan yang boleh digunapakai untuk mengatasi cabaran tersebut. Sebanyak 18 cabaran telah dikenalpasti melalui kaji selidik yang telah di jalankan dan 5 kategori cabaran iaitu; adalah kelemahan sistem berintegrasi dan mematuhi standard yang diperlukan; ketidakmatangan system yang ditawarkan; pembekal yang tidak bersedia untuk beradapatasi dengan sistem; tentangan daripada pengguna sisyem; risiko teknologi / kesediaan teknikal dan kekurangan sokongan daripada pihak pengurusan atasan melalui rujukan kepada kajian lepas yang telah di jalankan. Sebanyak 65 responden telah terlibat di dalam kajian ini. Kajian ini juga bertujuan untuk memahami apakah hubungan pelaksanaan e-tender dengan prestasi perolehan serta adakah ia mempengaruhi prestasi perolehan Kementerian Belia dan Sukan.

Keywords: *Kementerian Belia dan Sukan, system e-tender, cabaran, prestasi perolehan*

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LIST OF SYMBOLS AND ABBREVIATIONS

EDI	:	Electronic Data Interchange
KBS	:	Kementerian Belia dan Sukan
B2B	:	Business to Business
B2C	:	Business to Commerce
Roi	:	Return of Investment
IT	:	Information Technology
MOF	:	Ministry of Finance
CIDB	:	Construction Industry Development Board
ICT	:	Information and Communication Technology
e-Tender	:	Electronic Tender
PPA	:	Power Purchase Agreement
RFQ	:	Request for Note
RICS	:	Royal Institution of Chartered Surveyors

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CHAPTER 1: INTRODUCTION

This chapter outlines the background, aim and objective of the research. It also presents the conceptual framework of the research which includes the synopsis of research methodology, significance of the research and scope of the research. This chapter also presents the list of research questions which will aid the process of the research. Finally, the chapter presents the organization of the whole research process.

1.1 Background of the Research

Sharing of information, trust and communication with suppliers and customers have played a valuable role in the development of the public sector (Gunasekra et al., 2005). The need to provide such quality services requires the public sector to implement and use various electronic data exchange technologies such as the World Wide Web, electronic data exchange, business resource planning, the Internet and e-acquisition to automate and standardize various business processes. For the domestic business, e-tender is as important as it is for global corporate activities (Lee et al. 2008). e-Tenders in the public sector in Malaysia have not received much attention from vendors and researchers. More recently, the importance of e-tenders in international and domestic business operations has forced the public sector to adopt this approach (Arts, 2012). e-Tender has the potential and ability to enable the public sector to adapt to modern business needs and is economically more efficient and competitive for businesses by reducing transaction time and costs (Narayanasamy et al., 2008). Adopting e-tender is a public sector challenge. The key reasons for the public sector's slow progress towards e-tender adoption are a lack of consciousness and its repercussions on organizational efficiency.

1.1.1 Why Malaysia Public Sector?

Public sector plays a vital role in Malaysia economic growth and development of nation and its role has become more significant. It satisfies lots of social, physical, and economic needs of the citizens through providing shelter, enhancing the infrastructure and creating employment opportunities, hence contributes to the fulfilment of essential national goals (Moavenzadeh & Rossow, 1976, p. 2). In Malaysia, public sector is one of the most active and dynamic sectors of the economy. RM78 billion was spent on procurement in 2016. It accounted for 31% of public gross spending (combining growth and operating expenditure), which accounted for about 6% of GDP.

Established in 1964, Ministry of Youth and Sports (KBS) as one of the institutions under the Malaysian government is also involved in implementing the policies of the Malaysian government through sports and youth development. Realizing the importance of KBS in the development of the country, in 2020 budget allocation, KBS has received an allocation of RM1.2 billion, the largest allocation ever received by ministry. In 2017, Malaysia hosted the 29th Southeast Asian Games (or 29th SEA Games; Known as Kuala Lumpur 2017 and KBS was given the responsibility to ensure the success of the Games. As an institution under the Malaysian government, the Ministry of Youth and Sports is subject to the procurement procedures set by the Ministry of Finance (MOF). Generally, for the purchase of below RM20,000, the direct purchase procurement system needs to be followed. Whereas open tendering is used for procurements above RM20,000 to RM500,00. For tenders that target local suppliers, the bidding period is 21 days. For procurements above RM500,000 the bidding period is 120 days.

With only an allocation of RM450 million compared to the previous organizers Singapore with allocation RM740 million and Myanmar; RM 1 billion, KBS faces a challenge to ensure that all venues and facilities are ready and meet the international quality but within the allocation given. The use of technology such as e-tender has significantly helped KBS to organized games successfully. The implementation of e-tenders has increased KBS productivity by allowing the ministry to procure worthwhile products and enabling them to procure suppliers regardless of area. However, KBS needs to go through various challenges to ensure that the e-tender implemented can have a positive impact on the ministry and further improve the quality of organizing the games.

From the literature, it is evident that many past studies highlight the benefits and e-tender challenge that may arise and the key factors for e-tender success, which include communication systems, financial systems, top management support, security systems and company priorities. However, studies involving the public sector in Malaysia are limited. Most of the studies conducted in Malaysia are on companies involved in the field of construction.

1.2 Problem Statement

Due to advancements in technology, e-tender has been vouched for as a solution to ensuring better acquisition and payment for the raw material needed in a public sector (K'akumu, 2015). It is a modernization program that impacts consumer, procurement and other management work practices and benefits government agencies for the benefit of the general public. e-Tender has a number of benefits. For instance, e-tender reduces costs, ensures visibility of spend, increases productivity, enhances controls and encourages use of further technology in an organization (Ateto, Nyanamba, Ondieki and Okibo 2013). Public sector use e-tender to achieve benefits such as increased efficiency and cost

savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement services. Like any other transition project, the successful implementation of e-tender requires substantial preparation and sustained effort over time, culminating in the realization of all the intended benefits. Implementation of e-tender in an organization is associated with several challenge. Several studies have been undertaken by various researchers on challenge to implementation of e-tender for example, Lin, Huang, Jalleh & Tung (2010) found that some health care practitioners related challenge of e-tender to disaster recovery and security. They emphasized the importance of having a backup/alternative e-procurement system and IT disaster recovery and data security contingency plans in case of system failure or other security issues. While Aini & Hasmiah (2011) studied on e-procurement implementation: a case of the government of Malaysia and the findings show that challenge of e-tender implementation in government sector are not only related to software integration, data management and roll-out strategy, but also to legal and administration procedures, information technology (IT) infrastructure, outsourcing contract and IT skills. Makau (2014) focused on the challenges facing e-tender in the public sector. Some of the challenges identified and examined in the study include managerial commitment, challenge arising from the legal framework in government's procurement, the competence of employees in information communication technology and technology-related challenge.

Challenge can produce positive and negative effects. From a positive angle it can improve good job performance can increase productivity which organization will directly improve the country's economy. On the other hand, challenge also cause less motivated employees will cause weaknesses in the administrative system an organization due to lack of commitment while carrying out a given task (Azlinda Jaini, 2013). Organize work, employee engagement and feedback are a factor that influences the quality of work at

organization. Employees are a key factor in determining organizational success in a competitive environment (Yahya, 2012). Tendering procedures when followed effectively brings good outcome. If tendering procedures are not adhered to corruption arises and tender may be awarded to unqualified bidders as indicated above as a result there will be a supply of low-quality goods and services hence failure to meet the targeted objectives Mbele, (2005). In this view, there is a need to identify the challenge that will arise in the implementation of e-tender in the Ministry of Youth and Sports. This will help Ministry to manage the possible challenge due to e- tender implementation in their organizations. Once challenge have been identified KBS could enhance work flow, improve the weakness and reducing error. It's also can assist KBS to create awareness and to choose suitable solution to overcome the challenge. Once the challenge has been overcome, the KBS would be able to enjoy the benefits associated with it.

1.3 e-Procurement in Public Sector

In Malaysia, the procurement of goods, services and public works (including public building projects) is regulated by the Financial Procedures Act 1957 and the 1949 Government Contract Act 1949. The government of Malaysia has implemented an e-procurement system (known as "e-Perolehan") and e-tender is a part of e-perolehan. e-Perolehan transforms the manual procurement practice into an Internet-based, electronic practice. e-Perolehan Project started on 6th July 1999 by e-Perolehan Unit, Ministry of Finance (MOF), Malaysian Government and was implemented in 2002. The new e-Perolehan system was on January 1st, 2018. Its more strategic, transparent and efficient. However, it's also facing some challenges;

1.3.1 System Stability

Despite all of the efforts invested in infrastructure robustness, issues such as lack of bandwidth support prevents the majority organization from playing a more active part in e-Perolehan. Organization still face software downtime that lasts anywhere between just a few minutes to several days, completely incapacitate the business. Employees won't be able to access the tools they need and could very well end up sitting around with nothing to do while they wait for service to be restored.

1.3.2 IT skills / Technical Readiness

The implementation of e-Perolehan involves much more than simply applying technology to the procurement process, and often requires changes in legislation, business practices and skills of procurement staff. It is a modernization program that impacts consumer, procurement and other management work practices and benefits government agencies for the benefit of the general public. Like any other transition project, the successful implementation of e-Perolehan requires substantial preparation and sustained effort over time, culminating in the realization of all the intended benefits. The lack of IT skills among officials and the bidding committees. The lack of IT skills among government officials and the bidding community is the biggest challenge to e-Perolehan implementation. It is difficult to have a good and experience staffs that have the knowledge in using e-Perolehan.

1.3.3 Willingness & Sense of Belonging (Resistance)

Not only is the lack of IT skills among government officials and the bidding community challenging the implementation of e-Perolehan; perhaps surprisingly it is the willingness of users to adapt to the required culture of work. The uncertainty about what new technology means to employees may cause greater resistance to accepting it.

Resistance can also come in the form of attachment to old processes and legacy tools that employees are comfortable with. Employees can get used to a condition that is not the most desirable and will ignore any suggestions for improving it. Changing technology is more than just brining in a new tool or piece of software, it's also changing employee habits that can be satisfied with a certain way of doing things and resistant to shifting what they're used to. e-Perolehan's implementation explicitly requires a substantial level of commitment from all its stakeholders.

1.3.4 Readiness of Supplier

The involvement of supplier also plays an important role. The majority of suppliers accepted that the use of the e-Perolehan program will then improve the effectiveness and quality of procurement transactions between the government and suppliers from the point of applying for tender to receive payment from the government when the goods and services are delivered. Given the positive indicators on e-Perolehan, there are still many suppliers who have not registered as e-Perolehan users and are still doing business with government in the traditional, i.e. counter-transactions approach. Some of reasons why suppliers are not prepared for this e-procurement system is;

(a) Application hiccups

Lack of bandwidth support, inadequate computing and information technology architecture, weak IT infrastructure were device failures, system malfunctions and information and data transmission delays in general, preventing many suppliers from taking a more effective role in e-Perolehan.

(b) Low IT literacy amongst suppliers.

It is difficult to hire good and experience staffs that have the knowledge in using e-Perolehan. The company has experience delay in delivery of the part and wrong delivery of items due to the mistake by the e-procurement staff.

(c) Perceived high cost of enablement

Before a supplier becomes e-Perolehan enabled there are costs involved. The total cost to any organization which intends to use the program and thus become part of the e-Perolehan is RM1,500. Suppliers have to bear the cost of buying a purchase smart card, paying for training, and cost of software maintenance. Suppliers are also subject to a service fee of 0.08 per cent of the purchase value, and up to of RM9,600. Those payments are guided to DotCom Sdn Commerce. Bhd: Bhd. Since majority of suppliers belong to small-medium size operations, it is reasonable that they do not want to become e-Perolehan members, given the costs involved.

There are costs involved before a supplier becomes e-Perolehan enabled. The total cost for any company that intends to use the system and thus become part of the overall e-Perolehan initiative is RM1,500. Suppliers have to bear the cost of purchasing a smart card for transaction, pay for training, and also any software renewal cost that occurs. In addition to the enablement cost, suppliers are also subject to a service charge of 0.08% of the procurement value, up to a maximum of RM9, 600. These payments are directed towards Commerce DotCom Sdn. Bhd. Given that the majority of the suppliers within the traditional category belong to the small-medium size operations scale, it is only natural that they are not keen on becoming players within e-Perolehan, given the costs involved, to become e-Perolehan enabled.

1.4 Research Aim

The aim of this study was to explore the challenges affecting the implementation of e-tendering system in Ministry of Youth and Sports

1.5 Research Objective

i. To identify challenges faced by users of e-tender system implemented by the Ministry of Youth and Sports;

ii. To identify challenges in implementing the e-tender system faced by the Ministry of Youth and Sports;

iii. To understand relation between e-tender implementation with procurement performance in Ministry Youth and Sports;

1.6 Research Question

i. What are the challenges faced by users of e-tender system implemented by the Ministry of Youth and Sports?

ii. What is the recommendation to encounter this challenge?

iii. How implementation e- tender effect procurement performance in Ministry of Youth and Sports?

1.7 Significance of the Research

KBS use e-tender to achieve benefits such as increased efficiency and cost savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement services. The aim of this research was to identify challenges affecting the implementation of e-tender in the Ministry of Youth and Sports and to offer recommendations after the findings are known for successful implementation of e-tender solutions to achieve competitive advantage. This study it also can help the KBS to enhance work flow in pre -tendering stage and improve the weakness and reducing error. By having this research, it will assist the KBS to create awareness since they will know what challenges they are facing when using this approach of technology system. This

study will also benefit the organization players by providing them a proper references and guideline in their practice.

The results of this research study would be useful to all the stakeholders in the Ministry. The involved department would be able to understand challenge that face e-tender system and the strategies that could be used to overcome such challenge. This would play a very important role in enabling managers to organize their organization's e-Procurement processes in a manner that would result into huge benefits for the organization. Once the challenge associated with electronic tender have been overcome, the organization would be able to enjoy the benefits associated with it. This research study would, therefore, be useful to the managers in the procurement field as it would enable them to adequately identify challenges of e-tender, find solutions to the challenge and hence, bring forth improvement in organizational performance. The findings of the study will also be helpful to the public sector in the area of tendering procedure after adopting the recommendations from the researcher. Also, the policy makers and decision makers will equally benefit from the findings of this research; they will be in a good position to understand the tendering procedure as the basis for achieving the best value for money in public sector.

1.8 Scope of Research

The study was conducted in Ministry Youth and Sports However, the study mainly concentrated on the challenges affecting implementation e- tender and its relation with procurement performance in Ministry.

1.9 Dissertation Structure

Chapter one provides a brief overview of e-Procurement, e-Tenders and public sector initiatives to adopt e-Procurement. The problem statement presented further explained the three-research objective which form the basis of the analysis. This chapter therefore explains the significance of the study, the aims, the objectives and the assumptions made to undertake the research in the form of research questions, and finally, the chapter demonstrates how the entire report is organized.

Chapter two outlines the literature important to the study. The chapter further addresses the factors influencing e-procurement implementation, the advantages of implementing the system and the challenge factors for implementing the system with references to the public sector in Malaysia. In chapter three, the researcher discusses the design of the research and the methods used to collect data and analyse it in order to achieve accurate study results. In addition to research methodology, research methodology and technique, sampling, data collection strategies, data analysis methods and ethical issues, the legitimacy of the data collected is also discussed.

In Chapter four the results and findings of the research are discussed. The Chapter further outlines the response rate from the survey and presented the results from the study. This chapter provides the views of the respondents on the subject matter. Chapter Five illustrates the interpretation of the results presented in Chapter Four, which were responses to the three research questions posed in this study. Furthermore, conclusions reached are presented; study limitations and recommendations for future research studies are also drawn. Afterwards, the research references based on various data obtained from several sources are acknowledged under this. Finally, a research questionnaire is also attached as appendix to this report.

The results and conclusions of the study are presented in chapter four. The Chapter further explains the survey response rate and presented study findings. This chapter provides the respondents' views on the subject matter. Chapter Five illustrates the interpretation of the results presented in Chapter Four, which were the explanations to the three research questions raises. In addition, Chapter 6 illustrated study conclusion; and recommendation for possible research studies. Finally, a research questionnaire is also attached as appendix to this report.

CHAPTER 2: LITERATURE REVIEW

This chapter reviews the information from other researchers who have carried out their research in the same field of study. The specific areas covered here are concept, process, comparison. The first is to provide alternative definitions of e- procurement and to incorporate and explain this concept used in my research.

Procurement is the process of finding, agreeing terms, and acquiring goods, services, or works from an external source, often via tendering or competitive bidding process. The process is used to ensure the buyer receives goods, services or works at the best possible price, when aspects such as quality, quantity, delivery period, and location are compared. Corporations, private company, businesses and public bodies including government agencies prefer this method which intended to promote fair and open competition for their business while minimizing risk, such as exposure to fraud and scam. Almost all Procurement aspects include factors such as delivery and handling, marginal benefit and price fluctuations are taken into consideration before the decision is made. Tactically, procurement contributes to basic value drivers like price competitiveness and service levels. Operationally, procurement makes sure the supply of goods and services in the focal firm to enable it to fulfil its goal in satisfying the needs of the end customer (Harrison & Hoak 2011). The existing procurement system has been inherited from its former colonial rulers in many developing countries (Ofori, 2007; CIDB, 2009). Malaysia, for instance, inherited the British procurement system (Jaafar & Aziz, 2006; CIDB, 2009). In the earlier days, both the public and private sectors practiced the traditional procurement system to develop their projects.

2.1.1 Function of Procurement

According to study of Aberdeen, Edie et al. (2007) Procurement activities can be divided into three primary categories;

Direct Procurement: Acquisition of high-volume materials and/or services that directly facilitate the manufacture of end products. According to Aberdeen's study, Edie et al. (2007), direct procurement involves organization, planning and managing procurement / supply chain activities related to the acquisition of the raw materials, components and assemblies required for final products. As per the Neef report, D. (2001) Direct procurement involves fewer purchasing transactions (20% to 40% in the manufacturing company), but these are higher values and represent nearly 60% of the company's total procurement expenditure.

Indirect Procurement: Is the procurement of the support materials and/or services required for the manufacture of end products. Indirect procurement, according to Edie et al. (2007), involves the selection, acquisition and management of a wide range of non-production products and services such as basic office supplies to complex business services such as printing, advertisement, and temporary labour. Support Resources are also known as Operating Resource Management (ORM) and Maintenance, Repair and Operations (MRO). According to Bartezzaghi, E. Ronchi, S. (2004) MRO transactions are high frequency and low volume items.

Sourcing: involve the identification, evaluation and configuration of products, services and suppliers for both direct and indirect procurement.

2.1.2 Procurement system in Public Sector Malaysia

Early in the 1990s, Malaysia adopted a new procurement system to cope with the growing number of project implementation, complexity of building requirements and mega infrastructure projects to support the country's growth (Rashid et al., 2006), adding that the introduction of various ' fast-tracking ' project procurement systems is an effort by the industry to offer better dealings to its clients or customers, as they start realizing the importance of ‘value for money’ for their projects in terms of coast, time and quality.

The procurement system in Malaysia can be divided into three systems, which are direct purchase, tender (open tender and close tender/quotation) and direct negotiation. The laws, regulations, and policy guidelines on these procurement types in Malaysia are available in print form and on the web site of the Ministry of Finance as guidelines for the procurement officers and the users (mainly contractors). Generally, for the purchase of below RM20,000, the direct purchase procurement system needs to be followed. The procurement system will require the filling of multiple copies of requisition forms by the departments needing the goods. The requisition forms are then sent to the purchasing department for approval. The purchasing specialist will make several telephone calls to various suppliers asking them to quote their prices, choice of products offered and the delivery terms. On receiving feedback from the suppliers, the purchasing officers will make an analysis and make procurement decision. He/she will then generate the purchase order and the purchases will be made. Whereas open tendering is used for procurements above RM20,000 to RM500,00. For tenders that target local suppliers, the bidding period is 21 days. For international tenders, which arise only for goods and services that are not available locally, the bidding period is 56 days. For procurements above RM500,000 the bidding period is 120 days. Model tender documents, which can increase transparency and consistency, are found in the Treasury Instruction, Treasury Circular Letters, and the Procurement Guidelines Book issued by the Ministry of Finance. The Procurement Guidelines Book also explains procurement procedures to government agency staff. In certain circumstances, the procurement could not be done through tender. Thus, the purchase would be made through direct negotiation.

2.2 Concept of e-Procurement

Since the emergence and growth of the internet in the 1990s, together with increasing global competitive pressure, companies have constantly been searching for different ways and strategies to mitigate the costs associated with production, procurement and distribution, increase efficiency and, of course, reduce the lead time as much as possible. According to (Patel, Satrndrakumar, & Khajuria, 2016) mention that technology or ICT, it had an incredible effect in all parts of life, for example, economy, business, venture and so on. ICT has changed the method for working together and correspondence innovation (ICT) have rolled out conceivable central improvements in the strategies for routine of all organizations and ventures. In today's market, many organizations introduce themselves to the world by means of their web website. Moving from paper-based to question situated information models has changed a great part of the acquisition procedure and enhances production network reconciliation (Walker & Rowlinson, 2009). They delicate and react to tenders utilizing web-empowered innovations, oversee and control their bookkeeping and data trade utilizing electronic means, and they additionally utilize groupware web advancements for sharing learning, basic leadership, coordination, and venture control. Procurement usually represents one of the largest expanse items in a firm’s cost structure (Lennon, 2002). To tackle to some degree all of the above-mentioned problems, companies and businesses have a strong tendency to use digital procurement (e-procurement) strategy in an effort to follow their all-important procurement-related business processes (Aberdeen Group 2005).

e-Procurement has been identified as the most important element of e-business operational excellence for large corporations (Yin, 2001). e-Procurement technologies including; e-Procurement software, B2B (business-to-business) auctions, B2B market exchanges, and purchasing consortia can be successfully implemented by automating

workflows, consolidating and leveraging organizational spending power through the internet. Future developments are expected to extend these technology models to create collaborative supply chain management tools (Yin, 2001). Organizations use e-procurement to obtain contracts in order to achieve benefits such as increased efficiency among their employees and save costs by obtaining services and goods faster and cheaper. It also leads to increasing accountability and reducing bribery among employees and managers of organizations in procurement services.

2.2.1 The History Trends of e-Procurement

The history of E-Procurement started in the 1980s, when electronic data interchange (EDI) was created. EDI has enabled customers and suppliers to send and receive orders (and invoices as well) using call-forwarding networks. In the 1990s, technology progressed and software firms began to develop electronic catalogues, specifically for the vendor's use and, e-procurement software has become a mixture of the two: a platform for sending and receiving orders and various catalogues. Market places have also proved to be a popular addition to e-procurement software

2.2.2 Definitions of e-Procurement

As introduced in section 1.1, procurement refers to a process in which organisations establish agreements for the acquisition of goods or services (contracting) or purchase goods or services in exchange for payment (purchasing) (Robinson et al., 2010; Rolstadas et al., 2011). e-Procurement refers to the use of information technology in the procurement process (Abu-Elsamen et al., 2010; Garrido et al., 2008; Gunasekaran & Ngai, 2008; Muffato & Payaro, 2004). A review of e-procurement literature by

Schoenherr and Tummala (2007) found that there was no generally accepted definition of e-procurement. Harrigan, Boyd, Ramsey, and Ibbotson (2008) and Min and Galle (2003) defined e-procurement as a business-to-business (B2B) purchasing practice that utilises ecommerce or Internet-based technologies to identify potential sources of supply, purchase goods and services, transfer payments, and interact with suppliers. Gunasekaran et al. (2009) defined e-procurement as the use of integrated information technology systems for procurement functions, including sourcing, negotiation, ordering, receipt, and post-purchase review. A number of other researchers (see, for example, Batenburg, 2007; Boer et al., 2002; Davila, Gupta, & Palmer, 2003; Garrido-Samaniego, Gutierrez-Arranz, & Jose-Cabezudo, 2009; Kothari, Hu, & Roehl, 2005; Reunis, Van Raaij, & Santema, 2004; Teo et al., 2009; Wu et al., 2007), provided definitions of e-procurement, with most of the definitions including the use of Internet technology in purchasing as an essential aspect. Table 2.1 presents different and shared characteristics in definition of e-procurement.

Table 2.1: Definitions of e-procurement SOURCE (Tatsis et al., 2006)

Source	Definition	Electronic tool	Web-based/Internet based	Technology	Process	Supply chain integration	Procurement management	Procurement automation	Procurement optimization
Alaniz and Roberts (1999)	-E‘‘procurement refers to Internet solutions that facilitate corporate ’purchasing’	X	X	X			X		
Morris et al. (2000)	‘‘E-procurement is a series of steps—from the formulation of the purchasing corporate strategy to the actual implementation of an Internet-based		X	X	X		X		
Aberdeen Gr oup (2001)	-E‘‘procurement is the creation of-private based-webprocurement markets that automate ‹communications transactions and collaboration betweensupply chain partners. Itis about enhancing ‹collaborations streamlining processes, controllingcosts, and enhancing informationexchange within and across organization boundaries’’		X	X		X	X	X	X
Chaffey (2002)	-E‘‘Procurement should be directed at improving performance foreach of the five ‘‘rights’’ of purchasing, which are sourcing items: at the right price, delivered atthe right time, are of the rightquality, are of the right quantity, from the right ’’source						X	X	X

e-Procurement is the coordination, administration, computerization, enhancement and enablement of an association's acquisition procedure, utilizing electronic devices and advances, and online applications. From the outset, the e-procurement process (Podlogar 2006) begins, via internet-based protocol, with the role of requisition formation, approval and management of purchase order, and accounting or financial process facilitated. Once procurement takes place online, it can enter marketplaces through conventional procurement processes that cannot be accessed. Organizations are able to communicate, transact and connect better and quicker in order to accelerate the turnaround time to perform activities and properly run projects management quality by creating a lot of advantages for the customer. (Jonsson and Gunnarsson 2005 & Presutti 2003), Neef (2001) define e-procurement as creating a way to grow the extended enterprise in which

the supply chain becomes a continuous and uninterrupted process that spreads from a client to partner suppliers. (Jonsson and Gunnarsson 2005 & Presutti 2003), believes that a system of e-procurement helps to improve the supply chain. The historic development of the electronic procurement is illustrated in figure shown below.

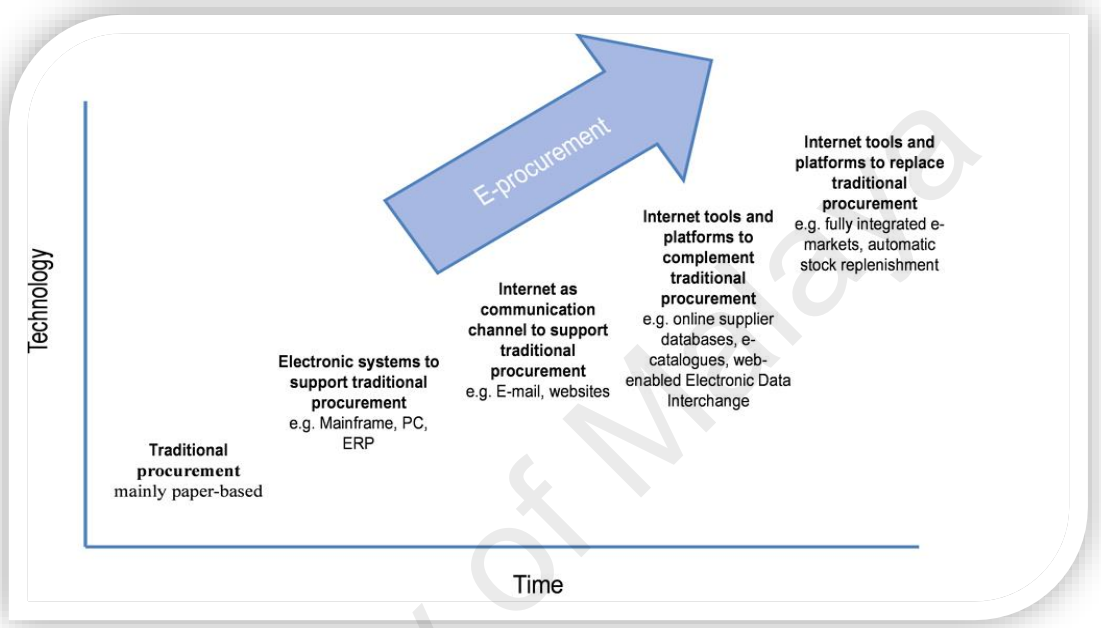


Figure 2.1: Development of Electronic Procurement

My study defines e-procurement as an organisational use of information technology in establishing contracts and purchasing goods or services, which is consistent with the definitions of e-procurement used by Abu-Elsamen et al. (2010), Garrido et al. (2008), Gunasekaran and Ngai (2008), and Muffato and Payaro (2004). Abu-Elsamen et al. defined e-procurement as "a comprehensive process of establishing agreements for the acquisition of products or services (contracting) or purchase products or services in exchange for payment (purchase) electronically"; Garrido et al. as "using Internet technology in the purchasing process; it involves using network communications technology to engage in a wide range of activities up and down the value-added chain both within and outside the organization"; Gunasekaran and Ngai as "a comprehensive

process in which organizations use information technology systems to establish agreements for the acquisition of products or services (contracting) or purchase products or services in exchange for payment (purchasing)"; and Muffato and Payaro as "activities required for the procurement of goods or services which are supported by the Internet, or in general by information and communications technologies".

2.2.3 e-Procurement Trends in Global Marketplace

There's no doubt that the Internet is changing dramatically the way purchasing is done globally. It has grown and evolved into a complex marketplace with many players offering a of business-to - business and e-procurement services. E-procurement can provide services such as database hosting, catalogue management, customer-specific management of tenders and auctions through a full outsourced procurement process.

e-Procurement services which are externally hosted are clearly part of a growing trend. Some are industry-specific, such as those serving the oil and gas, pharmaceutical and mining industries, all of which have embraced e-procurement more than some other industries. Some organizations offering e-procurement services provide the full spectrum of supply network services to support global procurement transactions. Another trend in procurement is where a large number of corporations choose to manage their in-house e-procurement. Efficient e-Procurement implementation is considered one of a world-class purchase organisation's initiative.

2.3 Public e-Procurement

According to Davila, A. et al., (2003) public e-Procurement has been defined as the use of data and communication technology like web / net-based system by governments

in conducting their procurement relationship with bidders to acquire the goods, works, services and other consultancy services required by the public sector. Burton, R., (2005) indicated that public e-procurement is the core instrument that helps in economic management of public resources. An e-procurement solution helps units in the government sector procure all materials from office equipment to large aircraft and helps to procure services and projects. Vaidya A. Et al. (2006) stated that in order to boost public procurement, e-procurement was adopted by many governments. Electronic procurement adoption will result in healthier procurement policies, lower costs, and boost efficiency. The e-Procurement adoption target includes: enhancing accountability, increasing quality and transparency.

Governments are implementing e-procurement more extensively as it offers transaction structure, audit trails and transparency. Before an e-procurement system can achieve maximum potential in government, certain basic requirements need to be met. These are World Bank recommendations which include expanding Information & Communication Technology (ICT) services, ensuring a safe online environment, improving standards and processes, and, most importantly, for purchasers to be trained. Public e-procurement framework provides all the project details across network, according to Pheraon, C & Searraigh, S., (2007). Bidders must read all of the project specification, and they will be able comply with normal document. Tendering and awarding of contracts are one of the most important stages of the method of public procurement where most corruption occurs in developing countries.

According to Kabaj, O., (2008) an economical public procurement system is very important to economies and may be a concrete expression of their national commitment to creating the most effective potential use of public resources. Wyld, D.C., (2002) examined the state of e-procurement in the United States through an extensive analysis

of data from the Institute for Supply Management (ISM)/Forrester reports conducted on e-Business. These reports contain the trends in the use of e-procurement methods which that include the major benefits of e-Procurement such as paper work reduction, cycle time reduction, ease of collaboration with suppliers, ability to procure direct and indirect goods and services, use of the internet to identify new sources of supply, and reduction of total procurement costs.

2.3.1 e-Perolehan

e-Perolehan was one of government incentive under e-Government application. e-Perolehan was introduced to replace manual procurement system in public agencies to systematic procurement which using internet as platform of transaction. It can be access at any place and any time as long as the internet connection available. e-Perolehan was used to cater demand from government agencies especially for federal government agencies. e-Perolehan Project started on 6th July 1999 by e-Perolehan Unit, Ministry of Finance (MOF), Malaysian Government and was implemented in 2002. It was one of the initiatives by the Government under the Multimedia Super Corridor (MSC) Flagship application. Its aspiration was to employ multimedia technology to modernise the way the Government operates. The main platform is the portal e-Perolehan. The platform allows procurement agencies to advertise procurement, while companies can access tender documents and, if necessary, conduct pre-qualification, and apply quotes, tenders and proposals online with the ability to review the status of their applications after submission. The implementation of e-procurement can be seen to serve the fundamental principles of procurement policy in Malaysia by increasing competitiveness, raising transparency and ensuring a better value for money (Maniam et al, 2009; Khairul & Chamhuri, 2012; MOF, 2018a; CIDB, 2018).As an introduction to e-Perolehan in Malaysia, the Ministry of Finance (MOF) had launched 4 types of electronic procurement

systems, namely; the Central Contract, the Direct Purchase, the Quotation and the Tender. All these were initiated between the period of 2000 to 2003, while in 2004 the MOF launched the Contract and e-Bidding systems. Table below is presents phase of implementation of e- perolehan in Malaysia Government and figure below is the current modul system of e-Perolehan.

Table 2.2: Phase of implementation of e- Perolehan in Malaysia Government

Phase	Module
Phase 1 July 1999- September 2000	• Supplier Registration • Central Contract
Phase 2 October 2000- May 2004	• Direct acquisition • Quotation • Tender • Supplier Registration V2
Phase 3 June 2004 - December 2009	• Ministry Contract • e- Bidding • Supplier Registration V3 • Direct acquisition V2 • Quotation V2 • Tender V2
Phase 4 January 2010- April 2012	• Fully Operational • Upgrade system • Acquisition program Management Extended contract
New Generation System 1 Jan 2018	• System 2.0

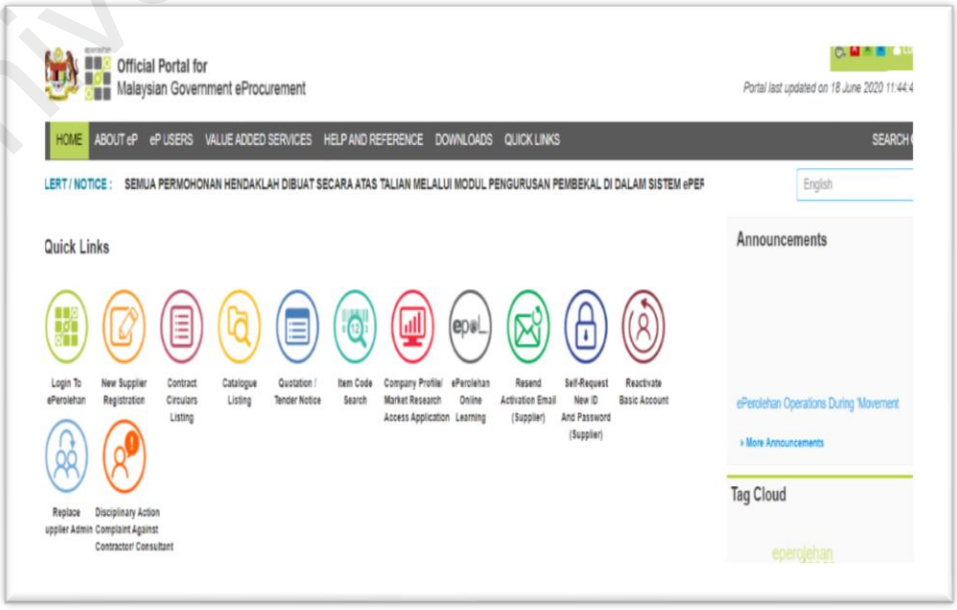


Figure 2.2 e-Perolehan System

2.4 Tendering Process

2.4.1 Definition of Tendering

According to PPA (2004), tendering means the method of procurement whereby Suppliers, Contractors or Consultants are invited by the procuring entity to compete with each other in submitting priced tenders for goods, works or services. Tender can also be defined as a request drawn by a procuring entity for offers or quotations to be made by suppliers, service providers, contractors or asset buyers. Nair (1990) defined 'Tender' as the process of ascertaining availability and price of materials in sealed covers which are opened and scrutinized at a predetermined time by a tender committee. He then propounded that, the tender system includes the bidders to quote the lowest price, safeguards the interests of both the buyer as well as that of the bidders, ensures impartiality and fairness. Margaret Griffiths and Ivor Griffiths (2002), propounded that 'Tender' may be seeking to establish two different types of contract between the person inviting the offer and the person submitting the successful tender, and there by entering in a contract. Jonathan (2002) explains 'Tendering' as basically a method of procurement usually done where goods or services involved are of high value. The Aqua group in 2006 defined tendering as: "A process to select a suitable contractor at a time appropriate to the circumstances and to obtain from him at a proper time an acceptable offer upon which a contract can be let" (O'Connel, 2010, p. 10). The Chartered Institute of Building "CIOB" further clarified that tendering is "the process of preparing and submitting for acceptance a conforming offer to carry out work for a price, thus converting the estimate to a bid" (Chinyio, 2011, p. 2). According to MERX (2014, p. 1), the leading electronic tendering service in Canada, it should be noted that the tendering practices adopted nowadays are largely manual relying heavily on papers.

2.4.2 Traditional Tendering

The most important and critical phase during the project lifecycle, according to Vee and Skitmore in 2003, is the tendering phase, as it defines the legislative and contractual agreements between all the project stakeholders (i.e. the client, the suppliers, the contractors, etc.). (Choen & Alshawi, 2009, p. 99). Choen & Alshawi (2009, p. 99) explained that the process begins when the client asks his team and consultant to prepare, finalize and compile the tender documents consisting of the letter of invitation to tender, the form of the tender, the form of the contract, the quantity BOQ the specifications and others if applicable. It is a hectic process of information processing and is the result of several meetings with the customer to obtain his approvals. Lou in 2006 clarifying that the processing of tender documents is expensive, problematic and repetitive, paper-intensive and therefore not portable.

After that, as mentioned by Mastor et al. (2006, p. 2), the client publishes in the public newspapers and other print media invitations for tenders. If a supplier or contractor is interested in the customer's advertisement, he must buy the tender documents from the location specified by the customer in the advertisement, fill them within the stated timeline according to the customer's specifications, and send his tender before the deadline for the tendering.

The following process is the assessment and evaluation of the tender documents submitted by the different supplier or contractor based on a number of criteria that the client has already set clear in the tender documents. According to the Aqua group in 2006, it must be justifiable choosing a supplier or contractor over another. The following process is the evaluation and assessment of the tender documents submitted by the particular supplier or contractor based on a variety of requirements that the customer has already set out clearly in the tender documents. The preference of a manufacturer or

contractor over another must be justifiable according to the Aqua community in 2006 (O'Connel, 2010, p. 12). A summary of the process of traditional tendering is illustrated by Ezanee, Norlila & Nurshuhada in 2005 in figure 2.3 (Mastor et al., 2006, p. 3).

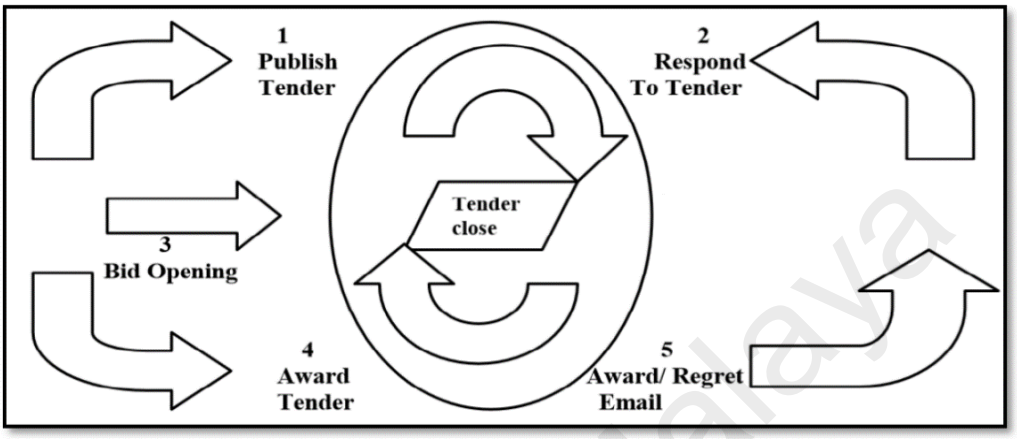


Figure 2.3: Traditional Tendering Process

2.5 e-Tender

e-Tender is described as the process for sending requests for information and price requests to suppliers and receiving responses from suppliers using Internet technology. The mechanism includes activities such as submitting tender documents such as RFQ through e-mail or web-based system and putting updates on the web enabling tenderers to access documents Betts et al. (2006) defined e-tender as, "the procurement process simply conducted online, i.e., supplier registration/expression of interest, contract download, submission of bid document, evaluation of tenders". Shapiro and Varian, (1999) defined e-tender a broad spectrum from a simple Internet based system that displays only a brief description of the commodity being procured to a more sophisticated internet system that provides contractors with the ability to download and pay for a complete tender document (specifications included) in electronic form, all without any paper being produced- paperless and benefits to lower the cost to the organisations.

Another definition for e-Tender relates to the issue and receipt of tender documentation through electronic (Tindsley & Stephenson, 2008). Additionally, Betts et al. (2006) defines e-Tender as the "electronic publishing, communicating, accessing, receiving and submitting of all tender related information and documentation via the internet, thereby replacing the traditional paper-based tender processes, and achieving a more efficient and effective business process for all parties involved".

e-Tender therefore includes electronically sending tender documents via email, contacting and notifying bidders, downloading documents, drafting and responding to tenders via the website. According to the Royal Institute of Chartered Surveyor (RICS, 2007, p. 2), the basic principles of traditional tendering are preserved in e-Tender while enhancing the way of communication through finding an alternative medium through which the tender documents and information is exchanged. This medium is further defined by Amarapathy et al. (2013, p. 222) as e-tender portals that are "secure dedicated websites, specifically set up for the exchange of information and tender documents electronically over the internet". There is various industry-based e-tender systems and programs available. These systems offer similar capacities for communication, document management, and auditing tools. Their features and processes are comparable to and reflect the paper tendering method Betts et al. (2006).

The ultimate goal/objective of e-tender as clarified by Amarapathy et al. (2013, p. 222) it is a complete change from paper-based manual tendering to fully automated communication networks. This will dramatically reduce or even eliminate paper handling, speed up interaction and communication between the various stakeholders and thus improve productivity and efficiency (Seah, 2004, p. 2).

Importantly, e-tender is a growing and developing system for the efficient procurement of goods and services which is available to both the public and private sectors. The tender process has traditionally been a paper-based system; however, three main factors have led to an increasing application of electronic tendering, including (Betts et al. 2006):

i. The increasing use of technology within the construction industry;
ii. The exchange of information between parties; and
iii. Concern for the environment (minimizing the use of paper and materials).

e-Tender is now considered one of the fairest ways to award government contracts, and one that is most likely to secure a government's favorable outcome in spending public money. e-Tender procedures are considered an appropriate method for governments to reasonably assign infrastructure works contracts. The need for efficiencies to be produced in the process resulted in the introduction of e-tender systems by a significant number of governments, and demand from governments and the supplier for paperless business processes has developed many commercial e-tender systems around the world. For a number of reasons, e-tender is a growing area of interest, two of which are IT (Information Technology) technology development and needs of technologies in the projects. In addition, e-Tender attracts both the user and IT developer sectors attention. Continuous growth and development of e-Tender in the public sector offers opportunities to improve management processes and reduce dependency on paper transactions. This efficiency contributes to cost and time reductions this outcome can be achieved through the implementation of e-tender and the use of the electronic environment.

2.5.1 The Process of e-Tender

As described by MERX (2014, p. 5), the e-tender process is very secure. Brook (2008, p. 316) confirmed this finding and further elaborated arguing that e-tender is "a relatively simple technical solution based around a secure email and an electronic document management. It involves uploading the tender documents to a secure website with a secure login, authentication and viewing rules." Technically, e-tender in e-Perolehan incorporates a number of processes that arise before the contract is awarded. This mainly involves e-Notification, e-Access, e-Submission, e-Assessment/ Evaluation, and sometimes e-Awarding. Each of these processes is thoroughly described as follows:

(a) e-Notification:

After the tender documents gets prepared, they are submitted through e-Perolehan to notify suppliers. Then the client/consultant notifies a number of potential tenderers he wishes to have or makes it an open tender.

(b) e-Access

The interested tenderers register and are given security codes to be able to access the online tender documents, and all the procedures of the tender submittal together with the submission deadline of the tender submittal are clearly defined at this stage.

(c) e-Submission

The interested tenderers have to submit their tenders abiding by the data format set forth by the client/consultant. The client/consultant clearly defines the data format that the tenderers must abide by to make a successful submission.

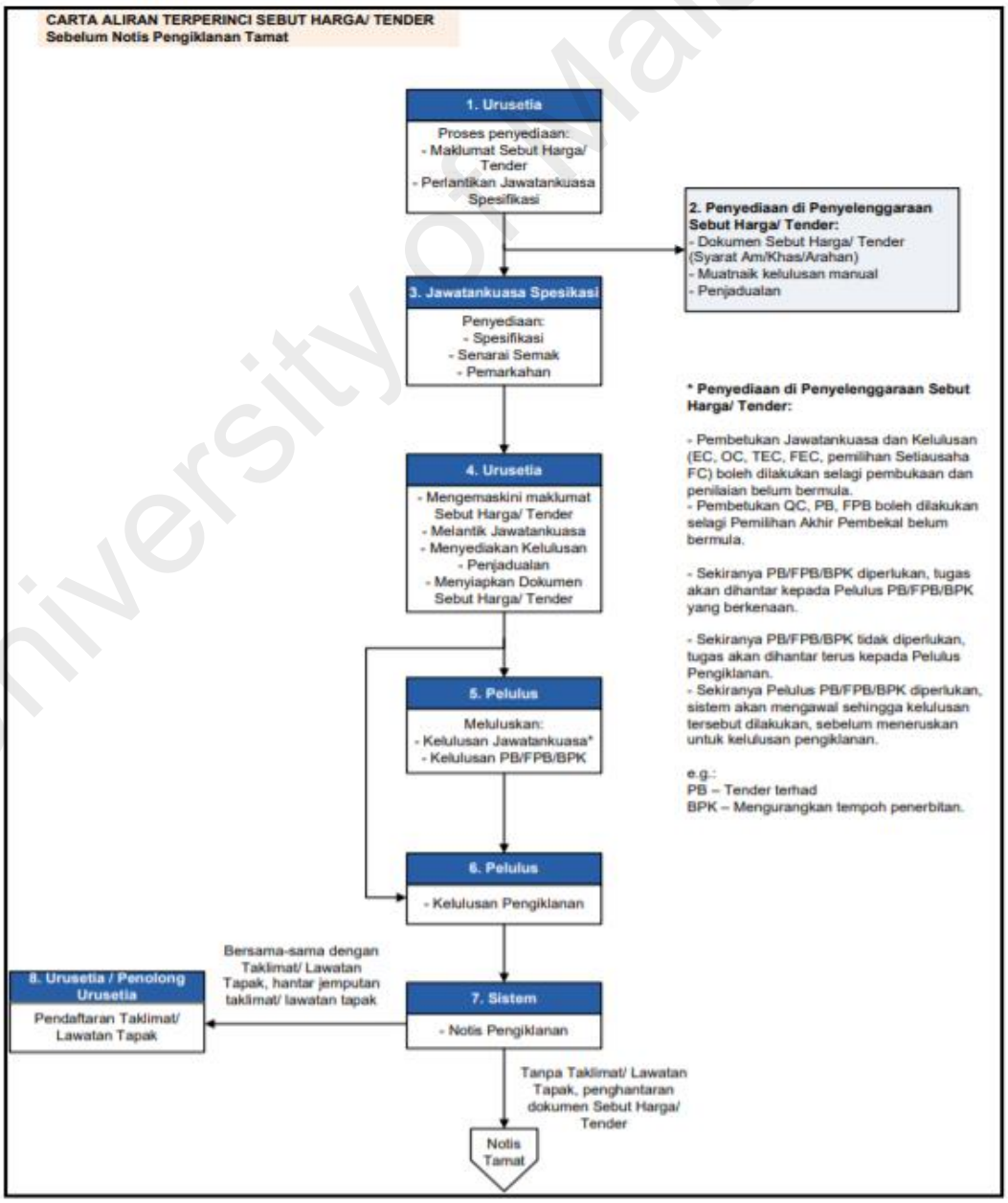
(d) e-Evaluation

The authorized staff members open the submitted tenders after the submission deadline for evaluation.

(e) e-Awarding

e-Awarding is concerned with administrating the awarding process of the contract.

The figure below shows each of the stages in the e-tender process in Malaysia public sector.



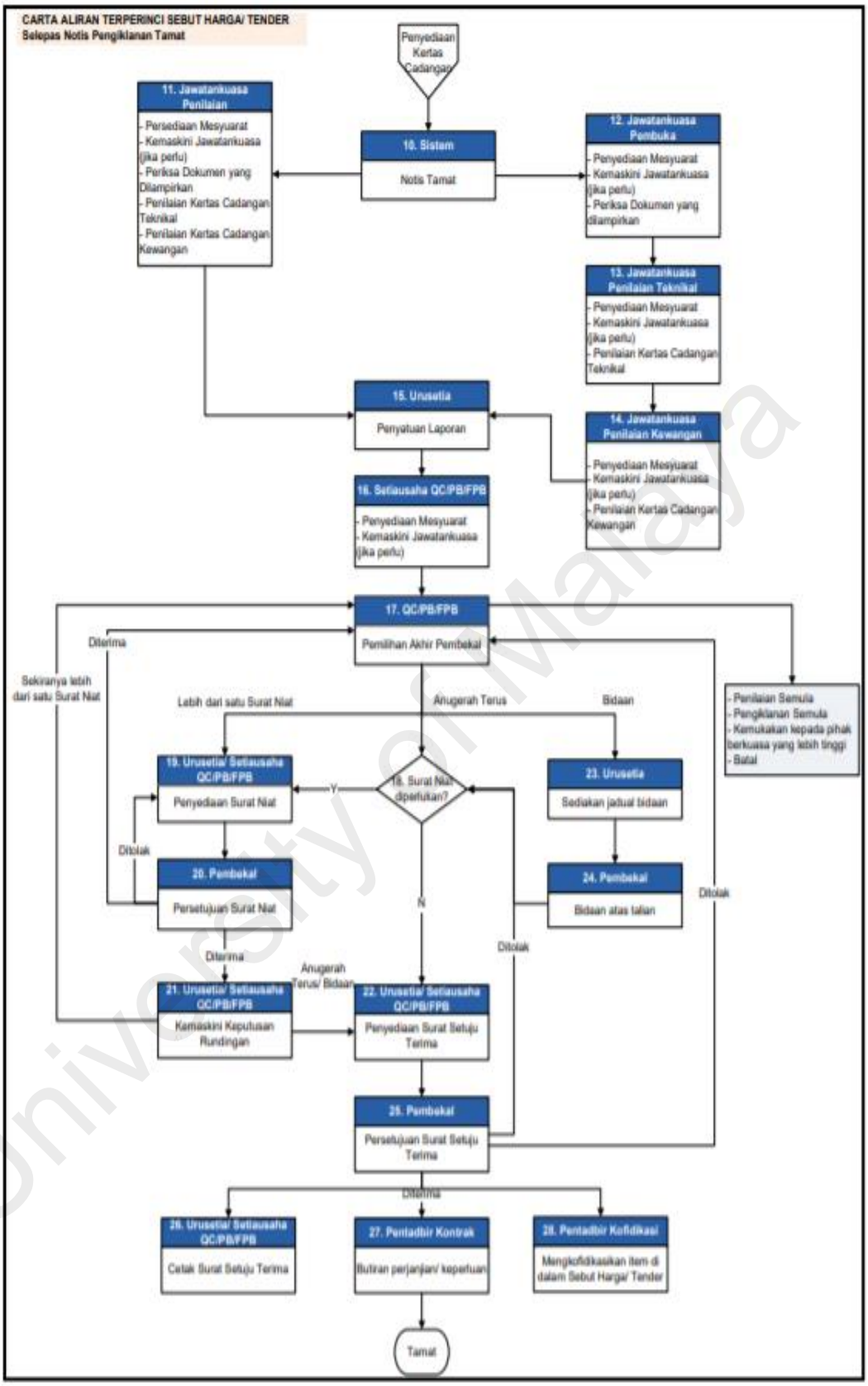


Figure 2.4: Stages in the e-tender process in Malaysia public sector.

2.5.2 Types and Functions of the e-Tender Systems

Christensen & Duncan (2006, p. 3) categorized the e-tender systems into the following three main categories:

(a) Principal to Tenderer Communication

In this simple system, the principal/client/consultant posts the tender documents on a website and the tenderers download them. Then the tenders are submitted on papers. Two-way communication does not take place in an electronic environment.

(b) Tender Submission and Two-Way Communication

This is a more sophisticated system than the first one, where two-way communication takes place online as the tenderer is allowed to submit his tender electronically. Also, this system facilitates the communication between the different parties involved as it includes the distribution of addenda, negotiations of some terms of the deal, etc. Usually this type of system does not provide the luxury of awarding the tender electronically.

(c) Electronic Tendering Contract Formation

This is a completely electronic system that includes all the facilities and operations of the second system (the online two-way communication) and builds on it by allowing tender award and contract formation to occur electronically as well.

2.6 Advantages and Benefits of Electronic Tender.

Preston in 2001, as cited by Lavelle & Bardon (2009, p. 105), demonstrated additional benefits for e-tender such as reducing administrative procedures by offering a single

source of information. Consequently, replication of documents does not occur and all changes to the documents are kept track of and informed to tenderers as the program provides audit trail / log. This has also been highlighted by Tindsley & Stephenson (2008, p. 277) quoting a contractor that stated "if a change is made, it can be instantly viewed by all the relevant parties rather than traditionally, where it would take days to receive and distribute such amendments by post". Another benefit / advantage suggested by Tindsley & Stephenson (2008, p. 277) is that e-tendering can include computerized review with complete automated assessment, thus a fairer and faster evaluation of the submitted tenders. In addition, the system could automatically identify incomplete or odd entries, thereby reducing interactions and thus allowing faster analysis.

Sell (2005, p13) describe how time and cost savings can be accomplished via e-tender Systems. Avoiding the postal system leads to potential cuts in the tendering cycle or the use of previously abortive time to focus on the tender's development. Printing costs, copying and publishing costs, along with the related staff time and overhead costs, would decrease. Horsman (2001, p1) identifies research undertaken by the Office of Government Commerce United Kingdom (OGC) in 2001 which stated that if a new web-based electronic tendering system were to replace the conventional tendering system in the procurement of central government products and services, it could produce savings of up to £13 million over four years and that the tendering costs of suppliers by £37 million over four years. The Foundation for Information Technology in Local Government (FITLOG) (2002, pp. 4–7) indicates that e-tender creates greater transparency; it is easier to track the progress of tenders across internal systems, thereby creating a ready-made audit trail for both customers and suppliers. During the tender period, there is the opportunity for faster and more accurate answers to questions and clarification points. If tenders are returned electronically, with the use of computerized software there is the opportunity for a fairer and more accurate assessment of tenders. However, most web-

based systems will automatically check for irregular or missing entries, eliminating the need for direct emails, re-tenders and time spent during the process's review phase.

Brown (2006) also argues that paperwork in electronic form is less likely to be lost or mislaid, either in the post office or in the post office. In addition, Preston (2001) describes additional benefits as lowering tender administration rates and offering a centralized source of information. There is also no replication of any tender documents like sending multiple emails or copying disks, all tenderers have access to the same information all the time and version control is inherent in the system. The CRC Construction Innovation Team (2006) states that one of the main negative issues surrounding e-tendering is security threats impacting on the systems involved, including violations of data integrity and confidentiality. Moreover, as described earlier in the process of e-tendering, the e-market place that is available in some tender engines reduces/enhances communications with suppliers and subcontracts which makes the tendering process effective, efficient and with no mistakes (Seah, 2004, p. 3).

In conclusion benefits and advantages can be are grouped in the following three categories: General Perspective, Industry perspective and Government perspective.

(a) General Perspective

i. Streamlines the entire tendering process.
ii. Provides secure and improved access to the tender documents.
iii. Makes it easier for businesses to obtain tender documentation and to submit an offer online on time as the postal system is no longer needed (Lavelle & Bardon, 2009, p. 105).
iv. Maintains an audit trail of all communication (RICS, 2007, p. 2).
v. Virtual elimination of errors due to strict process (MERX, 2014, 5).

vi. Ability to eliminate automatically noncompliant tenders, hence saves time (MERX, 2014, 5).

vii. Saves money and time as the electronically submitted tenders are downloaded in a suitable form that facilitates evaluation without requiring the client's representatives to re-enter the data manually.

viii. Reduces the time and effort spent by the client to prepare, publish, evaluate and award the tender while reducing the time and effort exerted by the tenderers to identify the tender opportunities and respond to the tendering procedures (The e-Tendering Expert Group [e-TEG], 2013, Part 1, p. 6).

(b) Industry Perspective:

i. Increases tender opportunities, competitiveness and promotes transparency

ii. Provides easy and fast access to private and public tender information.

iii. Facilitates remote accessibility to the tendering system which improves access for geographically isolated industry practitioners/organizations (Amarapathy et al., 2013, p. 222); and hence assures fairness regardless the tenderers' geographical area (MERX, 2014, 5).

iv. Reduces the cost of printing and copying which saves time and resources (Lavelle & Bardon, 2009, p. 105).

(c) Government Perspective:

i. Better value for the money of the taxpayers.

ii. Increases effectiveness and efficiency.

iii. Standardizes the tendering processes across the government.

iv. Promotes E-Government/E-Commerce initiative.

v. Environmentally friendly due to a predominantly paperless process, so no waste generated (RICS, 2007, p. 2).

Last but not least, the following table 2.4 is a comparison between traditional and electronic tendering presented by Ezanee, Norlila & Nurshuhada (Mastor et al., 2006, p. 4). It clearly highlights the advantages/benefits of e-tender.

Table 2.3: Comparison between Traditional and Electronic Tender

Traditional Tendering	E-Tendering
Poor audit trail	A log of all actions (accessing, downloading or submitting a tender,..) is automatically created providing a systematic and accurate audit trail.
High paper usage & storage	Paper usage is minimized by more than 90% as the tender documents can be accessed/downloaded and then submitted online. It is also important to note that no physical storage space is required as electronic documentation takes place.
Lots of time and money is wasted due to requiring the tenderers to physically go to the client's location to purchase the tenders	Tenders can be accessed and downloaded through the internet, hence it eliminates geographical boundaries and makes the tendering process faster and more convenient.
Poor information safety and availability	Instant access to tender documents that are stored securely online and backed up regularly.
High operational/processing cost	The online availability of the documents eliminates the need to manually manage the documents requested by the tenderers hence saves more resources. Also through process automation, cost is significantly reduced.
Time consuming and slow processing	Through automated documentation flow, tedious data re-entry and compilation is reduced over 80%, hence, the time to process tenders is significantly reduced making it faster to evaluate lots of tenders.

2.7 Challenges to the Implementation of e-Tender System

Despite the numerous benefits of electronic tender, Mastor et al. (2006, p. 9) identified the following challenges as barriers impeding the implementation of e-tender in the public organization. Aman, A. & Kasimin, H., (2011) had carried the study to understand the challenges of e-procurement (as highlighted earlier, e-tender is part of the e-procurement) implementation in the Government Sector in Malaysia. Study found that the challenges in e- procurement implementation were not only related to Software integration, Data Management and roll out strategy, these challenges also include legal and administration procedures, Information Technology (IT) infrastructure, Outsourcing Contract and IT skills, etc. Barahona, J.C., (2012) surveyed and found that e-procurement brings a set of recent rules and dynamics that make ways of doing business with the government in a different fashion, with a new set of participants, new incentives and a radically different value structure; conditions that have the potential to produce a competitive marketplace of transparency, efficiency and access.

2.7.1 Lacks System Integration and Standardization.

Another commonly reported challenge to e-tender implementation was Lacks System Integration and Standardization (Gunasekaran & Ngai, 2008; Tanner et al., 2008). The lack of system integration and standardization problems is due to the fact that e-tender is still a fairly new business framework and the lack of benchmarkable reference models. This consideration applies to a number of problems that may theoretically face the company in the implementation of e-procurement systems. In general, e-procurement systems are a are a relatively recent development in the business application field and is not unusual to find a lack of benchmarkable reference models particularly in companies that are just beginning to learn about the functionalities and uses of these systems in their organisations. Consequently, a back-end integration issue arising from this situation is

the lack of a "reference infrastructure" for gathering transaction data from more than one e-commerce program if, in reality, the company had to operate these multiple systems at once. And even if this base infrastructure existed, it would still be difficult to observe data management standards and controls when a number of e-procurement systems need to be running and maintained. Without system integration, employee time and productivity are wasted on navigating small admin tasks. System integration also improves the visibility of business performance. With system integration, information is much easier to access and process. In short, system integration means employees spend less time arguing with computer programs or searching for information. Instead, employees can spend more time productively, helping customers and furthering business reach.

Organisations are more likely to adopt and use an innovation when it is compatible with their existing practices and values (Rogers, 2003). Prior studies (Alam et al., 2007; Lee, 2004; Pearson & Grandon, 2005; Premkumar, 2003; Premkumar & Roberts, 1999; Tan et al., 2009; Teo et al., 1998; Teo et al., 2007; Thong, 1999; Zhu, Dong, Xu, et al., 2006) presented evidence suggests that organizations are more likely to adopt and use technology that is compatible with existing IT infrastructure , business processes and value systems within the organizations. For instance, Zhu, Dong, Xu, et al. (2006), in a survey of companies in multiple industries in European countries (covering Finland, France, Germany, Italy, Spain, and UK), found that compatibility with business processes and values was a stronger driver in explaining the extent of e-business use (as measured by the percentage of business transactions conducted online) than relative advantage. Prior explanatory studies on the adoption and use of e-procurement considered e-procurement compatibility in terms of IT infrastructure compatibility; studies that presented evidence that perceived e-procurement compatibility with existing IT infrastructure had a positive effect on the adoption of e-procurement by organisations

2.7.2 Immaturity of System

Despite the various advantages of electronic tendering, Immaturity of Program cause difficulty impeding the organization's introduction of e-tender. Immature System Providers, for instance, may not have the capitalization required to provide a complete suite of services to its members. Consulting services for more complex or advanced e procurement implementations may fall short of expectations. Leading-edge firms are more accustomed to educating their "vendor/consultant", whereas smaller firms may need more directive guidance. Also, some software vendors and marketplace service providers are saddled by immature system. Gunasekaran & Ngai, 2008; Tanner et al., 2008) immature system may include the problems of integrating e-procurement with existing information infrastructure such as accounting and inventory management. Immaturity of the system creates uncertainty with regards to security, reliability, interoperability, and integration with other systems (Tatsis, Mena, Wassenhove, & Whicker, 2006). As with implementing cost issues, the system's immaturity varies considerably depending on the forms of the e-procurement system. Successful implementation in an organization of e-procurement depends on immaturity of the system Tanner et al. (2008). Immaturity in preparation for system providers has been identified as an obstacle to the use of advanced dedicated e-procurement systems such as EDI.

An innovation that is perceived as easy to use and to understand is more likely to be adopted and used by an organisation (Rogers, 2003). Difficulty in understanding and implementing a new technology caused by immaturity of the method raises the risk associated with its adoption (Teo et al., 2007) and may contribute to a slower appreciation of the importance of the technology, fear of failure and resistance (Cho & Kim, 2002). Prior studies (see, for example, Alam et al., 2007; Lee, 2004; Premkumar & Roberts, 1999; Soliman & Janz, 2004; Tan et al., 2009; Thong, 1999) presented evidence suggesting that organisations are more likely to adopt and use technology that is suitable

for their business nature. For instance, Tan et al. (2009), in the study found that immaturity affected the extent of Internet-based ICT use (as measured by years of use). The prior explanatory studies of e-procurement adoption and use considered e-procurement system immaturity in terms of the perceived cost of e-procurement adoption and use; studies that presented evidence that perceived costs of e-procurement negatively affect the depth of e-procurement use by organisations. Perceptions of e-procurement system being easy to implement and use within an organisation is likely to result in the organisation using a broader range of e-procurement forms and functionalities and in relying more on e-procurement in the organisation's core business processes.

2.7.3 Lack of supplier's preparation

Three of the studies (Davila et al., 2003; Hawking & Stein, 2004; Tanner et al., 2008) reported that supplier issues inhibited e-tender adoption and use. Hawking and Stein (2004) study found that lack of partnership between business partners hindered e-tender implementation. Many supplier issues related to the poor acceptance of the e-tender by the suppliers (Tanner et al., 2008), Lack of suppliers accessible via the e-tender network of the organisation, lack of supplier investment in catalogue production, suppliers not ready to engage in the e-tender and inadequate suppliers to establish a liquid marketplace (Davila et al., 2003).

Successful implementation of an e-tender in an organization depends on the trading partners' readiness to facilitate e-tender use. (Palma-dos-Reis & Soares-Aguiar, 2008). Since the use of e-tender allows several entities to cooperate, partner readiness is salient. Using the e-tender requires trading partners to implement compatible electronic trading schemes and provide each other with Internet-enabled services (Soares-Aguiar & Palma-dos-Reis, 2008) so that they can engage in electronic interactions and transactions (Zhu, Kraemer, & Xu, 2003). In a trading community with greater partner readiness,

organisations are in a better position to use e-tender due to network effects. Partner readiness was found to affect e-tender adoption in the study by Soares- Aguiar and Palma-dos-Reis (2008).

(a) Price pressures

Buyers are worried that e-Procurement technologies will push prices down to the point that suppliers are unable to invest in new technology, product development, update facilities or add additional productive capacity. Additional market pressures can also drive suppliers down if they have a poor understanding of their cost structure (Davila et al., 2003). Suppliers must know how low they can bid, and they must still observe an acceptable return. They must also remember the position of the customer for estimating shipping costs and their financial status (Moser, 2002). White and Daniel (2004) argued that competitive factors are among the primary inhibitors of e-Procurement adoption, as several of the methods used in e-Procurement techniques, such as reverse auctions, are viewed as forcing down prices to potentially harm long-term supplier relationships.

(b) Implementation and maintenance costs

According to Tanner et al. (2008) The biggest criticism to e-Procurement in organizations is the high cost to adopting new technology, and this must be taken seriously. The cause is the high heterogeneity of IT cultures, organizational structures and business processes for suppliers and buyers. Hawking et al. (2004) also identified implementation costs as one of the challenges to e-Procurement adoption in Australia. According to Koorn et al. The initial cost of implementation could be significantly higher than with an EDI system, unless an online intermediary with low enrolment fees is chosen (Koorn et al., 2001). The potential administrative and implementation costs which will be incurred as companies utilize e-Procurement should also been taken into account. As with all technological adoption, the relatively high cost of maintaining and implementing an

e-Procurement system is a major factor when deciding the adoption of e-Procurement. (Teo, Ranganathan, 2004). The potential administrative and implementation costs that will be incurred as companies use e-Procurement. As with all technological adoption, the relatively high cost of maintaining and implementing an e-procurement system is a major factor in deciding whether to take e-procurement

(c) Lack of legal support

In the European Union, Julia-Barcelo (1999) reviewed EU regulation of electronic contracts. Difficulties highlighted by Julia-Barcelo were: lack of specific legal regulation, different national approaches, validity of electronic documents, enforceability or evidentiary problems. Exchange and considered it as a challenge to e-Procurement. It showed that only 26% of the respondents agreed that electronic documents were admissible as written proof during transactions. The uncertainty surrounding the legal issues of e-Procurement was the top barrier in e-Procurement within Northern Ireland‟s construction industry. The parallel use of paper copies and electronic documents leaded to difficulties on achieving a fully internet solution using e-Procurement tools (Eadie et al., 2007).

(d) Lack of Information security

According to Neef (2001) many of the reasons why businesses will not step into e-Procurement are linked to security and trust issues. For most firms, their purchase strategies, their pricing models and their new product concepts are some of their most valuable properties. Many executives are worried that certain core assets can be exposed to rivals once knowledge goes beyond the company firewall. The lack of security in transactions is an important challenge to e-Procurement (Eadie et al., 2007). A PriceWaterhouseCoopers survey with senior business leaders in the U.K., Germany,

France, and the Netherlands found that security issues were cited as the most important factor holding back e-procurement progress. This was particularly true in the case of direct procurement (ComputerWeekly, 2000). Security issues pose obstacles to the integration of systems between buyers and suppliers. According to Davila et al. (2003) providing other companies with intranet access to company internal data, or integrating applications with company information systems is still unusual.

(e) Lack skill and knowledge

Archer et al. (2008) conducted a paper with the objective to identify and measure the perceived importance of challenge in the SME community to the adoption of e-Procurement. Few differences were found between adopters and non-adopters. They noticed a lack for education for all SME management on the benefits and drawbacks to using e-business solutions. Some of the informal comments they received indicated that there is a lack of knowledge of e-business and its benefits. The respondents disagreed significantly with the statement "we know what kind of e-business solution is right for us". This shows the need for education about e-Procurement applications.

e-Procurement implementation success is closely related to early supplier involvement. It is important to demonstrate the proposed solution to the suppliers and discuss any necessary changes, issues, and concerns such as various options in developing and maintaining supplier catalogues (Birks et al., 2001). According to the OSD (2001), providing opportunities for suppliers to offer their feedback will allow the public procurement department to monitor areas for improvement and adjust practices accordingly. Because many suppliers may be unwilling to conduct business electronically with public sector agencies because they are unclear about the benefits to be gained, they might see e-Procurement as a means by which public sector agencies will simply attempt to force down prices (ECOM, 2002). Suppliers, therefore, should be educated on the e-

Procurement benefits that can be provided to them through a process of consultation as early as possible in the project. The degree to which the success of an e-Procurement initiative can be realized may well be related to the level of e-readiness of suppliers, and appropriate communication with suppliers is therefore important (AOT, 2003).

2.7.4 End User Resistance

Mastor et al. (2006, p. 10) stated that "some officials are resentful or fearful about the potential loss of bribe income the e-Tender system could entail". They also argued that many lacks the necessary skills to use e-Tender and hence ignore it. Also, some believe that it will be an additional workload with no compensation. Lou in 2006 added that when new technologies are introduced, the employees fear responsibility and fear that it could replace them which will make them lose their jobs (Amarapathy et al., 2013, p. 221). Furthermore, the research studies carried out by IDC (2013, P. 17) identified more challenge to the adoption of e-procurement in the European Union (as highlighted earlier, e-tender is part of the e-procurement) and also ranked them. Table 2.4 shown below demonstrates the main barriers to e-procurement implementation for national policy makers and for Contracting Authorities.

Table 2.5: Main Barriers to E-Procurement Adoption for Policy Makers and Contracting Authorities (IDC, 2013, p. 17)

	National Policy Makers		Contracting Authorities	
Barriers	Reluctance/ Inertia of Contracting Authorities	1	Reluctance/ refusal by potential Economic Operators	1
	Reluctance/ refusal by potential Economic Operators	0.61	Insufficient awareness about benefits	0.98
	Insufficient awareness about benefits	0.49	Onerous technical requirements for bidder authentication	0.82
	Complex and onerous regulatory requirements	0.35	Reluctance/ Inertia of Contracting Authorities	0.81
	Insufficient/ difficult access and/or usability of e-Procurement for Economic Operators	0.3	Lack of availability of e-Procurement services	0.6
	Onerous technical requirements for bidder authentication	0.26	Complex and onerous regulatory requirements	0.6
	Lack of availability of e-Procurement services	0.2	Insufficient/ difficult access and/or usability of e-Procurement for Economic Operators	0.47

(Index 0 to 1: the factor with the highest number of votes from interviewees is index 1, all the others are indexed based on their relative distance from the 1st)

Source: IDC 2012

As can be interpreted from the table, the reluctance/refusal of adoption of the processes, the insufficient awareness and the complex regulatory requirements are the main barriers to the implementation of e-procurement. An interesting and important study had been carried out by Lavelle & Bardon (2009, p. 110) to understand/figure out how the personal characteristics of the human being's influence/affect the perception/adoption/acceptance of electronic tendering. The results/conclusion of this study is highlighted in the following table 2.6.

Table 2.6: How Personal Factors Affect QS views on e-tender (Lavelle & Bardon, 2009, p. 110)

Statement	How personal factors affect QS views on e-tendering
Willingness to adopt e-tendering	Younger and inexperienced QS are more willing to adopt e-tendering than older and experienced QS
Likely to save cost	Younger and inexperienced QS believe e-tendering can reduce costs more than older and experienced QS
Likely to save time	Younger and inexperienced QS believe e-tendering can reduce time more than older and experienced QS
Likely to be fairer	QS of larger companies believe e-tendering is fairer than those of smaller companies
Likely to be more sustainable	–
Concerns over security	Older and experienced QS have greater concerns of security of e-tendering than younger and inexperienced QS
	QS of smaller companies have greater concerns of security of e-tendering than QS of larger companies
Concerns over choice and quality of systems	Older and experienced QS have greater concerns over systems available than younger and inexperienced QS
Concerns over complexity and IT skill required	Older and experienced QS have greater concerns with the complexity of e-tendering than younger and inexperienced QS
	QS of smaller companies have greater concerns with the complexity of e-tendering than QS of larger companies
	QS who have not used e-tendering have greater concerns with the complexity of e-tendering than those who have
Concerns over reliability	Older and experienced QS have greater concerns with the reliability of e-tendering than younger and inexperienced QS
Concerns over ability to share information	Contractor QS have greater concerns over sharing information when using e-tendering than client QS
In future e-tendering is likely to supercede traditional methods	Younger and inexperienced QS believe e-tendering can take over from traditional methods more strongly than older and experienced QS

As shown in the table, age and experience are particularly significant, with older and more experienced surveyors being more critical and negative than younger surveyors towards e-tendering. A company's size and type affect attitudes regarding electronic information sharing and the related infrastructure and security aspects. Smaller firms have more security vulnerabilities, while the quantity surveyors of contractors are far more concerned with exchanging details than the consultants of clients. Past use also influences behaviors, with novice users raising greater reservations regarding the use of e-tendering

(Lavelle & Bardon, 2009, p. 1). Last but not least, it is important to emphasize that, when using e-tender, most quantity surveyors and architects experienced resource savings, while contractors and subcontractors in general did not. This is a significant challenge as widespread e-tender adoption can only be achieved if the benefits are understood by all stakeholders, not just the consumer and the quantity surveyor, to ensure widespread e-tender adoption (Lavelle & Bardon, 2009, p. 1).

2.7.5 Technology Risk / Technical Readiness

Technology Risk / Technical Readiness refers to capacities of information technology accessible within an enterprise. To adopt e-tender, companies must have the relevant IT infrastructure, such as computers, databases and communication networks (Soares-Aguiar & Palma-dos-Reis, 2008), so that the technology can be leveraged to implement e-tender. Technology Risk / Technical Readiness was found to affect e-procurement adoption in the study by Soares-Aguiar and Palma-dos-Reis (2008). Some companies are unsure which e-procurement solution best fits their company's unique needs. The researchers insist that the adoption of e-tender technologies will continue to be slow and will fail to deliver the promised benefits without widely accepted standards for coding, technical, and process specifications. It must also be ensured that the system meets the country and business market's relevant legal requirements: or else there will be legal and administrative problems which could result in system failure. Technology costs can be easily minimized as many open source technology standards are currently available (Liu, 2011). It is necessary to properly plan and implement a proper system manual to run and optimize the system and also to balance the load on different servers and backup servers, together with system recovery in case of failure. Similarly, it must be ensured that the design is user-friendly and easy to use whilst designing the e-procurement system. Navigation between different subsystems also has to be simple and efficient. The program

must be built in such a way as to allow minimal mouse clicks and effort to access the knowledge one needs (Arts, 2012). The system must not be overloaded or heavy, so that it can be used effectively over a slow Internet speed. To make it easy to use, there must be a clear and structured aid facility available for each part of the system. Responses to all frequently asked questions must also be provided.

Technological challenge includes the lack of technical brain to maintain and run the e-procurement system in the organisation as well as the pre-requisite technical infrastructure and standards needed to run the system e.g. computers, fast internet connection and network etc (Toth, 2015). The vendors mostly install the software and provide training to the workforce but if the workforce lacks the basic understanding, technology will not work (vaniea et al, 2012).

2.7.6 Lack of Top Management Support

Support from top management is important to ensure that resources are available for implementing a technology or extending its use (Grover, 1993) and to overcome resistance to change (Teo et al., 1998). Most of the studies (see, for example, Harrigan et al., 2008; Hawking & Stein, 2004) contended that lack of top management support was a challenge to e-tender adoption and use. Conversely, lack of top management support may result in failure of implementation (Grandon & Pearson, 2004). Prior studies (see, for example, Chong, Ooi, Lin, & Raman, 2009; Premkumar, 2003; Premkumar et al., 1997; Premkumar & Roberts, 1999; Soliman & Janz, 2004; Teo et al., 1998; Teo et al., 2007; Teo et al., 2009) presented evidence suggests that when top management support for technology adoption and use is strong, organizations are more likely to adopt and use technology. For instance, Teo et al. (2007), in a survey of companies in multiple industries in Singapore, found that top management support affected human resources information systems use (as measured by the total number of human resources information systems

applications used in the organisation). Top management should be part of the e-procurement teams to ensure the e-tender is implemented successfully (Gunasekaran & Ngai, 2008).

The extent to which senior managers in an organization believe that e-tender can have a positive impact on the performance of the organization will influence their decisions regarding e-tender adoption and use (Gunasekaran et al., 2009). Lack of understanding and knowledge of e-tendering processes and the vast advantages it provides is a critical challenge to its implementation (Mastor et al., 2006, p. 2). Rezgui et al. in 2004 have further claimed that senior management lack the awareness of the available and new trending technologies which is a major hit to the adoption of new innovative approaches like e-Tender as they are the decision makers who invest and adopt such technologies (Olukayode & Adeyemi, 2011, p. 561). Top management support for implementation and use of e-procurement within an enterprise is likely to result in the organization utilizing a broader variety of e-procurement types and functionalities and depending more on e-procurement in the core business processes of the organization.

2.8 Procurement Performance

Procurement performance is a measure of identifying the extent to which the procurement function is able to reach the objectives and goals with minimum costs Van Weele, (2002). Van Weele (2002) noted that there are two main aspects of the procurement performance: effectiveness and efficiency. Effectiveness of procurement as described by Van Weele (2002) is the degree to which the goals and objectives previously set are achieved. It refers to the relationship between actual and planned performance of any human activity. Additionally, he explains that procurement efficiency is the relationship between planned and actual resources required to realize the established goals

and objectives and their related activities, referring to the planned and actual costs. Measuring procurement performance is important as the purchasing department plays an ever increasingly important role in the supply chain in an economic downturn (Vonderembse & Tracey, 1999). Vonderembse and Tracey (1999) demonstrate that a decrease in the cost of raw materials and services that allow companies to market products at competitively price in order to win business. An obvious performance measure of the success of any purchasing department is the amount of money saved by the company (Nyeko, 2004). Like all other departments in a company, the procurement department is an element of the overall organization which must contribute to the achievement of the corporate goals (Nyeko, 2004). Thus, A clear link between the corporate strategy and the procurement strategy is therefore essential for understanding, following up and implementing each function and action (Vonderembse & Tracey, 1999). Buvik and John (2000) Explained that procurement was always an integral part of an organisation 's performance. However, both Buvik and John (2000) further explained that with increasing unpredictability in the market, cut throat competition and looming recession fears that procurement has become a highly topical area for the senior level management.

Performance monitoring is limited, since in most cases goals, targets and metrics are not generally set. This leads to a lack of focus on enhancing procurement activities (Qualls and Shaw, 2010). The adoption of an efficient public procurement system improves the performance of the procurement entity and at national level: assists policy-makers in understanding how different policy objectives interact and how policy impacts on the overall performance of the procurement system; enables governments and parliaments to improve the quality of decision-making and to take constructive and long-term action; (e.g. in terms of procurement policy and regulatory reform, institutional development and capacity strengthening); Create more opportunities for governments to strengthen their public procurement processes, help them set goals for public procurement reform

initiatives and track progress towards the targets set; and provide useful information for public spending evaluation. (Hardy and Williams, 2011).

2.8.1 Operational Efficiency and Procurement Performance

One of simple principles for procurement is that, in the end, it is important to take into account the total cost of ownership. This includes not only the purchase price, but also the time and resources spent in pursuit of ownership. By understanding the steps involved in procurement, it is possible to gain a better understanding of the actual costs involved in the achievement of any good or service. (Lardenoije et al, 2005). Only when the procurement function is well planned, it is easy to identify areas where it is performing well, and where there is need for improvement. If costs fall, the purchase function will be celebrated, while if savings fall, the purchase function will be queried. It is as if the purchasing function were structured to concentrate on reducing costs while optimizing performance. Financial measures ignore market dynamics and increase in the complexity of public procurement of goods and services. (Lardenoije, Van Raaij, & VanWeele, 2005). One of the most consistent problems organizations face in the procure to-pay process is undetected financial leakage. Companies often fail to realize the efficiencies that can be gained through the automation of key business processes. One of the most consistent challenges facing organizations in the procure to-pay process is undetected financial leakage. Organizations sometimes fail to understand the efficiencies that can be gained through the automation of key business processes.

The nature of the procurement role and its effect on the performance of the company depends on two factors: monetary value and cost savings opportunities. In particular, where the value and volume of purchases are high, the opportunities to save money should be used by e-tenders with direct and indirect costs that clearly affect their effectiveness. The organisation culture, the department of work and the efficiency of the procedure are

components that affect the effectiveness of the procurement function. The e-tender processes and procedures have a close relationship with efficiency on, other organizational functions. As an example, improvements in quality issues and on the delivery, times reflect to the total costs on the logistics and production side. The reduction of total costs can be seen as a reduction in the quality of products. Cost-effective procurement does not imply a reduction in the quality of products (Javier, Lorenzo & Inked, 2010). Knudsen, (1999) suggested that procurement performance begins with the purchase of efficiency and effectiveness in the procurement function in order to change from being reactive to being proactive in achieving a set level of performance in an entity. For any organization to change its focus and become more competitive Amaratunga and Baldry (2002) Suggest that performance is a key driver for improving the quality of services, while the lack or use of appropriate means may act as a barrier to change and may lead to a deterioration in the purchasing function. Organizations that do not have success criteria experience reduced performance and higher customer dissatisfaction and high employee turnover. (Amaratunga & Baldry, 2002). Measuring the performance of the procurement function yields benefits to organizations such as cost reduction, enhanced profitability, assured supplies, quality improvements and competitive advantage as was noted (Batenburg & Versendaal, 2006).

2.8.2 e-Tender and Procurement Performance

Today, the public sector is forced to adjust and examine the simultaneous changes, mainly electronic media, in today's economy, which are said to be more efficient than traditional processes. Knowledge is now exchanged and distributed online, which is a cheaper and more effective way of communicating. These modern processes are prospective in creating wealth and changing the conduction of business in unique ways as stated by Amit and Scott (2001). From an economic perspective, electronic tendering

through saving of cost savings during an operation etc. improves efficiency. Other benefits of electronic tendering include improved accountability, improved exchange of information, reduction of administrative costs (insubstantial benefit). During the electronic tendering process, the roles of the project team members are retained and their performance is increased. Team members giving their say and queries for information which need be done on an electronic platform is what electronic tendering aims with collaboration (Parida & Parida, 2005). According to Davila et al, (2002), the key basis for investment has been saving of costs across all podiums for technology. In spite of some costs resulting from electronic tendering others will build up as result of setting up a strategic management perspective according to Phillips and Piotrowicz, (2006).

Research has highlighted economic opinions aimed at reducing the workload and saving costs through IT systems. From this point of view, electronic tendering increases performance through negotiated cost reductions and a decrease in procurement costs. Despite these other imperceptible benefits, such as transparency, accountability, ease of use, reduced management costs are achieved. According to Du et al., (2004), The conventional hard copy tendering system was not considered confidential compared to the online tendering system, which would guarantee all access to the web-enabled tendering system. This improves efficiency, security and reliability. What happens in electronic tendering is that all traditional functions and responsibilities of a project are sustained and efficiency is thus increased. According to Davila et al, (2002), the main reason for investment across all technology podiums has been to save costs. Some of these benefits according to Phillips (2006), may be as a result of electronic tendering others might be as a result of a management strategy outlook. These systems must also be able to adapt to the changes in these circumstances, offering solutions where possible. The existing network affects initial investment where it will be minimal if there is a

communication network and vice versa or if it needs unique features to support it. (Phillips &Piotrowicz, 2006).

From an administrative perspective adopting electronic tendering reduces the time of procurement and streamlining the buying process. Most of the authors indicated that e-procurement reduces purchase time. (see, for example, Gunasekaran & Ngai, 2008; Gunasekaran et al., 2009) and streamlines purchasing processes (see, for example, Harrigan et al., 2008; Hawking & Stein, 2004; Tanner et al., 2008). Time savings and process efficiency in purchasing are achieved by automating information management and decision making (Bartezzaghi & Ronchi, 2005), simplifying the procurement process (Gunasekaran & Ngai, 2008; Gunasekaran et al., 2009), and eliminating intermediaries such as brokers and dealers (Kheng & Al-Hawamdeh, 2002). The outcomes of reducing purchasing time and streamlining purchasing processes by using e-procurement are reduced consumption of resources (see, for example, Davila et al., 2003; Gunasekaran & Ngai, 2008) and enhanced decision making (Hawking & Stein, 2004). For example, through the use of an e-marketplace, Cox Enterprises (a communications, media and automotive services company based in the US) reduced the purchasing turnaround time from 10 to five days and replaced a process involving 45 steps with a process involving only three steps (Varmazis, 2008). The emarketplace was used by Cox Enterprises employees to make purchases from Cox approved suppliers.

Factors affecting the adoption of e-tendering and the performance of procurement shall be used for the purposes of independent and dependent variables. The independent variable consists of factors such as organizational, administrative, human resource, information communications technology and the legal framework. Related variables contribute to the efficiency of procurement success in areas such as cost savings, shortened lead time, customer satisfaction, high quality, no corruption, among others.

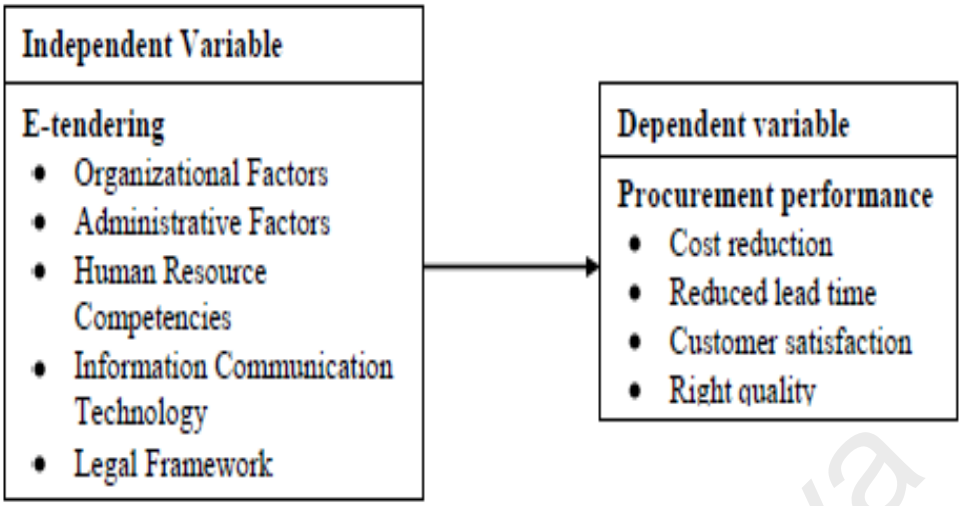


Figure 2.5: Conceptual Framework Source, Author (2016)

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter shall provide an overview of the overall approach to the study process. The aim of this chapter is to explain the research methodology and design that was used to carry out this research. The chapter starts with the discussion on research design followed by research framework and methodology. Also, it will describe the method of data collection in terms of selection of respondents. Conclusion is made by considering limitations and constraints encountered in the course of this study. The scope and methodological approach to the study have been shaped by a number of critical issues that appears to be the current situation faced by the public sector in Malaysia.

3.2 Research Design

A survey is chosen as research design because it best served to answer the questions and the purposes of the study. The survey research is one in which a group of people or items is studied by collecting and analysing data from only a few people or items considered to be representative of the entire group. In other words, only a part of the population is studied, and findings from this are expected to be generalized to the entire population. Similary, McBurney (1994) defines the survey assessing public opinion or individual characteristics by the use of questionnaire and sampling methods. For this type of research, the researchers want to identify challenges faced by users of e-tender system implemented by the Ministry of Youth and Sports. The development of questionnaire was based on preliminary studies conducted. Secondary data collected are the basis of questionnaire development. The questionnaire was design mainly to collect the data on

experts' opinions on critical level of challenges faced by e-tender system implemented in KBS. Section A of questionnaire consists of the demographic background of the respondent. Section B of the questionnaire was designed to investigate the challenges of implementation e-tender in Ministry of Youth and Sports. The survey questionnaire included open-ended questions asking the respondents to provide comments and clarifications. In this section end users are asked to state the main challenge they face with the system. The objective of this section aims to is to explore an information on the main or specific challenges faced by users in this Ministry based on their experiences. Section C consists of a set of question related to challenge of implementing e-tender that has been identified during the literature study.

Section D consists of a set of structured question related to relationship between e-tendering and procurement performance in KBS. Section C and D of the questionnaire consists of a list of assessment element to be ranked by respondents based on critical factors using Likert-scale from 1 to 5. The number represents the critical level of every element in challenge of implementing e-tender. In the 1st attempt the questionnaires were then distributed to the respondents mostly by hand delivery and e-mail, in the case where the e-mail address of an identified respondent is available. For e-mail, seven-day interval is provided to allow ample time for respondents to complete and submit the completed questionnaire. The respondents therefore had enough time to put across their propositions under a stress-free condition and nondemanding timeframe. Because of lack number of responders, the questionnaire where distribute for 2nd time to potential responder who haven't responded yet. However, due to implementation of the Movement Control Order from March 18, 2020 to May 4, 2020 and the Conditional Movement Control Order until June 18, 2020 the time allocated for the researcher to collect data was inadequate; the time was too short compared to the task itself. Respondents can only be contacted by

email and WhatsApp. The potential respondents were also given ample time to fill the questionnaires.

3.3 Data Collection Methods

In order to present clear ideas about challenge in implementation e-tender in KBS, it is decided to conduct two stages of study. The first was data collection by conducting a direct questionnaire survey and the second was a comprehensive review of the relevant literature, starting with an overview of the topics concerned in this research and studying cases studies of some projects.

3.3.1 Questionnaire

The questionnaire is design as a main tool to meet the research aims and objectives and to test its hypotheses. First, the information presented in the previous chapter helped to widen the researcher knowledge and create an awareness of other issues that might not otherwise have been taken into account. Second, the researcher experience in e-tender in public sector helped also in formulating the questionnaire. A provisional version of the questionnaire was then developed to cover all aspects needed to accomplish the purpose of the research. However, it was also necessary to ensure that the questionnaire is reliable. For this reason, a quality control process was undertaken, starting by ensuring that each objective and hypothesis had questions corresponding to it, passing through a practical test in which specialists were asked to fill in the questionnaire in order to examine the level of clarity, and ending with an approval by the research supervisor. The questionnaire divided four sections; each section is represented a factor for this research.

3.3.1.1 Section A

Section A of the questionnaire consists of a background of the respondents organisation which indicate their qualification, job title, years of experience and age.

3.3.1.2 Section B

The Section B of the questionnaire consists of open-ended questions asking the respondents to provide comments and clarifications about the challenges of implementation e-tender in KBS based on their experiences and understanding.

3.3.1.3 Section C

Section C is where the to identify challenge like technical, and processes issues, organizational behaviour and barriers hinder achievement of project goals.

3.3.1.4 Section D

Section D consisted of items to identify relation between e-tendering and procurement performance.

The scores of responses of the participants to each item were calculated according to the five-point-scale, “Likert scale”, in which strongly agree = 5 points, agree = 4 points, neutral = 3, disagree = 2 points, strongly disagree = 1 point. The questionnaire was written in English and to be distribute in different departments in Ministry which involve in tender process. The researcher projected that at least 80% responsive forms would be completed and a period of Two weeks (10 working days) targeted for the completion and collection of the surveys

3.3.2 Literature Review

The basic concern throughout the review stage is to identify some of the broader parameters likely to be relevant in studying e-Procurement System. A systematic literature review was conducted, covering textbooks, institutional and statutory publications, periodicals, trade and academic journals, and seminar and conference papers.

3.4 Population of the study

The population of this study consisted of all the decision makers; Head of divisions and Project Managers of related departments in the Ministry of Youth and Sports. The total number of this population is 86.

3.5 Data analysis

Information gathered from data collection will be used for data analysis to continue the research process of this study. Data analysis is the process of evaluating data gathered using analytical and logical thinking to study each element of data gathered from data collection. Basically, after collecting all the necessary and required information and materials, researcher start forming and writing from the theory for the purpose of gaining the target of the thesis and formulating the thesis report. The theories were almost all about challenge of implementation e-tender. The scores of responses of the participants to each item were calculated according to the five-point-scale, Likert scale", in which strongly agree = 5 points, agree = 4 points, neutral = 3, disagree = 2 points, strongly disagree = 1 point. The Cronbach Alpha Coefficient was used to find out the reliability for the questionnaire. Analysis and discussions of the materials and data in the thesis were carried out by summarizing and focusing on the main collected information and data. The data can be tabulated and presented in the form of pie chart, bar chart or graph for better presentation of the result. There are several methods used to analyse the data collected for this study, which are percentage method and statistical significance. Eventually, after analyzing and concentrating on the answers to the thesis questions, the researcher will draw concise, coherent and holistic conclusions.

3.6 Methods of Analysis

Data collected from the survey was analyse using descriptive statistical techniques. An advanced and accurate analysis method was needed to arrange the large body of data in a systematic, fast and reliable way. For this purpose, the computer software Statistical Package for Social Science (SPSS) was chosen as the best options available.

3.7 Cronbach's Alpha

Cronbach's Alpha is used to measure the reliability of each question by determining the internal consistency in a survey instruments (Cronbach,1951). The results of this Cronbach's Alpha are expressed as a number between 0 and 1. The rule of thumb is the result of Cronbach's Alpha should be 0.8 or above (Bryman & Cramer,2005). However, the score of 0.7 is acceptable for research purposed (Muijs, 2004).

3.8 Normality Test

The sample distribution is important to determine whether the parametric or non-parametric test is adopted. If parametric tests are used, there are three conditions have to be followed. The three conditions are the level of measurement is interval or ratio scaling, the sample distribution is normal and the variances of both variables are equal or homogeneous (Bryman & Cramer, 2005). If those conditions are not fulfilled, non-parametric test must be adopted.

3.9 Ethics

Ethics are norms or standards of behaviour that guide moral choices about our behaviour and our relationship with others. The goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities (Cooper & Schindler, 2006). As a researcher the obligation was not only professionally but in particular ethically to make value judgment and use discretion in resolving the ethical issues (Lancaster, 2005). Therefore, for the purpose of this research the ethical standards of doing the research were strictly followed. It was assured to all the respondents who took part in the research that their privacy was kept intact at all times during and after the research. The researcher had also ensured the conformance of this research in accordance to University's ethical code of practice in research.

3.10 Summary

This chapter highlights the research design and approach where a study framework is developed and then evaluated to finalize for execution. The research methods were also identified based on the objectives of the relevant research stage and their sequencing was described in the research design. The research scope was overviewed, entailing the focus on Ministry of Youth and Sports. The research process was initiated with a literature overview and followed by questionnaire. Questionnaire survey were conducted to gather the information related to the research objectives and questions. As a result, a proposed challenge due implantation e-tender in Ministry of Youth and Sports presented as well as new recommendation to consider.

CHAPTER 4: RESULTS AND FINDINGS

4.1 Introduction

Over all of this chapter will show a detail of information or data and result will be shown. Data was obtained and analysed based on the research questions and will be elaborated by using Likert Scale Analysis. The researcher used familiar tool that is Statistical Package for Social Science Research (SPSS) Version 27 in order to acquire accurate result since the tool is simply understood amongst researcher and user friendly. The analysis is based on the feedback from employees at Ministry Youth and Sports, Malaysia. There are a total 465 employees in ministry. However, the survey is conducted only for those involved in Ministry tender activities. The result of the survey will be acquired after the analysis made. In this chapter the analysis is designed to study Challenge of Implementation e-Tender in Ministry Youth and Sports. This chapter will define the participants in this study and the result of analysis used to examine the research questions. The research objectives of this research are:

i. To identify challenges faced by users of e-tendering system implemented by the Ministry of Youth and Sports;

ii. To identify challenges in implementing the e-tendering system faced by the Ministry of Youth and Sports;

iii. To understand relation between e-tender implementation with procurement performance in Ministry Youth and Sports.

4.2 Modes of Data Collection

The researcher has made a model of data collection based on hand questionnaire and create in internet and inviting any respondents associated to fill. For this research purposes the data documentation had been collected through online and also by hand. Entirely, there were 86 questionnaire surveys had been distributed. However, there were only 65 numbers of questionnaires amounts to 76% of the total questionnaire survey had responded. The other 21 numbers were not answered or not returned back. Low response rates may be due to several reasons. First, respondents can only be contacted by email and WhatsApp due to the implementation of the Movement Control Order from March 18, 2020 to May 4, 2020 and the Conditional Movement Control Order until June 18, 2020. Secondly, the survey sent were not entertain as the respondent did not have any interest in the topic and they scroll the email away.

4.2.1 Response Rate

A total of 86 questionnaires were distributed out of which 65 questionnaires were return giving a response rate of 76%. Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is excellent. These findings are well illustrated in the Table below.

Table 4.1: Respondents' Feedback

Respondents' Feedback	Frequency	Percentage (%)
Response	65	76
No Response	21	24
Total	86	100

4.3 Section A – Demographics

The study in this section sought to enquire from the respondents' general information including, gender, age in years, highest level of education attained and years working with the public sector in influencing/ affecting Procurement strategies in the organization. This general information is presented in the following subsections.

4.3.1 Gender Distribution

Gender of respondents is quite a vital factor to determine the possibility of respondent in how they make a decision. Mostly, different by gender shows differential ability of the respondent in term of resistance of physical and capability.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	*Male*	25	38.46	38.46	38.46
	Female	40	61.54	61.54	100
	Total	65	100	100	

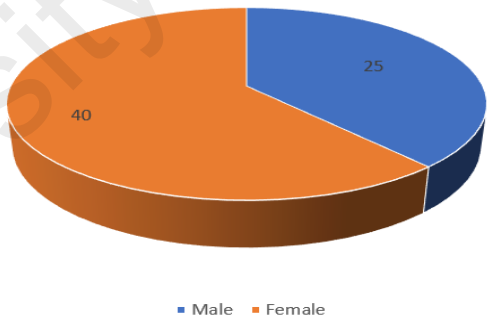


Figure 4.1: Represent the Gender of Respondents

As indicated on Figure 4.1, majority (61.5%) of the respondents were female while (38.46%) were male. This shows that all genders were equally represented thus the data collected was relevant and reliable for the study.

4.3.2 Age Distribution

Next factor is the age of respondents which it is deemed as an important factor because from the age can illustrate of the maturity of the respondents in knowledgeable of interface management and it is related to working experience of the respondents in the construction industry.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-30 years old	9	13.8	13.8	13.8
	31-35 years old	15	23.1	23	36.8
	36-40 years old	17	26.2	26.2	63
	41-45 years old	20	30.8	30.8	93.8
	More than 45 years old	4	6.2	6.2	100
	Total	65	100	100	

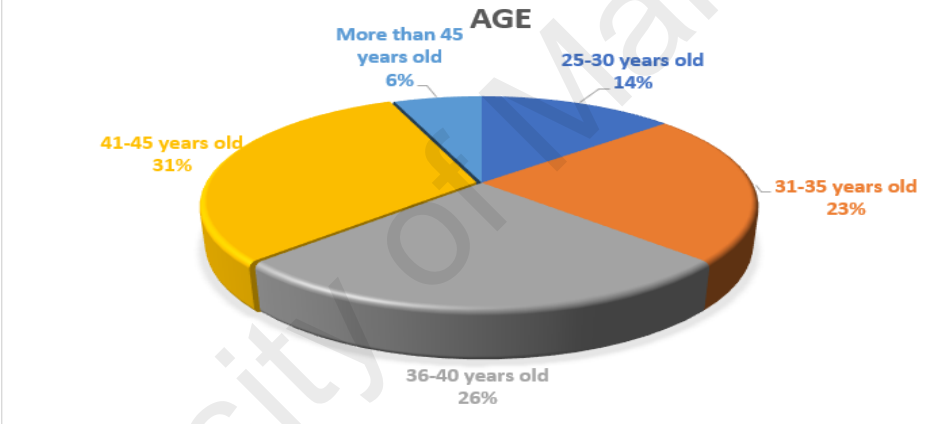


Figure 4.2 Represent the age of respondents

The above figure 4.2 shows that most of the respondents are in range of 25 – 30 years old with 9 respondents or 13.8 % has worked with Ministry Youth and Sports. 23.1 % or 15 respondents in range of 31 – 35 years old, while the range of 36 – 40 years old is 26.2% or 17 respondents. Next is 41 – 45 years old with 20 respondents or 30.8% have been working with Ministry and more 45 years old has been represented by 4 respondents or 6.2 %.

4.3.3 Qualifications

The next factor is about respondent's qualification, which from the factor can get answers accurately about skill and knowledge. The figure below shows the level of qualification that the virtual organization possess in order to facilitate the work and ensure project is undertake by people who understand and have knowledge on it.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma Holders	16	24.6	24.6	24.6
	Bachelor Degree Holder	34	52.3	52.3	76,90
	Master's Degree Holder	13	20.1	20.1	97.0
	PHD Holder	1	1.5	1.5	98.5
	Other:	1	1.5	1.5	100
	Total	65	100	100	

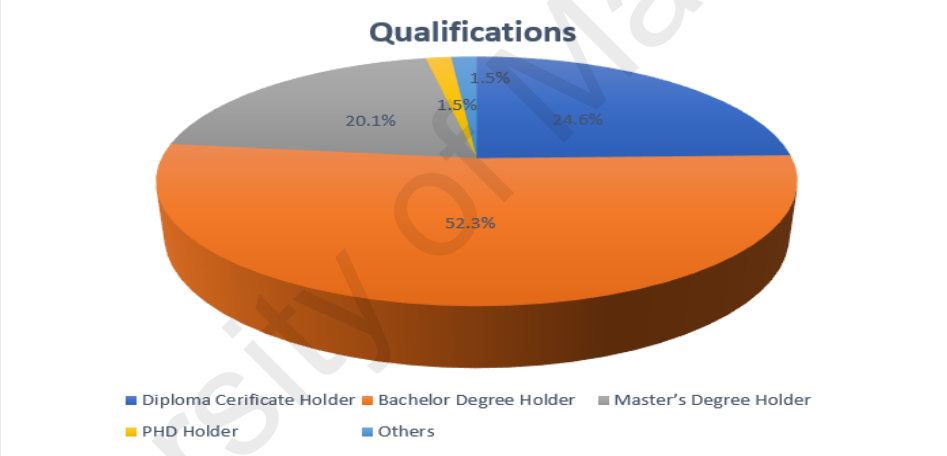


Figure 4.3 Represent the qualifications of respondents

From the above figure 4.3, the data completely shows all 65 respondents possess at least a Sijil Pelajaran Malaysia (SPM) cert to be able to involved in the Ministry tender process. The highest respondent of 52.3% or 34 number possess a degree while Diploma level respondent fall behind with 24.6% or 16 respondent numbers. 20.1% respondent had masters, 1,5% had PhD and another 1.5 % with others qualification. Level education is deemed as a priority in strengthening data analysed because it is related to knowledge and understanding of interface management.

4.3.4 Years of Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less Than 5 Years	5	7.7	7.7	7.7
	5-10 years	11	16.9	16.9	24.6
	10-15 years	26	40	40	64.60
	15-20 years	17	26.2	26.2	90.8
	More than 20 years	6	9.2	9.2	100
	Total	65	100	100	

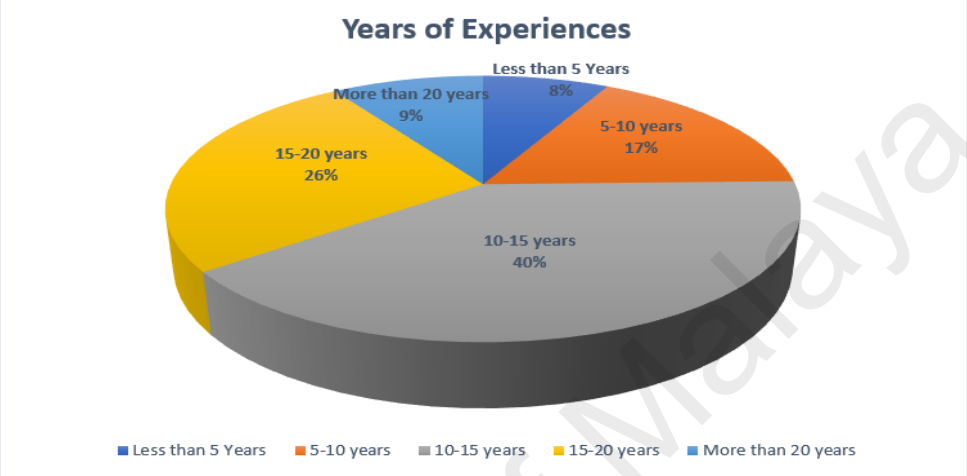


Figure 4.4: Represent the years of working experience of respondents

The next analysis is about working experience of respondents in KBS. This is deemed as a vital point in toughen the data analysed. The more working experiences a respondent in construction industry, the more knowledge through. The result based on figure X shown that most of the respondents have experience in range of 10 - 15 years with 40 % or 26 respondents. Then, it is followed to the range of 15 – 20 years working experience, which is absolutely deemed as in a good experience period. There are 17 respondents or 26.2 % are in this ranges experience period. 16.9 % or 11 respondents have an experience in range of 5 - 10 years followed to the range of above 20 years working experiences with 6 respondent or 9.2 %. Only 5 respondents have less than 5 years of working experiences which represent 7.7 % from the total respondents. All decisions or answering in questionnaire by these respondents who have level experience in range 5 – more than 20 years should be mainly emphasized because of their highest knowledge level and their position which is important in this research.

4.3.5 Field of Profession

Professional fields should be known to help obtain accurate data from their responsibilities, knowledge and specialization in performing their tasks or tasks. This analysis is crucial in order to accurately measures their perception about the implementation of e-tender system in KBS.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineer	2	3.1	3	3
	Executive	11	16.9	17	20
	Finance Officer	10	15.4	15	35
	IT Officer	22	34.9	35	70
	Quantity Surveyor	1	1.5	1	71
	Support Staff	4	6.2	6	77
	Top Management	3	4.6	5	82
	Youth and Sports Officer	11	16.9	17	99
	Other	1	1.5	1	100
		65	100	100	

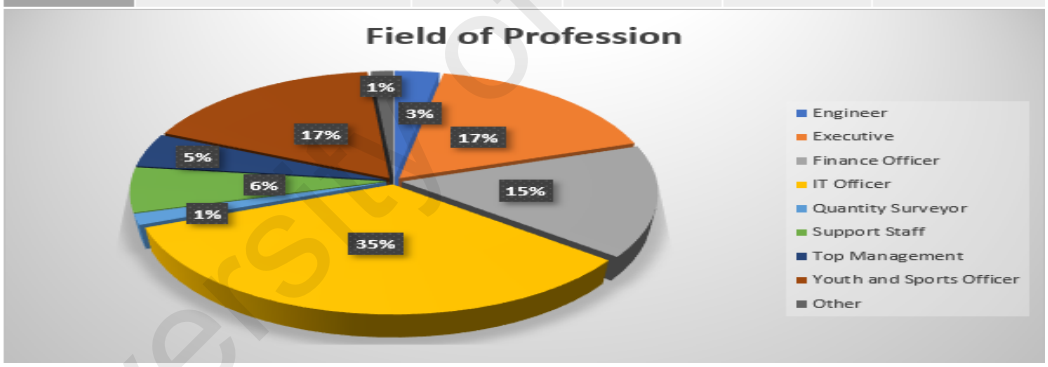


Figure 4.5: Field of Profession of respondents

4.4 Section B – Challenge of implementing e-Tender

Section B of the questionnaire was designed to investigate the challenges of implementation e-tender in KBS. The survey questionnaire included open-ended questions asking the respondents to provide comments and clarifications. In this section end users are asked to state the main challenge they face with the system. The objective of this section aims to is to explore an information on the main or specific challenges faced by users in this Ministry based on their experiences. The answers with their

frequency were tabulated as next tables and figures. Out of a total of 65 respondents who listed the main problems they had with the system, the researchers compiled and listed them in a table format. The list of challenges mentioned along with the number of respondents is in the table below.

Table 4.2 List of Challenges Identified by Respondents

No	Challenges	No of Respondents	Percentage %
1.	e-Tendering is difficult to use	2	3.1
2.	Not user friendly	2	3.1
3.	Hard to understood	1	1.5
4.	Complicate the tender process	2	3.1
5.	Is unpleasant to use	3	4.6
6.	No clear information or procedures	5	7.7
7.	No flexibility	4	6.2
8.	Not enough data about products and services	9	13.8
9.	Delay of feedback for complains`	3	4.6
10.	No easy way to evaluate the tender by the system tools	1	1.5
11.	No good qualified customer services (system providers)	3	4.6
12.	Systems got complicated procedure	4	6.2
13.	Not fully integrated with organizational systems	4	6.2
14.	Infrastructure problems for implementing E-tendering	3	4.6
15.	Vendors the careless of the owner's employee about the systems training	5	7.7
16.	Lack of experts on supplier / contractor system	6	9.2
17.	e-Tendering systems having technical problems	5	7.7
18.	Suppliers / vendors don't follow all procedures of e-tendering	3	4.6
	Total	65	100

Based on the information obtained there are 18 challenges mentioned in the survey form provided. From the tabulated data in the table above, 2 respondents (3.1%) listed they have challenges with the system because it's too difficult to understand, not user friendly and the system made the process more complicated. 3 respondents (4.6%) agreed that the system is unpleasant to use, their complaints and feedback were not immediately responded, providers of the system cannot provide quality customer service and the suppliers / vendors don't follow all procedures of e-tendering. Next with 4 (6.2%)

respondents the system doesn't have a flexibility and have a complicated producer. With the same number of respondents, the system is said to be challenging because cannot fully integrated with organizational systems. 5 respondents (7.7%) agreed there are no clear information or procedures about the system, Vendors failed to give their employees a proper training to handle the system and the e-Tendering systems having technical problems. 6 respondents (9.2%) mentioned that they have challenge because their suppliers are lack of experts on supplier / contractor to handle their own system. The majority of respondents with a total of 9 (13.8%) agree that their main challenge is due to the implementation of e-tender is insufficient data on the products and services provided. Only 1 (1.5%) respondent mentioned there is no easy way to evaluate the tender by the system tools compared to previous system. From the challenges identified in table 4.2, the researchers identified five main challenges and listed them as follows.

Table 4.3: Top 5 Challenge identified at Ministry Youth and Sports due to the implementation of e-tender.

No	Challenges	No of Respondents	Percentage %	Ranking
1.	Not enough data about products and services	9	13.8	1
2.	Lack of experts on supplier / contractor system	6	9.2	2
3.	e-Tendering systems having technical problems	5	7.7	3
4.	Vendors the careless of the owner's employee about the systems training	5	7.7	4
5.	No clear information or procedures	5	7.7	5

From the above Table 4.3, the data completely shows not enough data about products and services in the top of the ranking with 9 respondents with 13.8 percentage. Not enough data about products and services is attributed to the inability of suppliers or vendors to provide the necessary information in the system. Followed by 6 respondents with 9.2 % lack of experts on supplier / contractor system were rank in 2nd place. Lack of experts on supplier / contractor system is associated with a failure to provide adequate training to employees on the vendor side. e-Tendering systems having technical problems ranked in 3rd place where factors related to network, broadband and system unstable. With 7.7 %, 5 respondents highlighted that among challenges their faced is suppliers' workers are poorly trained to handle the system ranked in 4th place and follow by no clear information or procedures with same percentage ranked in 5th place. In conclusion, all five challenges on the top ranking involved 3rd party involvement; suppliers and service providers. Therefore, the lack of suppliers' readiness and technology risk as mention chapter 2 proved contribute to the challenge in implementing the e-tender system in the ministry.

4.5 Section C – Challenge of implementing e-Tender

In this section the questions were design to measure challenge of implementing e-tender that has been identified during the literature study. Using Likert Scale Analysis each challenge identified in chapter 2 is divided into 6 groups which is;

a) Lack of System Integration and Standardization;

b) Immaturity of System;

c) Lack of supplier's preparation;

d) End User Resistance;

e) Technology Risk / Technical Readiness; and

f) Top Management Support

In each of these groups, 3 relevant questions were asked for each respondent to be rated between 1 to 5.

4.5.1 Challenge of implementing e-tender due to Lacks System Integration and Standardization.

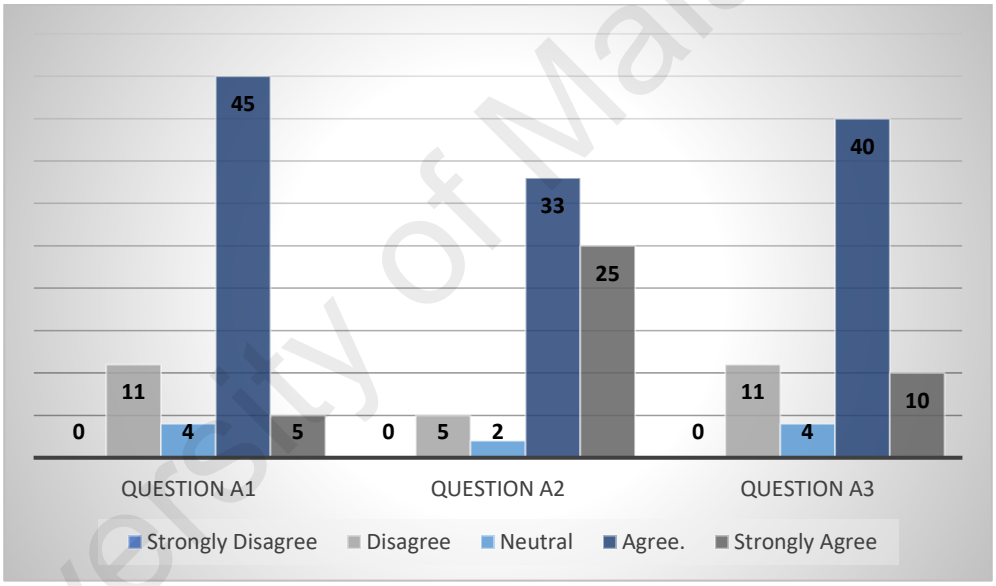


Figure 4.6: Respondents feedback on Lacks System Integration and Standardization.

As indicated in Figure 4.6, on the question A1 majority 45 respondent agree the system lacks the ability to support organization's business plan 4 respondents were neutral, 5 respondents were strongly agreed and 11 were disagree. On the question A2, 5 respondents were disagree, 2 were neutral, 33 and 25 were agree and strongly agree that the systems have less compatibility with portals and other organizational systems. Finally, on the question A3, majority 40 out of 65 respondents were agree that the system does

not meet your organization's standards, 10 were strongly agree meanwhile 11 respondents were disagree and 4 of them a neutral.

Table 4.4: Respondent feedback on Respondents feedback on Lacks System Integration and Standardization

No		Variables	N	Mean	Standard Deviation	Ranking
1	A1	The system lacks the ability to support your organization's business plan	65	3.68	0.850	3
2	A2	systems have less compatibility with portals and other organizational systems	65	4.20	0.833	1
3	A3	This system does not meet your organization's standards	65	3.75	0.919	2

The result of the generated output is shown in table 4.4 above. It mentioned that most of the variable were tapped on five Likert scale from “5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree to 1 = strongly disagree”. From the scale it can be vividly seen that the mean for the question the Lacks System Integration and Standardization that organization frequently encountered mean is 4.20 the highest factor contributing to the challenges in system integration and standardization is e-tender systems have less compatibility with portals and other existed system in organizational. New systems that could not fully integrate with existing systems caused the need to the Ministry to transfer data from the old system to the current system implemented. This causes serious problems such as data loss and leakage of data to others. The second place is system does not meet with organization's standards with the mean of 3.75, and followed lacks the ability to support organization's business plan with mean of 3.67.

4.5.2 Challenge of implementing e-tender due to Immaturity of System

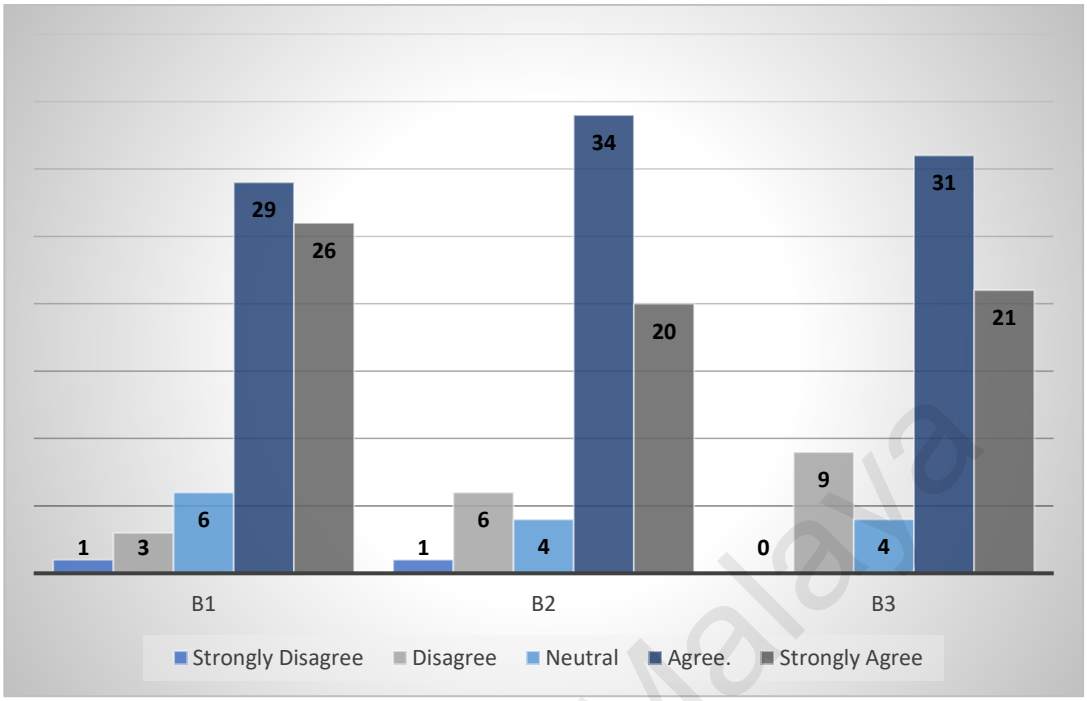


Figure 4.7 respondent feedback on Immaturity of System

As indicated in figure 4.7, on the question B1 majority 29 respondents were agree the system is not able to accommodate all types of tender process in the ministry 6 respondents were neutral, 26 respondents were strongly agreed, 3 respondents were disagreed and only 1 strongly disagree. On the question B2, 1 respondent a strongly disagree, 6 were disagree, 4 were neutral 33 were agreed and 20 were strongly agree that This system is not suitable for complex projects. Finally, on the question B3, majority 31 out of 65 respondents were agree that the tender documentation process in their organization is complex, 21 were strongly agree meanwhile 9 respondents were disagree and 4 of them were neutral.

Table 4.5: Respondent feedback on Immaturity of System

		Variables	N	Mean	Standard Deviation	Ranking
1	B1	The system is not able to accommodate all types of tender process in the Ministry	65	4.17	0.894	1
2	B2	This system is not suitable for complex projects	65	4.02	0.944	2
3	B3	tender documentation process in your organization is complex	65	3.98	0.976	3

The result of the generated output is shown in table 4.5 above. It mentioned that most of the variable were tapped on five Likert scale from "5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree to 1 = strongly disagree". From the scale it can be vividly seen that the mean for the question the Immaturity of System that organization frequently encountered mean is 4.16 the highest factor contributing to the challenges is the system is not able to accommodate all types of tender process in the ministry. The second place with the mean 4.01 is the system is not suitable for complex projects. At this time the system is for procurement of goods and services only. For construction of relatively complex tenders the old method is still in use. The third place is tender documentation process in Ministry Youth and Sports is complex with mean of 3.98.

4.5.3 Challenge of implementing e-tender due to Lack of supplier's preparation

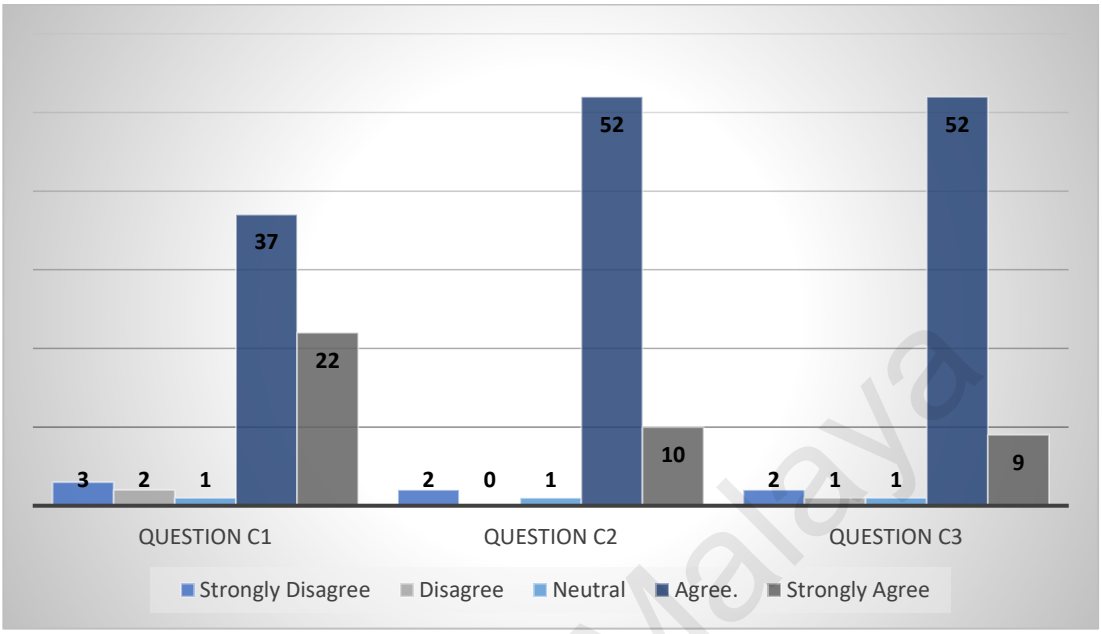


Figure 4.8: Respondent Feedback on Lack of supplier's preparation

As indicated in figure 4.8, on the question C1 majority 37 respondents were agree suppliers are not ready to use this system, 1 respondent were neutral, 22 respondents were strongly agreed, 2 respondents were disagreed and 3 strongly disagree. On the question C2, 2 respondents a strongly disagree, 1were neutral 52 were agreed and 10 were strongly agree that it's hard to receive a feedback from the supplier. Finally, on the question C3, majority 52 out of 65 respondents were agree that the suppliers are less skilled at providing up-to-date information such as price catalogues and material information in the system, 9 were strongly agree meanwhile 1 respondent were disagree and 1 of them were neutral.

Table 4.6: Respondent Feedback on Lack of supplier's preparation

No		Variables	N	Mean	Standard Deviation	Ranking
1	C1	suppliers are not ready to use this system	65	4.12	.944	1
2	C2	it's hard to receive a feedback from the supplier.	65	4.05	.672	2
3	C3	suppliers are less skilled at providing up-to-date information such as price catalogues and material information in the system	65	4.00	.707	3

From the findings in Table 4.6, suppliers are not ready to use this system had the highest mean of 4.12 with a standard deviation of 0.936 followed by it's hard to receive a feedback from the supplier which had a mean of 4.04 with a standard deviation of 0.666 and suppliers are less skilled at providing up-to-date information such as price catalogues and material information in the system had a mean of 4.00 with a standard deviation of 0.701.

4.5.4 Challenge of implementing e-tender due to End User Resistance

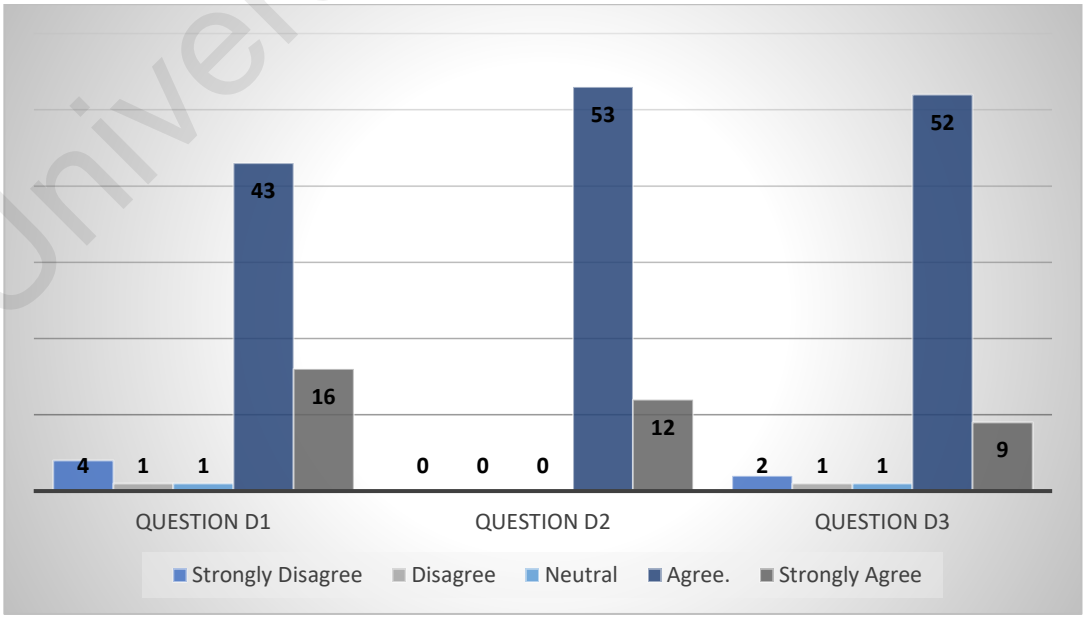


Figure 4.9: Respondents Feedback on End User Resistance

As indicated in Table 4.9, on the question D1 majority 43 respondents were agree they have a hard time accepting change due implementing of e-tendering. 16 were strongly agree and 1 respondent were neutral. Meanwhile 4 respondents were strongly disagreed, with 3 respondents were disagreed that they have a hard time accepting change. On the question D2, 43 respondents were agreed and 12 respondent a strongly agree they not given enough training and exposure to understand the system. Finally, on the question D3, majority 52 respondents were agreeing their colleagues in organization are against change and 9 were strongly agree. Only 2 respondents were disagreed, 1 disagree and 1 of them were neutral.

Table 4.7: Respondents Feedback on End User Resistance

No		Variables	N	Mean	Standard Deviation	Ranking
1	D1	You have a hard time accepting change.	65	4.02	.944	2
2	D2	Not enough training and exposure given to understand the system	65	4.18	.391	1
3	D3	Colleagues in your organization are against change	65	4.00	.707	3

From the findings in Table 4.7, Not enough training and exposure given to understand the system had the highest mean of 4.18 with a standard deviation of 0.387 followed by it's hard time accepting change which had a mean of 4.01 with a standard deviation of 0.936 and Colleagues in organization are against change had a mean of 4.00 with a standard deviation of 0.701.

4.5.5 Challenge of implementing e-tender due to Technology Risk / Technical Readiness

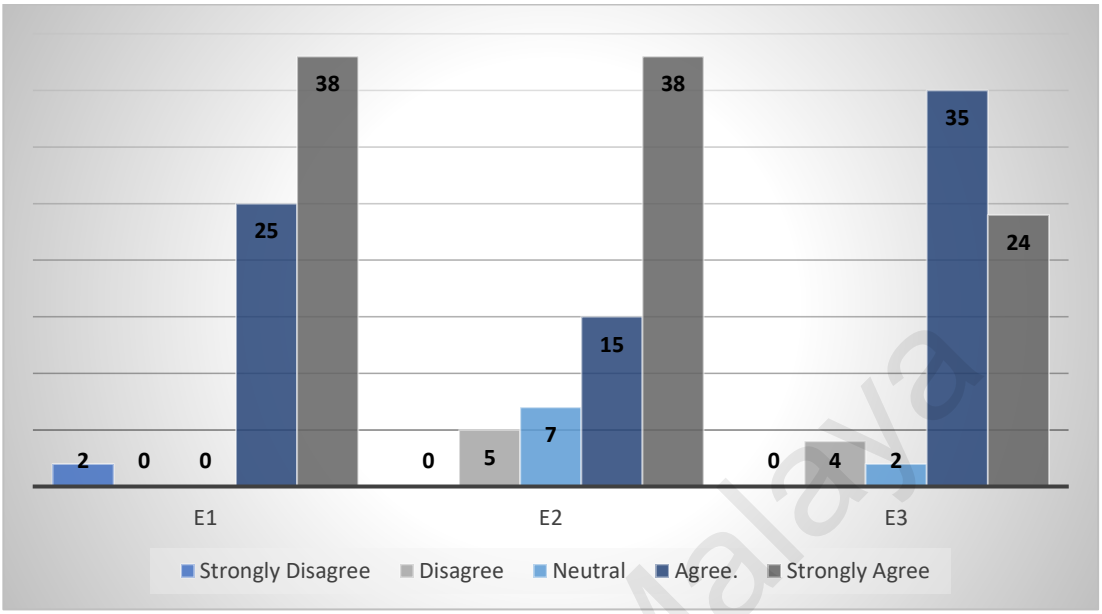


Figure 4.10: Respondent Feedback on Technology Risk / Technical Readiness

As indicated in figure 4.10, on the question E1 majority 38 respondents were strongly agree and 25 were agreed lack of network acceptance, delays in responding to network problems and frequent network problems can affect organizational tender processes. Only 2 respondents were strongly disagreed with the statement. On the question E2, Majority 38 respondents were strongly agreed and 15 respondents were agreed network, broadband and system are not stable. Finally, on the question E3, 35 respondents were agreeing The Service Provider Technical Team don't have a wealth of knowledge and experience with technical issues and 24 were strongly agree. Only 4 respondents were disagreed, and 2 of them were neutral.

Table 4.8: Respondent Feedback on Technology Risk / Technical Readiness

No		Variables	N	Mean	Standard Deviation	Ranking
1	E1	Lack of network acceptance, delays in responding to network problems and frequent network problems can affect organizational tender processes	65	4.49	0.793	1
2	E2	Network, broadband and system are not stable	65	4.32	0.954	2
3	E3	The Service Provider Technical Team don't have a wealth of knowledge and experience with technical issues	65	4.21	0.780	3

From the findings in Table 4.8, Lack of network acceptance, delays in responding to network problems and frequent network problems can affect organizational tender processes had the highest mean of 4.49 with a standard deviation of 0.786 followed by Network, broadband and system are not stable which had a mean of 4.32 with a standard deviation of 0.946 and The Service Provider Technical Team don't have a wealth of knowledge and experience with technical issues had a mean of 4.21 with a standard deviation of 0.774.

4.5.6 Challenge of implementing e-tender due to Top Management Support

From a strategic perspective, the success of implementation of e-tender lies in their ability of leadership or top management to drive change.

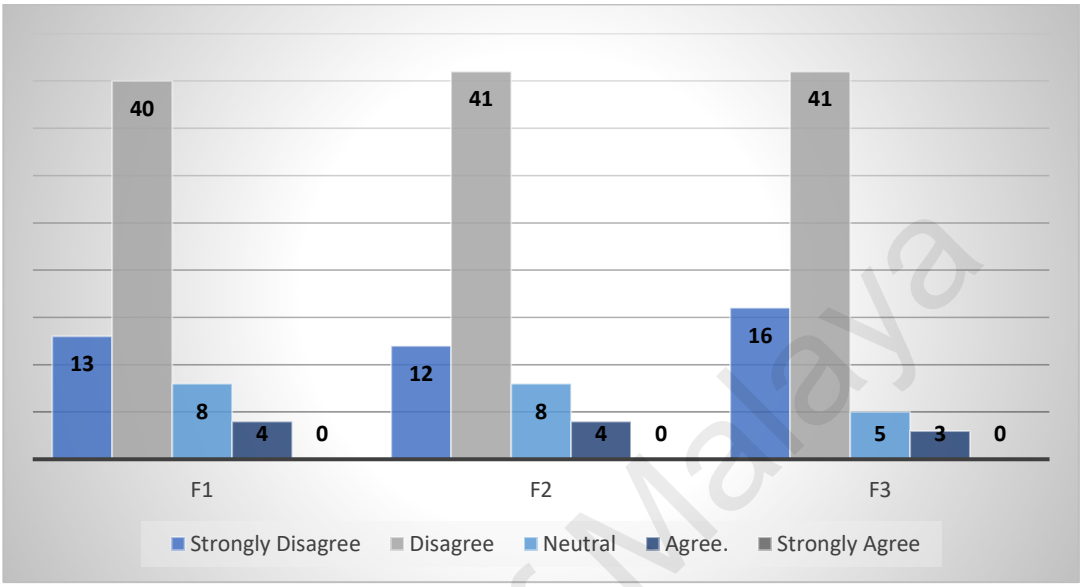


Figure 4.11: Respondents feedback due to Top Management Support

As indicated in figure 4.11, on the question F1 majority 40 respondents were disagree and 13 were strongly disagreed their top management in organization didn't provides the strong support needed for e-tendering implementation. Only 4 respondents agreed their top management did the strong support. On the question F2, 12 respondents strongly agreed and Majority 41 respondents were disagreeing their top management not understands e-tendering process. In the other hand 4 respondents agree with the statement and 8 respondents are neutral. On the question F3, 41 respondents were disagreed top management as the decision make failed to makes a clear decision on the implementation of e-tenders. 16 are strongly disagree and the remain 5 respondents are neutral and 4 out of 65 agree their top management failed to makes a clear decision.

Table 4.9: Respondents feedback due to Top Management Support

No		Variables	N	Mean	Standard Deviation	Ranking
1	F1	Top management in your organization don't provides the strong support needed for e-tendering implementation.	65	2.05	0.759	2
2	F2	Generally, Top management not understands e-tendering process	65	2.06	0.747	1
3	F3	Generally, top management as the decision make failed to makes a clear decision on the implementation of e-tenders.	65	1.92	0.714	3

From the findings in Table 4.9, top management not understands e-tender process had the highest mean of 2.06 with a standard deviation of 0.741 followed by Top management in your organization don't provides the strong support needed for e-tendering implementation which had a mean of 2.06 with a standard deviation of 0.741 and top management as the decision maker failed to makes a clear decision on the implementation of e-tenders had a mean of 1.92 with a standard deviation of 0.708.

4.6 Section D – Relationship Between e-Tendering and Procurement Performance.

This section sought to understand the how e-tendering implementation effects procurement performance in Ministry Youth and Sports. The respondents were also asked to rate statements on procurement performance in their organizations on a scale of 1 to 5 where 1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Table 4.12: Procurement Performance by respondent perceptions

No	Procurement Performance	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree.
1.	Implementation of e-tender has led to a reduction in procurement costs	13	13	17	17	5
2.	Implementation of e-tender has led to a reduction in procurement time	0	5	17	35	8
3.	Implementation of e-tender has led to an improvement in client supplier relationship	9	24	13	13	6
4.	Implementation of e-tender has enhanced transparency in procurement	0	5	17	35	8

No	PROCUREMENT PERFORMANCE	N	Mean	Standard Deviation
1.	Implementation of e-tender has led to a reduction in procurement costs	65	2.81	1.24
2.	Implementation of e-tender has led to a reduction in procurement time	65	3.70	0.77
3.	Implementation of e-tender has led to an improvement in client supplier relationship	65	2.73	1.19
4.	Implementation of e-tender has enhanced transparency in procurement	65	3.70	0.77

The findings revealed that majority of the respondents disagreed that adoption of e-tendering has led to a reduction in procurement costs (40%), improvement in client-supplier relationship (50.7%). and enhanced transparency in procurement (46.2%). However, those who agreed that adoption of e-procurement has led to a reduction in procurement time as well enhanced transparency in procurement were 66.1%.

4.7 Cronbach's Alpha Reliability Test

Case Processing Summary

		N	%
Cases	Valid	65	97.0
	Excluded[a]	2	3.0
	Total	67	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.980	.980	18

Due to the number of samples is small, the questions are group into 4 parts according to the survey forms. The results of Cronbach's Alpha Reliability Test are tabulated as table above. The overall questionnaire variable is reliable and valid due to the scores of Cronbach's Alpha are more than 0.8 which falls under category strong data.

4.8 Normality Test

When the sample size is larger than 100, the size is considered big and the sample distribution can be assumed to become normal although the population is not normally distributed due to central limit theorem. However, the sample of data collected is less than 100 in this study. Therefore, a test is conducted to test whether the sample is normally distributed or not. In this study, the level of significant is a is 5%. If the p- value is less than significant level, there is sufficient evidence that this distribution is not normally distributed. From the table below, all the variables have p- value less than the significant level 0.05. Thus, it can conclude that the distribution is not normally distributed.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Lack of System Integration and Standardization [The system lacks the ability to support your organization's business plan]	.417	65	.000	.692	65	.000
Lack of System Integration and Standardization [systems have less compatibility with portals and other organizational systems]	.297	65	.000	.742	65	.000
Lack of System Integration and Standardization [This system does not meet your organization's standards]	.375	65	.000	.758	65	.000
Immaturity of Providers [The system is not able to accommodate all types of tender process in the ministry]	.271	65	.000	.783	65	.000
Immaturity of Providers [This system is not suitable for complex projects]	.324	65	.000	.784	65	.000
Immaturity of Providers [tender documentation process in your organization is complex]	.306	65	.000	.788	65	.000
Lack of supplier's preparation [suppliers are not ready to use this system]	.356	65	.000	.682	65	.000
Lack of supplier's preparation [it's hard to receive a feedback from the supplier.]	.426	65	.000	.509	65	.000
Lack of supplier's preparation [suppliers are less skilled at providing up-to-date information such as price catalogues and material information in the system]	.438	65	.000	.530	65	.000
End User Resistance [You have a hard time accepting change.]	.401	65	.000	.637	65	.000
End User Resistance [Not enough training and exposure given to understand the system]	.497	65	.000	.472	65	.000
End User Resistance [Colleagues in your organization are against change]	.438	65	.000	.530	65	.000

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Lack of System Integration and Standardization [The system lacks the ability to support your organization's business plan]	.417	65	.000	.692	65	.000
Lack of System Integration and Standardization [systems have less compatibility with portals and other organizational systems]	.297	65	.000	.742	65	.000
Lack of System Integration and Standardization [This system does not meet your organization's standards]	.375	65	.000	.758	65	.000
Immaturity of Providers [The system is not able to accommodate all types of tender process in the ministry]	.271	65	.000	.783	65	.000
Immaturity of Providers [This system is not suitable for complex projects]	.324	65	.000	.784	65	.000
Immaturity of Providers [tender documentation process in your organization is complex]	.306	65	.000	.788	65	.000
Lack of supplier's preparation [suppliers are not ready to use this system]	.356	65	.000	.682	65	.000

Table 4.10: Normality Test

4.9 Summary

Quantitative data were collected via a survey with the department as a unit of analysis. The target population those are involved in e-tender at Ministry Youth and Sports. The survey questionnaire included Likert scale questionnaire and open-ended questions asking the respondents to provide comments and clarifications. The survey questionnaire was distributed online and on paper. The questionnaire was analysed as qualitative data using a constant comparative method. Steps taken to minimize harm to participants included voluntary participation, treating both the data and the identity of the participants as confidential.

Below are the challenges identified in implementation e-tender in Ministry of Youth and Sports.

i. lack of system integration and standardization issues
ii. Immaturity of system
iii. Lack of supplier's preparation
iv. End User Resistance
v. Technology Risk / Technical Readiness
vi. Top Management Support

CHAPTER 5: DISCUSSION

5.1 Introduction

This section discusses the results obtained in the earlier section. The results obtained by analyzing quantitative data on the challenge of implementation shall be discussed. Second, formulation of strategies to overcome the recognized challenges.

5.2 Discussion

Three important questions were raised in this research. The first was "What are the challenges faced by users of e-tender system implemented by the Ministry of Youth and Sports?'' The second was "What factor led to the challenge during the implementation of the e-tender at the Ministry of Youth and Sports?'' The last question was "3. How implementation e- tender effect procurement performance in Ministry of Youth and Sports? Based on outcomes of the study, the following conclusions were made.

5.2.1 RQ: What are the challenges faced by users of e-tender system implemented by the Ministry of Youth and Sports?

Out of a total of 65 respondents who listed the main problems they had with the system, the researchers compiled and listed them in a table format. Based on the information obtained there are 18 different challenges mentioned in the survey form provided. However, researcher only focused on top 5 challenges with highest ranking.

5.2.1.1 Not enough data about products and services.

In the 1st ranking was "not enough data about products and services" in with 9 respondents with 13.8 percentage. Not enough data about products and services is attributed to the inability of suppliers or vendors to provide the necessary information in

the system. In operational Procurement Planning (which is the first step Procurement stages) the primary aim of procurement planning is organized and systematic action to satisfy the need for products, services or functions in a timely and cost-effective manner. Procurement planning clarifies what is needed and when it is needed to both user and buyer. The information for the procurement plan is collect from a variety of sources eg supplier, vendor and contractor. In some cases, the information is collected by viewing via online catalogues provided by suppliers, while for other situations, information can be obtained by Management Information Systems or ERPs. Typically, in Ministry Youth and Sports the information is collected from suppliers. Market research will find specific suppliers and goods that may meet the organization's needs. The amount of effort needed for market research depends on the value / risk of the requirement. For small routine procurement practices, work may be restricted to looking for current lists and previous contracts. For more complex procurement actions such construction of sports facilities or purchase of mechanical goods for Institut Kemahiran Belia Negara, extensive market research or proper supply market analysis should be undertaken. This enables the procuring model to understand how a market works, the direction in which a market is heading, the competitiveness of a market, the key suppliers and the value that suppliers place on the organization as a customer. In this Ministry background research was done using a variety of tools which could include on-line databases and search engines, supplier websites and annual reports, statistical data and the like. Analysis of the data collected may provide insight into how to approach the market in order to provide an appropriate source of information. However as described in chapter 2, the effectiveness or success of the e-tender system in public sector are depends on the cooperation and the readiness of the partnership which is supplier or contractor. In order for e-tender technologies to succeed, suppliers should provide e-catalogues in the formats needed by customers, represent custom pricing or special contractual arrangements, and provide updates on a

regular basis (Davila et al., 2003). Birks et al., (2001) mentioned e-procurement including e-tender implementation success is closely related to early supplier involvement. It is important to demonstrate the proposed solution to the suppliers and discuss any necessary changes, issues, and concerns such as various options in developing and maintaining supplier catalogues.

The involvement of supplier plays an important role. Successful implementation of e-tenders in an organisation depends on the ability of trading partners to use of e-tenders. (Aguiar & Palma-dos-Reis, 2008). In a trading community that is more willing to partner, organizations are in a better position to use e-tenders due to network effects. The majority of suppliers accepted that the use of the e-tender program will then improve the effectiveness and quality of procurement transactions between the government and suppliers from the point of applying for tender to receive payment from the government when the goods and services are delivered. Given the positive indicators on e-tender, there are still many suppliers who have not registered as e-Perolehan users and are still doing business with government in the traditional, i.e. counter-transactions approach.

5.2.1.2 Lack of experts on supplier / system provider

Lack of expertise on the supplier / contractor system is due to both parties' inability supplier and system provider.

(a) Supplier

As mentioned earlier, the use of e-tenders involves trading partners to implement compatible electronic trading systems and to provide Internet-enabled services to each other (Soares-Aguiar & Palma-dos-Reis, 2008) so that they will always engage in electronic interactions and transactions (Zhu, Kraemer & Xu, 2003). In this situation the learning capacity of the organization (supplier) was questioned. Are they capable (or absorption capacity) evaluating, implementing and leveraging technology (Wu et al.,

2007). In order to completely benefit from e-procurement, suppliers need to know how to integrate various e-procurement functions into their business processes (Wu et al., 2007). Supplier learning capability was found to have an effect on the scope of e-procurement use in the study by Wu et al. (2007). Another factor is their employee knowledge and skills.

The use of e-procurement relies on employees with appropriate information technology and management expertise (Soares-Aguiar & Palma-dos-Reis, 2008). Their employees should know how to use the system to generate invoices, catalogues and provide the feedback that customers need. Better understanding of e-procurement allows companies to be aware of the potential advantages and disadvantages of technology, thus helping company to mitigate the risks associated with investing in technology.

(b) System provider

Every company should know customers' needs and mostly they claim they know. However, the ability to provide a final product according to the expectations can be questionable. System provider should ensure customer satisfaction. Therefore, customer services are always very important and topical, because they can help to increase customer satisfaction with the product using. System provider company should create a learning-oriented environment that facilitates employees to become multi-tasking, improves verbal communication due to frequent interactions and develop problem solving skills. Providers must ensure improvement in their customer servicing skills in order to meet customer's needs and wants.

5.2.1.3 e-Tender system having technical problems

Technical problems refer to technology risk and technical readiness and capabilities required within the Ministry. In order to introduce e-tenders, ministry need to provide the necessary information technology infrastructure, such as computers, databases and communication networks (Soares-Aguiar & Palma-dos-Reis, 2008), so that the technology can be used.

Technical problems have been found in the Soares-Aguiar and Palma-dos-Reis (2008) studies to affect the adoption of e-procurement. A proper system manual for operating and optimizing the system and also managing the load on various servers and backup servers, along with system recovery in case of failure, must be properly designed and implemented. Likewise, when developing an e-procurement program, it must be assured that the interface is user-friendly and easy to use. Navigation between different subsystems must also be easy and efficient. The system must not be overburdened or heavy so that it can be used easily over a slow internet speed

Ministry also suffered by issues such as System Breakdown lack of bandwidth support and network problem. Employees won't be able to access the tools they need and could very well end up sitting around with nothing to do while they wait for service to be restored. They had to stay back after office hours to complete the process and for better network access. e-Perolehan depend on online communications and services. From tendering process, purchasing raw material, and email to task management systems and purchasing systems, losing network access can bring the workplace to a screeching halt. With so organization and agencies, relying solely on cloud applications, delays in one stage can contribute to delays or problems in others.

5.2.1.4 Vendors the careless of the owner's employee about the systems training

As mentioned in 5.2.1.2 it's important to vendor to ensure their employee had better training. The introduction of training sessions to workers is a positive step towards the expertise of workers. Vendor as the system provider is the Ministry's main reference on e-tenders system but unfortunately vendor not able to send experienced and knowledgeable staff to assist ministry and cause the tendering process delayed.

5.2.1.5 No clear information or procedures

No clear information or procedures may be linked that this e-tender system has just been implemented and that there are many weaknesses and procedures not yet identified. However, researchers are more inclined to believe that this is more related with end user behaviour or end user resistance. The uncertainty about what new technology means to employees may cause greater resistance to accepting it. Resistance can also come in the form of attachment to old processes and legacy tools that employees are comfortable with. Employees can get used to a condition that is not the most desirable and will ignore any suggestions for improving it. Resistance can also come in the form lack of willingness and sense of belonging whereby users are not interested in learn new technologies and hence and looking a cause to avoid using the system. Based on the researcher observation and research in e-procurement website (https://www.eperolehan.gov.my/) there are various user manual have been uploaded in the system. List of user manuals available in the system is as table below.

Table 5.1 List of Manual SOP in e-Perolehan system

Bil	Description	
1	Manual Pengguna Pelan Perolehan	
2	Manual Pengguna Pengurusan Pembekal	
	a.	Manual Pengguna Pengurusan Pembekal - Pendaftaran Pembekal
	b.	Manual Pengguna Pengurusan Pembekal - Pengurusan Kelulusan Pembekal
	c.	Manual Pengguna Pengurusan Pembekal - Penyelenggaraan Akaun Asas
	d.	Manual Pengguna Pengurusan Pembekal - Penyelenggaraan Akaun G2G
	e.	Manual Pengguna Pengurusan Pembekal - Penyelenggaraan Akaun MOF
3	Pengurusan Katalog dan Kodifikasi	
	a.	Manual Pengguna Pengurusan Katalog dan Kodifikasi
	b.	Kod Katalog (Berasaskan kod UNSPSC versi 15)
4	Manual Pengguna Pengurusan Profil	
	a.	Manual Pengguna Pengurusan Profil - Pentadbir Kementerian
	b.	Manual Pengguna Pengurusan Profil - Pentadbir Kumpulan PTJ
	c.	Manual Pengguna Pengurusan Profil - Pentadbir PTJ
5.	Manual Pengguna Pengurusan Pembelian Terus	
6.	Manual Pengguna Sebut Harga dan Tender	
7.	Manual Pengguna Pengurusan Kontrak	
8.	Manual Pengguna Pemenuhan	
9.	Manual Pengguna Portal	
10.	Manual Pengguna Fungsi lazim	
11.	Manual Pengguna e-Kontrak	

In conclusion, from the five challenges mentioned by respondent in part B questionnaire four of them involved third-party; suppliers and service providers, while one is due to user behaviour.

Next from relevant Literature Review researchers have identified five challenges that are often encountered when implementing e-tender in Public Sector.

5.2.1.6 Lack of System Integration and Standardization and Combability;

As indicated in figure 4.6, majority of respondent (more than 50%) agree the e-tender system implemented in Ministry Youth and Sports lacks the ability to support organization's business process, less compatibility with ministry existing portals and systems. 40 from 65 respondents were agree that the system does not meet organization's standards due to complexity of their business process.

The technological context refers to the perceptions of the organization of current technology in use within the organization and emerging technologies related to the organization (Tornatzky & Fleischer, 1990; Zhu et al., 2006). The factors from the technological context were relative advantage, compatibility, and complexity. These factors were based on Rogers (2003)'s Diffusion of Innovation Theory (DOI), while compatibility and complexity are the characteristics of innovation that, according to DOI theory, influence decision-making. Organizations are more likely to implement and use innovation if it is consistent with their current processes and standards (Rogers, 2003). Organizations are more likely to implement and use technology that is compatible and can align with existing IT infrastructure, business processes and value systems of organizations.

Companies in various industries in European countries (including Finland, France, Germany, Italy, Spain and the United Kingdom) have found that an e-procurement system that can align with the current company of business processes and values is a stronger factor for explaining the magnitude of e-business use. The finding that compatibility affects the depth of e-procurement use suggests that e-procurement is used intensively

enough to play a significant role only when it is compatibility with the business practices and values of the company

It has been noted that the success of e-tender solutions has not been as great as predicted. While e-tender solutions can have a significant impact on making the procurement process easier and more effective, many businesses are still neglecting these technologies. Prior to the introduction of e-tenders, government agencies must first specifically identify the business issues that their e-procurement approach is intended to solve. Lack of system integration and standardization issues relates to the fact that e-tender is fairly new system software application in government agencies and it is not unusual to find a lack of benchmarkable reference models. The agencies need to be aware of the possible hidden costs of introducing e-tender solutions, such as program integration, content collection and streamlining, inventory and search engine management, supplier control, end-user training and re-engineering procurement. These costs are expected to surpass the licensing and maintenance costs of software by five to ten times.

5.2.1.7 Immaturity of System.

From 65 respondents 54 were agree the system is not able to accommodate all types of tender process in the ministry. 53 were agreed that e-tender system is not suitable for complex projects and Finally, 52 respondents were agreed tender documentation process in Ministry Youth and Sports are complex. Implementation of the e-tender strengthens the tendering process and is an effective method for the fair awarding of contracts. Despite the numerous benefits of electronic tendering, Immaturity of System also contribute to challenge impeding the implementation of e-tender in the organization. Immature System,

for instance, may not have the capitalization required to provide a complete suite of services to its members. Gunasekaran & Ngai, 2008; Tanner et al., 2008)

The immature system may involve issues related to the integration of e-procurement with existing information systems, such as accounting and inventory management. The immaturity of the system generates uncertainties about security, reliability, interoperability and integration (Tatsis, Mena, Wassenhove & Whicker, 2006). Unsuccessful implementation of e-procurement can cause by the immaturity of the system Tanner et al. (2008). (2008). Immaturity of the system providers planning was reported as a challenge to the use of sophisticated dedicated e-procurement systems. Challenge in learning and integrating new technology due to immaturity of the system raises the risk associated with its implementation (Teo et al., 2007) and may contribute in slower recognition of the importance of the technology, fear of failure, and resistance (Cho & Kim, 2002). Previous explanatory research on the adoption and implementation of e-procurement considered immaturity of the e-procurement system in terms of perceived cost of e-procurement; research that presented evidence that perceived costs of e-procurement negatively affect the extent of e-procurement use by organizations.

Each Ministry has own identities and working nature. Therefore, ministry needs a system that meets the needs of the organization. The perception of an e-procurement system that is easy to implement and use within an organization is likely to result in an organization using a wider range of e-procurement forms and functionalities and relying more on e-procurement in the core business processes of the organization. However, currently e-tender offered based on general needs all government agencies. Therefore, Ministry of Youth and Sports needs to adopt the system provided as much as possible. For procurement that cannot be implemented through the system, the Ministry should refer to the Ministry of Finance for further action. Currently e-tender only suitable

procurement of goods and services only. For construction of relatively complex tenders the old method is still in use.

5.2.1.8 Lack of supplier's preparation

Successful implementation of an e-tender in an organization depends on the trading partners' readiness to facilitate e-tender use. (Palma-dos-Reis & Soares-Aguiar, 2008). Since the use of e-tender allows several entities to cooperate, partner readiness is salient. Using the e-tender requires trading partners to implement compatible electronic trading schemes and provide each other with Internet-enabled services (Soares-Aguiar & Palma-dos-Reis, 2008) so that they can engage in electronic interactions and transactions (Zhu, Kraemer, & Xu, 2003). In a trading community with greater partner readiness, organisations are in a better position to use e-tender due to network effects. Partner readiness was found to affect e-tender adoption in the study by Soares- Aguiar and Palma-dos-Reis (2008).

Three of the studies (Davila et al., 2003; Hawking & Stein, 2004; Tanner et al., 2008) reported that supplier issues inhibited e-tender adoption and use. In Hawking and Stein (2004) study found that lack of partnership between business partners hindered e-tender implementation. Many supplier issues related to the poor acceptance of the e-tender by the suppliers (Tanner et al., 2008), Lack of suppliers accessible via the e-tender network of the organisation, lack of supplier investment in catalogue development, suppliers not ready to engage in the e-tender and inadequate suppliers to establish a liquid marketplace (Davila et al., 2003).

The lack of preparation is also a challenge for government agencies. After all, suppliers need to learn how to generate catalogues, process electronic purchase orders, how to use invoicing mechanisms among other tasks (Supplier integration challenges) (Angeles & Nath 2007). Including preferred suppliers is very important as according to Davila et al.

(2003) the performance of e-procurement solutions relies on a network effect that will be more successful if more players implement the same technology. Some suppliers claim that in many cases Government Agencies do not show serious interest and passion in the e-tender system. As a result, they prefer manual revenue transactions they know better than e-tender system. Other than that, according to them, e-tenders are still being implemented in stages and this means that some of government departments and agencies are still piloting or in the early stages of using e-tenders (Maniam & Rugayah 2018). It's was proved by finding in chapter 4 whereby 59 respondents were agree suppliers are not ready to use this system, and 62 were agreed it's hard to receive a feedback from the supplier.

5.2.1.9 End User Resistance

59 respondents were agreed they have a hard time accepting change due implementing of e-tender. 55 respondents were agreed they not given enough training and exposure to understand the system and 61 respondents were agreeing their colleagues in organization are against to change. People are one of the biggest barriers to change management", as evidenced by Quayle (2005) studies. Initial apprehension to a new system is not surprising, because changing behaviour and learning new business workflows requires more effort from employees than sticking to the status quo. However, a bigger obstacle at hand is the disconnect between expectations of employees and the actual performance of the system. Employees have high expectations due to their experiences with B2C e-commerce sites, such as Amazon, where purchasing is simple and fast. In reality, B2B systems' user interfaces may be more disorganized, with forms and workflows being inflexible and not moulded well with organization' business structure. When frustrated and confused, users would then most likely revert back to their, though inefficient, familiar manual procurement processes. If employees are resistant towards using e-tender systems, procurement processes would not flow through the system, and the high-priced

technology will go underused. The once promised ROI is then not delivered, derailing the organization well-intentioned efforts to achieving cost savings and efficiency. Lou in 2006 added that when new technologies are implemented, the employees fear responsibility and fear that it could replace them, which would make them lose their jobs (Amarapathy et al., 2013, p. 221). Mastor et al. (2006, p. 10) indicated that there are low levels of computer literacy in developing countries that could significantly delay the adoption of e-tenders. The use of e-procurement relies on workers with appropriate information technology and management expertise (Soares-Aguiar & Palma-dos-Reis, 2008).

5.2.1.10 Technology Risk / Technical Readiness;

Technology Risk / Technical Readiness also related to the quality of services delivered such as reliability, network / internet performance, etc. Technical Readiness of an institution (government agencies, system service providers and supplier) is the most critical success factor. Both hardware and software systems, I.T system incompatibilities and integration form a key part to success of e-tender. All department / agencies or company involved should ensure that there are no system incompatibilities when implementing new I.T systems, have proper systems software infrastructure, train staff on I.T skills, and have proper systems network. The case study literature showed that the interoperability of systems and standards is an ongoing challenge facing all e-procurement systems. Managing this integration is difficult without technical standards, specifically in the area of data format. There are risks related to the standard of e-procurement technologies. If the e-procurement used in their company does not widely accepted, it would prevent the integration of different e-procurement software across their supply chain. From the surveys conducted 53 respondents were agreed delays in responding to network problems and frequent network problems can cause delay in organizational tender processes. Majority 43 respondents were agreed they are suffered

by unstable network, broadband and system related to e-tender and 59 respondents were agreeing Service Provider Technical Team don't have a wealth of knowledge and experience with technical issues.

Since e-tenders will have a significant effect on the organization as they undergo both horizontal and vertical integration in order to achieve full benefits, it is very important to adopt well-accepted and proven techniques, procedures and processes so that the desired objectives can be effectively achieved (Ghimire, 2013). It must always be assured that the system follows the applicable legal requirements of the country and the commercial market: otherwise there would be legal and logistical issues that could lead to a system failure. A proper system manual for operating and optimizing the system and also managing the load on various servers and backup servers, along with system recovery in case of failure, must be properly designed and implemented. Likewise, when developing an e-procurement program, it must be assured that the interface is user-friendly and easy to use. Navigation between different subsystems must also be easy and efficient. The program must be built in such a way that minimal mouse clicks and efforts are required to obtain the information one needs (Arts, 2012). The system must not be overloaded or heavy so it can be used easily over a slow Internet speed. A clear and organized assistance facility must be accessible for each part of the program in order to make it easier to use. There must always be responses to all of the often-asked questions.

5.2.1.11 Top Management Support

Support from top management is important to ensure that resources are available for implementing a technology or extending its use (Grover, 1993) and to overcome resistance to change (Teo et al., 1998). Most of the studies (see, for example, Harrigan et al., 2008; Hawking & Stein, 2004) contended that lack of top management support was a challenge to e-tender implementation and use. Conversely, lack of top management

support may result in failure of implementation (Grandon & Pearson, 2004). Prior studies (see, for example, Chong, Ooi, Lin, & Raman, 2009; Premkumar, 2003; Premkumar et al., 1997; Premkumar & Roberts, 1999; Soliman & Janz, 2004; Teo et al., 1998; Teo et al., 2007; Teo et al., 2009) presented evidence suggests that when top management support for technology adoption and use is strong, organizations are more likely to adopt and use technology. For instance, Teo et al. (2007), in a survey of companies in multiple industries in Singapore, found that top management support affected human resources information systems use (as measured by the total number of human resources information systems applications used in the organisation). Top management should be part of the e-procurement teams to ensure the e-tender is implemented successfully (Gunasekaran & Ngai, 2008).

The extent to which senior managers in an organization believe that e-tender can have a positive impact on the performance of the organization will influence their decisions regarding e-tender adoption and use (Gunasekaran et al., 2009). Lack of understanding and knowledge of e-tendering processes and the vast advantages it provides is a critical challenge to its implementation (Mastor et al., 2006, p. 2). Rezgui et al. in 2004 have further claimed that senior management lack the awareness of the available and new trending technologies which is a major hit to the adoption of new innovative approaches like e-Tender as they are the decision makers who invest and adopt such technologies (Olukayode & Adeyemi, 2011, p. 561). Top management support for implementation and use of e-procurement within an enterprise is likely to result in the organization utilizing a broader variety of e-procurement types and functionalities and depending more on e-procurement in the core business processes of the organization.

There is no doubt that senior management is crucial to the progress of the introduction of e-procurement (AGV, 2003). The top management team (the management committee)

must include the project manager, any consultants associated with the committee and the employees of the organization to create an implementation plan (ECOM, 2002). Furthermore, the executive management team is responsible for setting the vision and goals, bringing about collective commitment for change in process and organizational structures, and formulating the policies and strategies necessary to put an e-Procurement initiative in place (WB, 2003).From the finding in chapter 4 its clearly shows Top Management in Ministry Youth and Sports give a full support to e-tender implementation.

5.2.2 RQ What is the recommendation to encounter this challenge in Ministry Youth and Sports?

5.2.2.1 Immaturity of System

(a) Performance Measurement

It's very important for the KBS to set the goals and targets that the system will achieve. They will formulate a process in which the efficiency of the e-tender system can be assessed and tracked on a regular basis against the objectives set (Lee, 2013; Smith, 2009). Measuring methods must be clearly defined so everybody can understand the findings and work to strengthen them (Barasa, 2014). Such goals and targets are not only relevant to the KBS, but will also help to inspire the system provider to work towards enhancing their performance.

(b) Business Process Re-engineering

The current or existing business process must be re-engineered in such a way that inefficient system flow and unmanageable processing can be avoided (Lee et al., 2011). The KBS management team and the procurement department will therefore need a fresh look at all the processes and functions that have been carried out in the past in order to meet the new requirements of the process. Processes that are ineffective and do not achieve the desired outcomes must be stripped out, whereas those that are successful must

be preserved and carried out in combination with modern and effective substitution processes. Several companies in India, Malaysia and other developing countries have benefited greatly from e-procurement re-engineering (Pohl, 2010).

5.2.2.2 Lack of supplier's preparation.

(a) Supplier Compatibility

Providing opportunities for suppliers to offer their feedback will allow the public procurement department to monitor areas for improvement and adjust practices accordingly. By involving suppliers at an early stage e.g. in developing a product is very important it helps to maintain good quality of products and good supplier relationship because many suppliers may be unwilling to conduct business electronically with the ministry because they are unclear about the benefits to be gained, they might see e-Procurement as a means by which ministry will simply attempt to force down prices.

(b) Adoption by Stakeholders

For successful e-procurement adoption, it is imperative that the most important stakeholders, i.e. the suppliers, accept it (Goswami, 2009). Also, they must be involved and taken into confidence at each step during the adoption and implementation process. They must be encouraged and convinced that the implementation is mutually beneficial for them and the firm. Feedback and consent of suppliers is very important not only for successful adoption but also for future successful running of the system. Again, simplicity simple and user-friendly system interface is required if suppliers are to accept it (Kamal, 2011).

(c) Supply Chain

Supply Chain Integration is one of the main considerations that the Ministry of Youth and Sports must take into account in order to achieve positive e-procurement adoption. Smith and Flanegin (2004) believe that the organization must recognize and realize that

their existing and possible future suppliers are capable and ready for e-tender. They also state that those suppliers who are not ready to participate in the process will not participate. Similarly, they argue that potential suppliers must be prepared with the tools required by the organization and must be able to utilize the software and technology of the organization, which means that they should have the capacity and skills to use new technology and software. Smith and Flanegin (2004) have noted that the costs of the project (technology and software) must be achievable for suppliers: otherwise the integration process would not be possible. They also assume that, in order to satisfy the requirements of e-procurement, supplers and consumers need to make some changes, which will incur some costs themselves, so that all organisations must be conscious of and ready for these costs and must carry out a cost / benefit analysis. Many companies assume that the cost will be decreased, however that it still increases, and they need to carry out an analysis of that scenario. It is also critical that both suppliers use the same standards for their services and product catalogues.

(d) IT competence

Staff equipped with better skills and IT competence constitutes an important and core asset for supplier adoption of e-procurement. Managerial competence and IT knowledge at enterprise level is especially important and significant for successful e-procurement adoption (Aguiar et al., 2008). The key managerial skills needed by a successful organisation include leadership, business deployment, external networks, process adoption, IT infrastructure, data utility and IT planning. However, IT resources and skills are considered the most significant and serve as a key determinant of e-procurement adoption.

(e) End User Resistance

(i) The key to the problem is to understand the true nature of resistance. Actually, what employees resist is usually not technical change but social change—the change in their human relationships that generally accompanies technical change.

(ii) Management can take concrete steps to deal constructively with these staff attitudes. The steps include emphasizing new standards of performance for staff specialists and encouraging them to think in different ways, as well as making use of the fact that signs of resistance can serve as a practical warning signal in directing and timing technological changes.

(iii) Top executives can also make their own efforts more effective at meetings of staff and operating groups where change is being discussed. They can do this by shifting their attention from the facts of schedules, technical details, work assignments, and so forth, to what the discussion of these items indicates in regard to developing resistance and receptiveness to change.

(iv) Identify the Root Causes of Resistance to Change

Managing resistance is ineffective when it simply focuses on the symptoms. The symptoms of resistance are observable and often overt, such as complaining, not attending key meetings, not providing requested information or resources, or simply not adopting a change to process or behaviour. While they are more evident, focusing on these symptoms will not yield results. To be effective at managing resistance, look deeper into what is ultimately causing the resistance. Effective resistance management requires identification of the root causes of

resistance—understanding why someone is resistant, not simply how that resistance is manifesting itself.

(f) Technology Risk / Technical Readiness

(i) Technological Standards

When developing an e-procurement system, it must be assured that the interface is user-friendly and easy to use. Navigation between different subsystems must also be easy and efficient. The program must be built in such a way that minimal mouse clicks and efforts are required to obtain the information one needs (Arts, 2012). The system must not be overloaded or heavy so it can be used easily over a slow Internet speed. A clear and organized assistance facility must be accessible for each part of the program in order to make it easier to use. There must always be responses to all of the often-asked questions.

(ii) IT Infrastructure Management

Disasters can occur even when Ministry taken all of the right precautions, but by taking IT infrastructure management seriously, Ministry can reduce their occurrence and minimize the damage they create. Put systems in place to help Ministry IT department monitor and catch threats before the damage is done.

(iii) Preventive Maintenance

There are two types of maintenance strategies employed by companies that rely on equipment – reactive maintenance and preventive maintenance. Reactive maintenance goes by the "if it isn't broke, don't fix it" motto, a strategy that can sometimes save money short term but often ends up costing even more in the long run. Preventive maintenance, on the other hand, is a carefully designed maintenance program where maintenance tasks

are performed routinely in order to avoid larger, costly fixes down the line. Many maintenance professionals have recognized the benefits of preventive maintenance for ongoing equipment upkeep.

5.3.3 RQ: How implementation e- tender effect procurement performance in Ministry of Youth and Sports?

Researchers have conducted a research to study relationship between e-tenders and procurement performance and to find out how e-tenders affect procurement performance. However, on the basis of confidentiality of information such as tender price, type of tender and tender process implemented by the ministry this study can only be done based on the perception and information by respondents involved in the Ministry process.

5.3.3.1 Implementation of e-Tender Has Led to A Reduction in Procurement Costs

From 65 respondent 40% respondent (13 Strongly Disagree and 13 Disagree) that adoption of e-tendering has led to a reduction in procurement costs. e-Tender is associated with reduced transaction cost, improved process efficiency, increased contract compliance, reduced cycle times and reduced inventory costs (Aberdeen Group, 2005) and improved operational and cost efficiency (Roma and McCue, 2012).

Most contracts in Ministry Youth and Sports are made by open tender. Thus, the contract price formation occurs via an open tender framework that clients are using to obtain the cheapest price from the winning contractor. The extent of competition is therefore often the main distinguishing feature of tendering procedures. Nonetheless, a comprehensive review of the literature by Runeson and Skitmore (1999) on the application of e-tendering showed that it doesn't always help clients in project value-for -money. Indeed, Smith and Bohn (1999) for example, observed that for clients, periods of high competition would yield bid prices that would appear on the face of it to be

exceptional value. However, ultimately, the lowest bids may not prove to be such bargains, especially in cases that lead to claims and insolvencies. Most supplier / contractor claimed tendering costs in e- tender procedure can be significant higher its application will yield best value for money. The costs of time and resources required for the implementation of a competitive negotiation procedure should be taken into account and balanced against the potential benefits in the selection and implementation of this tendering procedure. There is no doubt that increasing costs in supplier management will have the same effect on the Ministry. In a trading community with greater willingness to partner, organizations are in a better position to achieve better interest. Partner readiness in the Soares-Aguiar and Palma-dos-Reis studies has been identified as having an impact on e-tender adoption (2008).

5.3.3.2 Implementation of e-Tender Led to a Reduction in Procurement Time

Even with of unstable network and technical issues, complexity of the system and supplier issues, 35 respondents and 8 respondents were agree and strongly agree that adoption of e-procurement has led to a reduction in procurement time in Ministry Youth and Sports.

Paper-based conventional tendering forces the interested contractor to go and purchase tender documents from the customer's location. This is clearly a waste of time (delays in working on the tenders due to idle waiting time for papers) Moreover, if the tenders' papers are changed there will be no instant communication leading to an extremely long time loss because the contractor is still working on the old tender papers because he is not aware of the new amendments. The evaluation phase is long and lengthy in traditional tenders as it takes time for the analytical committee to examine the offer. In addition, other factors, such as input error proportion and data entry review, can trigger delays

during this time. In comparison, e-tender allows e-analysis, making it simpler and quicker to make a decision.

When the bidders upload their BOQ to the analysis tools, the analysis will be carried out. The software then evaluates the deals according to the requirements of the consumer. In addition, the analytical committee will do its job simultaneously and then post comments through e-analysis tools. This e-tender features help speed up and shorten the time of assessment.

5.3.3.3 Implementation of e-Tender Has Led to an Improvement in Client Supplier Relationship

As mentioned in findings in chapter 4, from 65 respondents, 52 were agreed and 10 were strongly agree that it's hard to receive a feedback from the supplier due of implementation e-tender. This is in line with the findings of 9 respondents are strongly disagree and 24 are disagree implementation of e-tender has led to an improvement in client supplier relationship.

Successful implementation of e-tender in an organisation depends on the readiness of the trading partners to facilitate the use of e-tender. Without supplier cooperation it is impossible to e-tender to success. Most supplier / contractor claimed tendering costs in e-tender procedure cost them higher compare to traditional method making them not interested in participating in the tenders offered by the ministry. Apart from that supplier do agree lack of IT skills among their employee is the biggest challenge to them to fully adopt e-tender. It is difficult for them to have a good and experience staffs that have the knowledge in using e-tender.

5.3.3.4 Implementation of e-tendering has enhanced transparency in procurement

Public procurement processes have different phases and each phase has a risk of corruption. Matechak (2002) identified three main phases of procurement process which include procurement planning and budgeting, procurement solicitation, and contract award and performance. e-Tender is process of sending requests for information and prices to suppliers and receiving the response using internet technology. The most commonly reported benefit of e-tenders was a reduction in business costs. The business costs can be related to procurement (Gunasekaran et al., 2008; Gunasekaran et al., 2009; Hawking & Stein, 2004; Lefebvre et al., 2005), as well as procurement process administration. (Harrigan et al., 2008; Hawking & Stein, 2004). The business costs may be connected to the procurement method.

Business cost savings due to e-procurement are typically the result of the redesign of the supply chain (Bland, 2003). The use of e-tenders, for example, increases the ministry 's chances of lower prices for the goods offered (Pearcy et al., 2008). e-Catalogues that allow comparisons around the world speed up the choice of suppliers (Miller 2011) by increasing the transparency of the prices (Tanner et al., 2008), which eventually decrease the costs of products and services as well as the efficiency of supplies and services (Timmers, 1998). (Miller, 2011) Business cost savings achieved through e-procurement resulted in increased revenue (Harrigan et al., 2008; Lefebvre et al . , 2005) and increased competitiveness (Harrigan et al., 2008; Kheng & Al-Hawamdeh, 2002). From the survey finding, 35 and 8 respondents were agree and strongly agree that adoption of e-procurement has enhanced transparency in procurement in Ministry Youth and Sports.

CHAPTER 6: CONCLUSION

6.1 Introduction

This chapter of the study forms the concluding part of this academic research work. In this chapter, a summary of all the discussions held in the analytical sections of the study is presented with conclusions drawn accordingly. Areas that could be explored in further outlook on the subject matter are also presented in this concluding chapter of the study.

6.2 Summary

This research aimed to explore the challenges affecting the implementation of e-tender system in Ministry of Youth and Sports. The research had the following specific objectives:

(i) To identify challenges faced by users of e-tendering system implemented by the Ministry of Youth and Sports;

(ii) To identify challenges in implementing the e-tendering system faced by the Ministry of Youth and Sports; and

(iii) To understand relation between e-tender implementation with procurement performance in Ministry Youth and Sports;

The research has been successful in achieving its aim and specific objectives, which are explained as follows:

The first objective of the research was to identify challenges faced by users of e-tendering system implemented by the Ministry of Youth and Sports. This objective is met where different KBS staff and management are asked about the challenges they face due to the implementation of e-tender in KBS. 65 respondents are asked about the main problems they had with the system and from respond received there are 18 challenges has been identified. From the 18 challenges identified researchers ranked five main challenges based on percentages respondents. In conclusion, out of the top five challenges, all involve third-party involvement; suppliers and service providers. Therefore, the lack of supplier readiness and technology risks as mentioned in chapter 2 proved to contribute to the challenges in implementing the e-tender system in the ministry. Refer to chapter four and chapter five.

The second objective of the research was to identify challenges in implementing the e-tendering system faced by the Ministry of Youth and Sports. This objective was met quantitative study which resulted in finding new elements in relation challenges as shown in chapter four. A detailed survey using questionnaires found that most of the challenges identified in the broader e-procurement literature had been highlighted in KBS. Further, it was found that Lack of network acceptance, delays in responding to network problems and frequent network problems which affect organizational tender processes had the highest priority in KBS, while the lack of top management support is at least influential in the challenges in the implementation of e-tenders. The study found that the additional factors relevant and important to the challenge implementation of e-tender were cultural and perceived external factors and incorporated them into the findings and justification of the literature.

The third objective of the study was to understand relation between e-tender implementation with procurement performance in Ministry Youth and Sports. This objective was met by a quantitative study which resulted in the discovery of new elements in relation to each other as shown in Chapter 4. Detailed investigation using questionnaires found that the use of e-tenders does not result in a reduction in procurement costs. e-Tender is associated with reduced transaction cost, improved process efficiency, increased contract compliance, reduced cycle times and reduced inventory costs (Aberdeen Group, 2005) and improved operational and cost efficiency (Roma and McCue, 2012). However, based findings in the case it shows the opposite result. Other than even though e-tender enhance transparency in ministry tender process, it doesn't enhance their relationship with suppliers. Supplier is unable to provide the feedback that the user needs and slow progress in participating in e-tender system.

6.3 Research Limitations

This research aimed is to explore the challenges affecting the implementation of e-tender system in Ministry of Youth and Sports. Due to the lack of studies related to the implementation of e-tender in the government sector, especially in Malaysia. This study is more based on models and theories from the construction, oil and gas industry and the implementation of e-tenders in other countries. However, in order to ensure that it relevant with public sector in Malaysia, the researchers made reference to the meeting report, National Audit Department's findings and the Ministry of Finance's training workshops reports. Apart from that, like other studies, researchers also face limitations as below

Firstly, the study was limited to a relatively small sample size due to organizational size. Compared to other Ministry, KBS is a small ministry with less than 500 employees and only 86 people were involved in the tender process at the ministry level.

The second limitation is time constraints and ease of sampling and there is a possibility that the study might not be fully representative. Similarly, conducting surveys in any workplace is subject to time and other constraints in KBS and the researcher selected people who were willing and easy to contact.

The third limitation of the study is the difficulty in obtaining information such as price, suppliers involved as well as the type of tender because it is confidential. The research can only be done based on the experiences and views of the respondents

The fourth limitation of the study is due to the implementation of the Movement Control Order from 18 March 2020 to 4 May 2020 and the Conditional Movement Handling Order until 18 June 2020, the time allotted for researchers to collect data is insufficient; time is too short compared to the task itself. Respondents can only be contacted via email and WhatsApp. In addition, it restricts researchers from obtaining information from libraries and relying only on online information.

6.4 Recommendations for Future Research

Based on the objectives, findings, knowledge and implications of the study, the researcher also stated that in future research on the subject, a more detailed and robust outcome is needed to address various other aspects of the Ministry based on size, business type and the area in which it is established in order to achieve a more comprehensive outcome. Some of the key recommendations for future research on the challenge of implementing e-tender are as follows.

Firstly, future researchers should pay attention to the diversity of organizations in terms of size, resources, and nature of business to gain a clearer picture of the challenges in implementing e-tenders. Secondly, the future research should concentrate on more

knowledgeable and experienced ministry and supplier because they have greater awareness of the subject and know the success factors, challenge and future performance in more depth on the implementation of e-tender. Based on their robust experience they also know the strengths and weaknesses which can be helpful in choosing or developing an e-tender solution for public sector. Thirdly the future researcher can take all or some of the perceived challenge of this study and dissect them further to find out sub challenge or factors that leads to this challenge and analyses them and find ways to overcome it.

Future research can also concentrate on the knowledge level and other demographics characteristics of respondents and differences in their views towards the adoption of e-procurement. Future research can also include local authorities so e-tender can be adopted on a larger scale. Finally, the exploratory study of future research should adopt an interpretive qualitative method in order to highlight and evaluate other related areas which have not been identified or investigated in the current research. Such an approach will help to understand and overcome some of the key limitations of this research, to identify new factors and to validate the current findings.

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