

**DEVELOPMENT AND IMPLEMENTATION OF ONLINE MARKET
PLACE IN MCMC E-PROCUREMENT SYSTEM**

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UNIVERSITI TEKNOLOGI MALAYSIA

**DEVELOPMENT AND IMPLEMENTATION OF ONLINE MARKETPLACE IN
MCMC E-PROCUREMENT SYSTEM**

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DEDICATION

To Allah, for giving me the strengths in embracing life with a positive mind,
To my dearest mom and dad who have made endless sacrifices from day one,
 To my beloved wife who is my pillar of strength and courage,
 To my lovely children who keeps me going and cherish me every day,
To my family and friends, and everyone who had contributed to this journey.

This research is dedicated to you.

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ABSTRACT

In MCMC's procurement sphere, all procurement purchases valued less than RM10k are being conducted using the Invitation of Quotation (IFQ) process. The nature of purchase is relatively low value and mostly is the off-shelf product available in the market. The expected cycle time to complete the procurement process below RM10k is within seven (7) working days upon receiving a complete purchase requisition approval and documentation required. Currently, amongst the main issue faced while conducting the process is the participation rate from the registered suppliers is not that prominent and less competitive proposal due to low-value purchases. There are also instances where there are only one (1) quotation received; thus, the comparative comparison is not able to be conducted to obtain the best value for money in procurement activities for MCMC. It is also observed that most low-value purchases are made on an ad-hoc / case-to-case basis. This mode of purchasing entailed multiple IFQ's to be issued, and substantial manpower and time were needed to process them. Therefore the study on the introduction of the online marketplace in the IFQ process is expected to benefit the organisation in the form of shorter turnaround time with the reduction of a number of working days to process the purchase requisition, reduce manpower requirement, automation of the supplier recommendation based on the lowest quoted proposal and most importantly eliminate the need for Procurement Division to conduct similar sourcing activities tremendously. Mainly there are two different data source methods used for this research, i.e. quantitative and qualitative analysis, which involved surveys, interviews with various stakeholders and focus group discussion. The introduction of the online marketplace in the IFQ process is expected to benefit the organisation in the form of shorter turnaround time with the reduction of the number of working days to process the purchase requisition, reduce manpower requirement, automation of the supplier recommendation based on the lowest quoted proposal and most importantly eliminate the need for Procurement Division to conduct similar sourcing activities tremendously.

ABSTRAK

Dalam bidang perolehan MCMC, semua pembelian perolehan bernilai kurang daripada RM10k sedang dijalankan menggunakan proses Pelawaan Sebutharga (IFQ). Sifat pembelian adalah nilai yang agak rendah dan kebanyakannya adalah produk luar rak yang terdapat di pasaran. Jangkaan masa kitaran untuk menyelesaikan proses perolehan di bawah RM10k adalah dalam tempoh tujuh (7) hari bekerja selepas menerima kelulusan permintaan pembelian lengkap dan dokumentasi yang diperlukan. Pada masa ini, antara isu utama yang dihadapi semasa menjalankan proses tersebut ialah kadar penyertaan daripada pembekal berdaftar tidak begitu menonjol dan cadangan yang kurang kompetitif kerana pembelian bernilai rendah. Terdapat juga keadaan di mana hanya terdapat satu (1) sebut harga diterima; justeru, perbandingan perbandingan tidak dapat dijalankan untuk mendapatkan nilai wang yang terbaik dalam aktiviti perolehan untuk MCMC. Juga diperhatikan bahawa kebanyakan pembelian bernilai rendah dibuat secara kes ke kes. Cara pembelian ini memerlukan beberapa IFQ dikeluarkan, dan tenaga kerja dan masa yang banyak diperlukan untuk memprosesnya. Oleh itu kajian mengenai pengenalan pasaran dalam talian dalam proses IFQ dijangka memberi manfaat kepada organisasi dalam bentuk masa pemulihan yang lebih singkat dengan pengurangan beberapa hari bekerja untuk memproses permintaan pembelian, mengurangkan keperluan tenaga kerja, automasi pembekal. pengesyoran berdasarkan cadangan petikan terendah dan yang paling penting menghapuskan keperluan Bahagian Perolehan untuk menjalankan aktiviti penyumberan yang sama secara besar-besaran. Terutamanya terdapat dua kaedah sumber data berbeza yang digunakan untuk penyelidikan ini, iaitu analisis kuantitatif dan kualitatif, yang melibatkan tinjauan, temu bual dengan pelbagai pihak berkepentingan dan perbincangan kumpulan fokus. Pengenalan pasaran dalam talian dalam proses IFQ dijangka memberi manfaat kepada organisasi dalam bentuk masa pemulihan yang lebih singkat dengan pengurangan bilangan hari bekerja untuk memproses permintaan pembelian, mengurangkan keperluan tenaga kerja, automasi cadangan pembekal berdasarkan cadangan sebut harga terendah dan yang paling penting menghapuskan keperluan Bahagian Perolehan untuk menjalankan aktiviti penyumberan yang sama dengan hebat.

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LIST OF ABBREVIATIONS

UTM	-	Universiti Teknologi Malaysia
MCMC	-	Shall mean the Malaysian Communications and Multimedia Commission
PR	-	Purchase Requisition that an employee submitted to procure any goods or services
PO	-	Purchase Order (PO) is an award order issued to the appointed supplier to supply goods and services to the organisation
Buyer	-	Procurement employee who is executing the procurement process from the approved purchase requisition
Supplier	-	Registered suppliers to the organisation
MSMART	-	MCMC Online Procurement System

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CHAPTER 1

INTRODUCTION

1.1 EXECUTIVE SUMMARY

Information Technology has played a vital role in the development of an organisation and how business is being conducted in an emerging economy like Malaysia. Cognizant of the importance of procurement function in organisation operations and well-being in the digital era, the procurement transformation from a ‘manual process’ organisation towards a ‘digitalise procurement’ entity is essential. In the Malaysian Communications and Multimedia Commission (MCMC) procurement sphere, sourcing activities are conducted using three sourcing methods, i.e. Tender, for purchases of goods and services amount above RM800k, Request for Quotation (RFQ) for a range of purchases between the amounts of RM10k to RM800k and lastly is the Invitation of Quotation (IFQ) for purchase below RM10k.

The global pandemic since the year 2020 has sharpened the focus on the importance of procurement in almost all industries, including MCMC, with collaboration across supply chains proving to be particularly crucial. Nowadays, the procurement function is vital to the organisation; via strategic collaborative procedures, the functions have evolved to be agile, creative, and efficient. Collaboration with various departments across the business units and with their entire network of suppliers is not just about mitigating the risk and cost-saving, but the procurement functions need to work seamlessly with them to react rapidly to unexpected changes in demand, preparing them for intensely competitive markets while economies get back on track.

To date, the end to end RFQ & IFQ process has been fully automated and has shown potential for further optimisation for the continuation of business process improvement, especially for IFQ which the nature of purchase is relatively low value, i.e. less than RM10k and mostly is the off-shelf product available in the market. The expected cycle time to complete the procurement process below RM10k is within seven (7) working days upon receiving a complete purchase requisition approval and documentation required. Under current practice, Procurement Division will use the existing e-procurement portal, namely MCMC Supplier Registration and Relationship System (MSMART), to invite all registered suppliers for the relevant work categories to submit

their quotation via the system with a maximum of three (3) days floating time.

Based on the Procurement Division record in the year 2019, more than 478 IFQ's were processed, which contributed to a total spent of RM1.23 million. Currently, amongst the main issue faced while conducting the process is the participation rate from the registered suppliers is not that prominent and less competitive proposal due to low-value purchases. There are also instances where there is only one (1) quotation received; thus, the comparative comparison is not able to be conducted to obtain the best value for money in procurement activities for MCMC. It is also observed that most low-value purchases are made on an ad-hoc / case-to-case basis. This mode of purchasing entailed multiple IFQ's to be issued, and substantial manpower and time were needed to process them. Besides, MCMC was not able to capitalise on potential volume discounts and had to buy at prevailing market prices or elevated prices dictated by the suppliers.

The introduction of the online marketplace in the IFQ process is expected to benefit the organisation in the form of shorter turnaround time with the reduction of the number of working days to process the purchase requisition, reduce manpower requirement, automation of the supplier recommendation based on the lowest quoted proposal and most importantly eliminate the need for Procurement Division to conduct similar sourcing activities tremendously. Take into consideration the increase in the number of procurement exercises that are expected to grow, with the expectation that MCMC's expenditure will continue to increase, given the initiation of significant national projects such as MyDigital, Pelan Jalinan Digital Negara (JENDELA) and 5G rollout across the nation. The adoption of the online marketplace in the MCMC e-procurement system is seen to be able to address the associated challenges and minimise the use of petty cash at state offices. Thus, a controlled environment needs to be established with a governance process in place to ensure MCMC procurement fundamental principles, i.e. transparency, integrity, openness, fairness, competition, and accountability, are to adhere.

1.2 ORGANISATION BACKGROUND

1.2.1 MALAYSIAN COMMUNICATION AND MULTIMEDIA COMMISSION

Malaysian Communication and Multimedia Commission (MCMC) was established in accordance with the provisions of the Malaysian Communication and Multimedia Commission Act 1998 (MCMCA 1998) and the Communications and Multimedia Act 1998 (CMA 1998) whereby the purpose of the establishment of MCMC is to become the regulator and the enabler of Malaysia's communication and multimedia industry.

MCMC key role is to regulate the communications and multimedia industry based on the powers provided for in the Malaysian Communications and Multimedia Commission Act (1998) and the Communications and Multimedia Act (1998). Pursuant to these Acts, its role is also to implement and promote the government national policy objectives for the communications and multimedia sector. The Commission is also charged with overseeing the new regulatory framework for the converging telecommunications and broadcasting industries and online activities. In the year 2001, the Commission's role was expanded to include overseeing the postal service sector pursuant to the Postal Services Act 1991 and licensing of the Certification Authorities under the Digital Signature Act 1997. The regulatory framework established by MCMC for the industry is based on ten primary national policy goals that have been set, and the areas include economic regulations, technical regulations, consumer protection, and social regulations. MCMC's vision is to "Establish communication and multimedia industry that is competitive, efficient and increasingly self-regulating, generating growth to meet the economic and social needs of Malaysia". To attain this, MCMC is committed to fulfilling these missions:

- Promoting access to communications and multimedia services;
- Ensuring consumers enjoy choice and a satisfactory level of services at affordable prices;
- Providing transparent regulatory processes to facilitate fair competition and efficiency in the industry;
- Ensuring the best use of spectrum and number; and/
- Consulting regularly with consumers and service providers and facilitating industry collaboration.

Presently, there is 812 staff employed in various divisions and offices nationwide, i.e. MCMC's main office is located in Cyberjaya, twelve (12) state offices and six (6) branch offices.

1.2.2 PROCUREMENT DIVISION

In 2015, the senior leadership management of MCMC had decided to give closer attention to the procurement activities undertaken by the organisation given the escalating expenditure arising from the area mentioned and its corresponding risks. Hence, the Procurement Division was established in May 2015 to institutionalise greater governance and risk management within MCMC's procurement sphere and obtain the best value for money in procurement activities for MCMC while balancing it with the speed of execution and delivery to support the organisation needs. To date, MCMC is considered as a 'getting' organisation where purchases/acquisition of goods and services are tactical in nature, where the procurement activities are more ad-hoc than pre-planned, causing inefficiencies in value maximisation due to high relative costs of acquisition and low leverage points for negotiation.

Cognizant of the importance of procurement to MCMC's operations and well-being, the transformation from a 'getting' organisation towards a 'world-class' entity is essential. Among the key areas identified for focused and immediate attention are:

- Stocktaking and benchmarking;
- Procurement staff knowledge and capabilities;
- Governing procurement systems and procedures;
- Cost savings initiatives; and
- Strategic procurement.

This focus has been carried through over the years, with greater concentration given towards enhancing governance and rationalisation of procurement activities to derive more cost savings as well as prudence in spending.

The same period also saw an intensification of efforts to digitalise some parts of the procurement process. To date, the e-Procurement system has undergone several key developments that have been delivered in stages since 2017, with the aspiration of the implementation of an

entirely digitised end-to-end procurement system by the year 2022. The availability of the current functionalities has helped simplify and improve some parts of MCMC’s procurement processes.

Currently, the procurement system in MCMC is operating on two (2) platforms, namely SIFS and MyProc. The main functionalities of these two systems are as follows:

SIFS – This Oracle-based solution is the main financial system in MCMC. For procurement, it is used for staff to submit purchase requisition (PR), goods receipt (GR), supplier performance rating, and payment process. The appointed company is Olives Touch Technologies Sdn Bhd, an authorised partner of Oracle; and

MyProc – A customised system that is internally designed, developed, and maintained by Two Bytes Sdn Bhd. It is tailored to ensure that the system is in accordance with MCMC’s specific needs as well as to provide an easy-to-use graphical interface to both suppliers and staff. The current implementation of digitalising procurement processes and procedures has seen the following progress:

No.	Module	Commencement Date
1	Supplier registration	December 2016
2	Online sale of tender document	August 2018
3	Request for quotation (RFQ)	August 2018
4	Travel requisition	October 2018
5	Online bidding	April 2019
6	Supplier performance	May 2019
7	Contract management	July 2019
8	Online tender submission and evaluation	December 2020

Table 1 – Modules in MCMC Procurement System

The availability of these current main functionalities in the systems has helped in simplifying and improving some parts of MCMC’s procurement processes in the following form;

- Reduce time to procure – reduction of purchase requisition and sourcing process turnaround time;

- Improve productivity and monitoring – functionality of tracking the important dates and schedule notifications will allow better monitoring of the procurement activities;
- Auto-rotation – flight ticket purchase can be conducted through a rotation basis among panel travel agents;
- Data gathering and analysis – visibility of real-time spend and transactional for ease of planning and policies;
- Centralised repository – respective stakeholders have visibility into a secure central repository of procurement documentation search.

1.3 SITUATION ANALYSIS

The current situation assessment and summary analysis is explained through the internal and external environment analysis.

1.3.1 EXTERNAL ENVIRONMENTAL ANALYSIS

1.3.1.1 TECHNOLOGY FACTOR

In recent years, it is undeniable that information technology has been growing very rapidly. Marhadi (2016) stated that the rapid development of information technology in the last decade had a huge impact on the aspects of people's lives. Only companies that adapted and took advantage of the development of information technology could survive. Moreover, Ward and Peppard (2002) agreed that the technological environment was changing and expanding faster than ever. It resulted in innovative products and services and facilitated new ways of doing business, and made old products obsolete faster in the process. This explains that, in general, technological developments are changing rapidly over time and producing innovative new products.

Digital technology's rapid advancement for the past decade has had a significant influence on how businesses are operated. It has an effect on how the organisation does business and the business model used to meet organisation objectives. The positive impact of information technology development is the opportunity for every business actor, either big or small, to

compete. E-commerce, e-marketing, and e-procurement are examples of emerging markets and business models that could emerge as a result of this.

In Malaysia's public procurement scope of concern, the Malaysian Federal Government has embarked on an online procurement through the Ministry of Finance (MOF) since the year 1998. The procurement tools, namely “ePerolehan” have been introduced to automate the Request for Quotation (RFQ) process that enables suppliers to participate in the online sourcing activities. The system has been growing since its inception 21 years ago from only a platform for the supplier to submit a quote for low-value purchase to the enablement of online tender submission and evaluation, enablement of online invoices for ease of invoice submission, and real-time payment tracking to date.

Based on Beauvallet, Boughzala, and Assar (2014), the main advantage of e-procurement includes saving money, time, and additional workloads that are associated with writing. The conventional procurement process usually involves a lot of paper processing, which consumes a significant amount of time and money. The benefits of e-procurement are not only from time and cost aspects only, but it also includes the simplification of the transaction process. Companies can shorten their business processes by cutting out unnecessary activities as conventional procurement processes require a place to gather suppliers in the auction process. Through electronic procurement, those activities are no longer needed, and suppliers only need to fill out the form listed on the procurement website and the presence of these suppliers is not needed. The recent movement control order (MCO) has shown that the need for Procumnet to be agile in its operation to meet the needs of the organisation.

Hence, the technology innovation has once again evolved the technology used in procurement, i.e. online marketplace platforms, which provides an opportunity for the organisation to increase overall performance and better facilitate inter-organisational relationships and transactions better. Moreover, in contrast to the conventional hierarchical economic activities and decisions, organisations might re-orientate themselves to the electronic procurement marketplace. In tandem with corporate transformation, the internet has transformed the way companies operate via the reconfiguration of conventional purchasing and sales partnerships, enhanced core processes, needs and possibilities for new markets.

1.3.1.2 SOCIAL FACTOR

Electronic commerce is at an all-time high where lockdowns, travel bans, and retail closures forced the consumer online, and the world's largest retailers soon followed, in some cases selling direct to consumer (DTC) for the first time. The number of online marketplace throughout the world has increased during the years before and beyond the century, with rising corporate procurement and online sales done every day. One reason for such is that further technical progress and development take place at a quicker rate, leading to new product innovations and better production methods.

Employees are demanding more variety, better quality and service, including both reliability and faster delivery. For them, the more suppliers are active within an electronic market, the more purchasing alternatives become available. This allows employees to assess the sensitivity of the market price and reduce search costs provided by Internet technologies. For suppliers, the greater the number of buyers in an e-market, the greater the number of items consumers are able to access, the better the opportunity to sell their stored excess stocks and the better the probability of growing sales.

1.3.1.3 ECONOMY FACTOR

Malaysia is a small export economy comprised of a large number of SMEs spread over many industry sectors. It is not known how widespread lean procurement practices are amongst SMEs, but e-business implementations are quite low (Ramsey and McCole, 2005). It can therefore be surmised that many SMEs are missing out on the important potential benefits of cost reductions, increased productivity, and operational agility (Al-Qirim, 2006; Gelinias and Bigras, 2004; Kaynak, 2005; Motwani, 2003; Prajogo and Johnston, 2007). Malaysia SMEs tend to be ignored in supply chain terms as being individually insignificant players despite collectively representing a significant proportion of the total economic activity (Bretherton and Chaston, 2005).

In 2020 alone, growth in the digital economy expanded apparently as new digital businesses were brought into being by the COVID-19 pandemic, traditional brick and mortar businesses were forced to swing online, and millions of Malaysians seemed to be immersive to eCommerce, entertainment, and even education needs. In the economic growth of the country, small and medium-sized enterprises (SME) play a significant role. In the Malaysian context, the Malaysian government has devoted and designed the SME development plan in line with the nation 12th Malaysia Plan (2021-2025) and in accordance with the Malaysia Digital Economy

Blueprint to help the SMEs in addressing their new business difficulties within the competitive global business climate.

In all countries, the government is a key component of the national economy and moving online procurement and building operations may offer an essential boost to the deployment of new technologies across the economy. However, the operational benefits of technology for the governance and efficiency of these business activities are beyond question. Installing new technology can be simple, but experience has shown that extracting maximum benefit involves governance, management, organizational and behavioural changes which are almost always complex (Asian Development Bank et al., 2004).

1.3.1.4 ENVIRONMENTAL FACTOR

Procurement has been evolved from technical purchase to strategic purchase, where big data and advanced analytics have profound implications. The data-driven decision-making has elevated organisations to a new level which helped organisations to generate new insights and enabled them to collaborate at scale.

The majority of the procurement organisation is deeply connected so closely with each tier of its supply base that all important data on costs structures, supply availability, lead times, financial and operating risks, service and qualitative metrics are accessed. This procurement team is ideally positioned to negotiate the "right" prices, modify its own strategy immediately or move to other suppliers if supply constraints are present. It will allow suppliers to proactively increase declining standards of quality by recognising problems sooner and the fundamental causes.

Information communication technology (ICT) can be used as a strategic enabler of efficient operations. As a result of the economic downturn in the year 2020, organisations were forced to focus on cost-cutting measures and increased efficiencies. Procurement is an area within organisations where possible cost reductions and efficiencies can be generated from technology use. The evolution of procurement from a largely administrative, paper-based system to one that incorporates the electronic integration of procurement information provides the opportunity to examine the relationships between strategy, firm performance, and technology use. Online marketplaces provide the opportunity for organisations to leverage organisational ICT in procurement activities and supply chain management.

1.3.2 INTERNAL ENVIRONMENTAL ANALYSIS

1.3.2.1 CURRENT PROCUREMENT PROCESS IN MCMC

Procurement processes in MCMC are relatively centralised, where all purchase requisitions from employees are to be submitted to the Procurement Division, which will source the desired goods and services for the organisation. In MCMC’s procurement sphere, sourcing activities are conducted using three sourcing methods, i.e. tender for purchases of goods and services amount above RM800k, Request for Quotation (RFQ) for a range of purchases between the amount of RM10k to RM800k, and lastly is the Invitation of Quotation (IFQ) for purchase below RM10k. To date, the end to end RFQ & IFQ process has been fully automated and has shown potential for further optimisation for the continuation of business process improvement, especially for IFQ which the nature of purchase is relatively low value, i.e. less than RM10k and mostly is the off-shelf product available in the market. The expected cycle time to complete the procurement process below RM10k is within seven (7) working days upon receiving a complete purchase requisition approval and documentation required. Under current practice, Procurement Division will use the existing e-procurement portal, namely MCMC Supplier Registration and Relationship System (MSMART) to invite all registered suppliers for the relevant work categories to submit their quotation via the system with a maximum of three (3) days floating time (IFQ process flow is shown in Table 1).

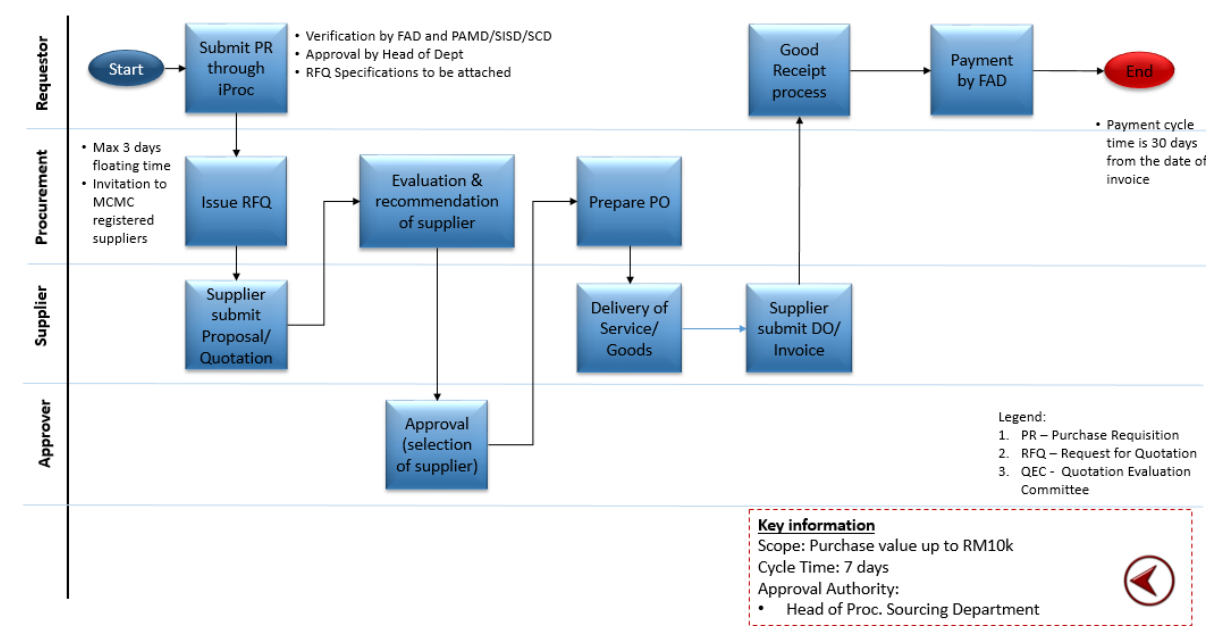


Figure 1.1- IFQ Process Flow

1.3.2.2 CULTURE

In MCMC, the procurement behaviour of purchase is relatively on an ad-hoc basis where there is less purchase consolidation being implemented. Thus, repetitive procurement activities are needed to be executed for similar purchases. For example, in a year, there is 20 purchase requisition to purchase a printer toner from different employees representing the different department in MCMC. This entailed a total of 140 days to process the request given a purchase requisition that takes seven (7) days to complete until the issuance of the Purchase Order to the appointed supplier.

1.3.3 SWOT ANALYSIS

Strength	Weakness
<ol style="list-style-type: none"> 1. The organization has a matured procurement process established and operationalised in the organisation. 2. Procurement employees/ buyers in the organisation are very dedicated in their scope of work in accordance with the management expectation towards them in accordance to their respective KPI as per in the Procurement Division Balance Score Card. 3. Procurement employees / buyers are being provided with the facilities, equipment such as laptop and network connectivity, relevant software that is required for them to perform their duties such as Digital Signing Portal, Microsoft Power Bi, Financial and Procurement System and etc. 4. The existence Financial System in MCMC enables budget checking each time the purchase requestor submit a purchase request in the procurement system to ensure that all purchase requests have allocated funds prior to the request. This has eliminated the risk of the organization spending exceeding the allocated budget 	<ol style="list-style-type: none"> 1. Based on the feedback received from an internal customer, i.e., purchase requestor, the procurement process, especially those low-value purchases conducted using the Invitation for Quotation (IFQ), can be further reduced due to the goods and services procured is a common item and readily available on the shelf. 2. The approval authority for purchases of goods and services below RM10,000 requires only the purchase requestor head of department approval based on the organisation's financial limit of authority (FLOA). However, in the online system, the approval workflow will go to the finance department and item verifier (either one either from the asset management department, IT department, knowledge resource management department, and Strategic Communication department based on the type of purchase). The finance department will verify if the budget is available, and the items verifiers will advise and confirm the goods or services specifications propose by the purchase requestor are aligned with the organisation policy. Once these two verifies have been verified, then only the

<p>or rather than funds need to be reallocated at the end of the process</p> <p>5. The management has continuously shown positive support for the digitalisation of the procurement process in the organisation. All initiatives pertaining to the improvement of process efficiency are highly encouraged.</p>	<p>request for approval goes to the department head.</p> <p>3. The current procurement process involves two different systems, i.e., Financial System and Procurement system. All project approval documentation is stored in the purchase requisition system that is performed at the financial system, i.e., SIFS. However, the procurement sourcing process documentation such as supplier quotation, proposal, commercial comparison report is available at the Procurement portal, i.e., MSMART.</p> <p>4. Even the low-value process that is conducted using the Invitation for Quotation (IFQ) has been automated, but still, there is a process that is manually such as preparation or specification documents. This makes users have to prepare the specification documents outside the system prior to submitting through the system will be verified by the item verifier prior it to reach procurement buyers.</p>
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Opportunity	Threat
<ol style="list-style-type: none"> 1. There are rooms for process automation at the existing Procurement Portal since there are no commercial charges incurred to the organisation for further optimisation of the system. All manually oriented processes can be automated, such as email notifications to stakeholders for each price update. 2. Technology advancement and the rapid evolution of e-commerce has increased the acceptance of the idea of introducing online marketplace. Based on the Statistical Report from the Department of Statistic Malaysia (DOSM), e-Commerce transactions in 2017 recorded a value of RM228.8 billion as compared to RM195.1 billion in 2015 with an annual growth rate of 8.3%. Expenditure from e-commerce transactions in Malaysia is dominated by the domestic market of RM202.8 billion, with a share of 88.7% as compared to the international market of RM26.0 billion (11.3%). The availability of corporate-based focus online marketplaces such as Lapasar, Supply Cart in Malaysia shows that the option is available. 3. Empowerment of state office with some procurement accountability and responsibility can contribute to the State Transformation Plan 	<ol style="list-style-type: none"> 1. Supply of the shelf product that is readily available in the online marketplace at a lower price. 2. Late payment is a risk that needs to be eliminated or reduced, as the current manual payment processing may impact the organisation brand image. 3. Tacit knowledge of managing MCMC online procurement system with one single person might jeopardise procurement operation if the person left the organisation without a successor that may able to manage the operational and maintenance of the system. 4. The vulnerability of data leakage is relatively high given all organisations procurement activities is information on the cloud.

Table 2 – SWOT Analysis

1.4 OVERVIEW OF ONLINE MARKETPLACE

Traditionally, the buyer and supplier are connected through proprietary systems establishing a hierarchy on the online marketplace. The system was managed by the buyer of an organisation, and the terms and conditions of trade were pre-defined by the buyer. The web-based marketplace offered the opportunity to combine a number of buyers and suppliers within the same electronic platform. The online marketplace offers opportunities for establishing trade relationships with many organisations across the world. Business to business (B2B) is a significant part of the Malaysian economy, and there are opportunities to take advantage of online marketplace trading. One of the advantages of electronic trading is the technology's ability to deliver transaction benefits; these can have a significant impact on organisations regardless of organisational size. However, although the online marketplace has the potential to offer substantial benefits to the organisation, it is observed that there is still minimal research that has considered the strategic execution of online trade via the marketplace. Buyers buy the goods straight from the website on an e-commerce site. The website itself generates/offers the product/service or has a connection to a third party to deliver the product/service. A platform for buyers and sellers to connect additional interaction is provided by the internet market.

1.5 PROBLEM STATEMENT

Based on the Procurement Division record in the year 2019, more than 478 IFQ's were processed, which contributed to a total spent of RM1.23 million. Currently, amongst the main issue faced while conducting the process is a long turnaround time where each IFQ's take seven (7) days to complete the end to the end sourcing process. This mode of purchasing entailed multiple IFQ's to be issued, and substantial manpower and time were needed to process them. It is also observed that most low-value purchases are for the supply of the shelf product that is readily available in the online marketplace at a lower price and on the spot delivery.

1.5.1 PROBLEM DIAGNOSIS

This study will use Ishikawa (fishbone) diagram better to highlight the root cause of process ineffectiveness in MCMC. Figure 1.1 highlights the root cause of the occurrence of work inefficiency among employees in MCMC. There are six (6) factors that contribute to the complexity of the process, i.e. people, software, method, regulation/ policy/ procedure, communication & information and management of change.

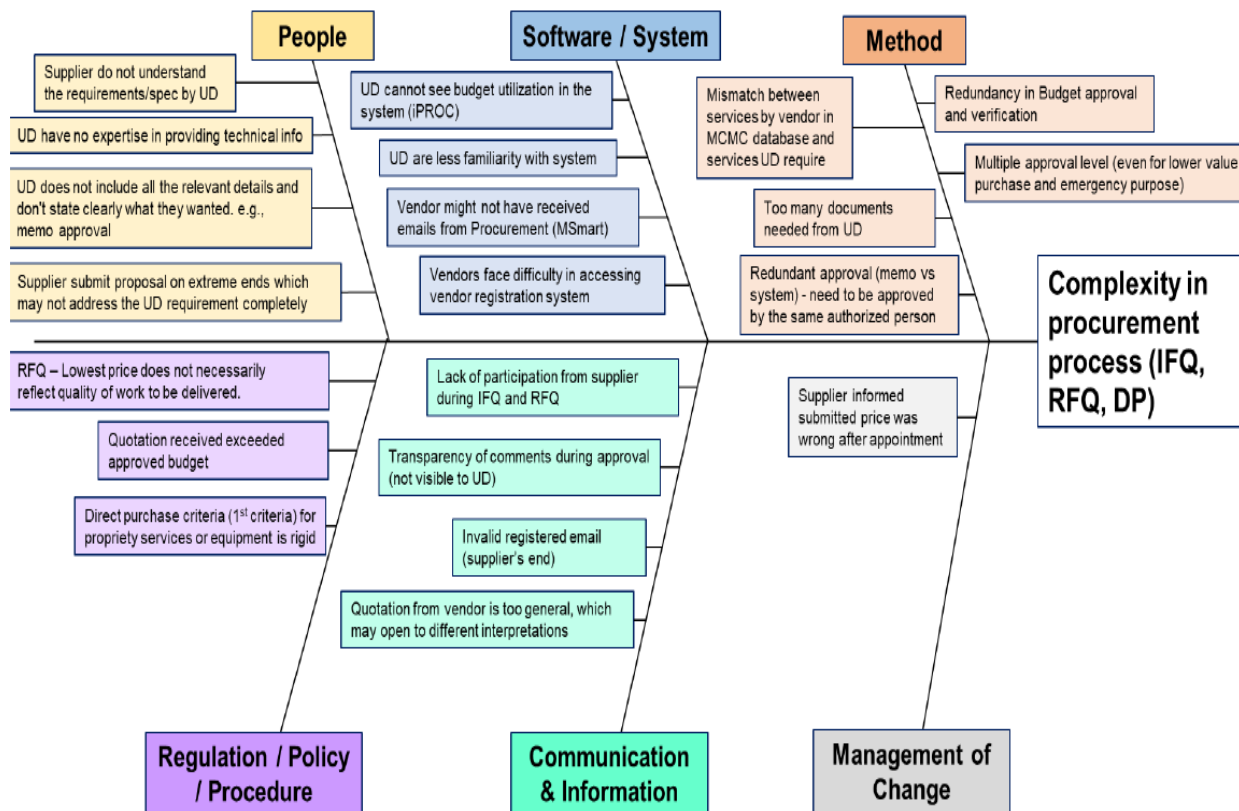


Figure 1.2 : Fishbone Diagram on Complexity in Procurement Process

1.5.2 THEORETICAL GAPS

Any research study executed is vital for the growth of knowledge in the given sector or business. The results should have good consequences for the industry and may apply outside the framework of the study. It is observed that the study of the research topic is relevant, and it is one of the major concerns for those who are involved or working in a particular field. Thus, selecting the study topic is important as it can benefit other organisations, i.e. procurement practitioners in specific also contribute to the body of knowledge.

1.5.3 PRACTICAL GAPS

The topic that has been chosen for the study plays a significant role in improving procurement process effectiveness in MCMC. The conducted study can also become one of the intervention programs for other procurement practitioners in the organisation that have similarities, such as other statutory bodies like MCMC. The study is expected to benefit in the IFQ process in the form of shorter turnaround time with the reduction of the number of working days to process the purchase requisition, reduce manpower requirement, automation of the supplier recommendation based on the lowest quoted proposal and most importantly

eliminate the need for Procurement Division to conduct similar sourcing activities tremendously.

1.6 RESEARCH GOAL

Under the research goal, the researcher will highlight the research questions based on the problem that has been explained in detail in Problem Statement. Aside under this sub-topic, the researcher will also emphasize the research objectives of this research.

1.7 RESEARCH OBJECTIVE

This research aims to identify if the online marketplace could improve the current procurement process timeline for the low-value purchases (purchases below RM10k), i.e. Invitation for Quotation (IFQ). In accordance with this general objective, the specific objectives are as follows:

- To determine the mean level of effectiveness of employees who are participating in the Invitation for Quotation (IFQ) process before and after the intervention;
- To determine the factors that contribute to inefficiency in the Invitation for Quotation (IFQ) process in MCMC; and
- To introduce the online marketplace in the Invitation for Quotation (IFQ) process help increase the level of effectiveness among employees in MCMC.

1.8 RESEARCH QUESTIONS

The research questions had been identified from the problem statement in this research, i.e. how can the Procurement Division improve the current procurement process timeline, i.e. Invitation for Quotation (IFQ) process, which further deliberated into five sub-questions as per following:

- What are the factors that contribute to inefficiency at Invitation for Quotation (IFQ) process in MCMC;
- What is the mean level of effectiveness of staff who are participating in the current Invitation for Quotation (IFQ) process; and
- What is the recommendation on improving the Invitation for Quotation (IFQ) process

timeline to help increase the level of effectiveness among employees in MCMC.

1.9 RESEARCHER'S ROLE

A re-engineering of the procurement IFQ process is necessary for the researcher to produce effective study results by taking action and conducting research at the same time. This action research project can assist MCMC in general and Procurement Division in particular in improving and providing better services to each respective stakeholder. In this study, the researcher plays an important role in the diagnostic field, specifically the procurement process. As one of the employees in the procurement division, it is the researcher's responsibility to conduct this study in order to address the problem at hand. The researcher is responsible for explaining the procurement procedure, tools used by procurement buyers in conducting their day to day procurement process and suggesting implementation ideas in order to increase the level of effectiveness of employee who is participating in the IFQ process. The researcher wished to contribute to the department and the community

1.10 RESEARCH ETHICS

The study was conducted in compliance with the ethical principles outlined. All records and data in view to complete the research are to be kept strictly confidential and can only be used for this study. All precautions are taken to maintain data confidentiality, such as storing the records and research data in an MCMC database server rather than the researcher personal cloud storage server for ease of complying with the security procedure in handling MCMC official documentation and data confidentiality. The researcher also has obtained permission from the Head of Procurement Division as the process owner prior to the study. The concern from the process owner is essential and will ease the research study later in getting support and clarification from the procurement buyers in MCMC. The researchers are required to follow and comply with their decision and all other relevant regulations

1.11 SIGNIFICANCE OF THE STUDY

Technology can be used as an enabler for any organisation key success in sustaining in the industry by making the business operation more efficient than before. This can be seen when the economic downturn hits most of the countries worldwide due to the covid-19 pandemic. Nearly all industries got affected and were forced to focus on cost-cutting measures and increased operational efficiencies to bring down the business operating cost. Procurement is one of the areas

within organisations where possible cost reductions and efficiencies can be generated by leveraging technology enhancement. Online marketplaces provide the opportunity for organisations to leverage organisational ICT in procurement activities and supply chain management.

In view of MCMC strategic planning to empower state offices by transferring more authority to state leadership for the faster decision-making process, this research finding will be determined whether online marketplace can be considered as a tool that may enable decentralisation of procurement process with a control mechanism in place to ensure transparency in the process and the governance is intact. The research is expected to pave a better procurement process in MCMC, i.e. reduce time to procure with less bureaucracy because of shorter time frames and simplify the process. Further, this research is essential to improve productivity and monitoring of key national projects such as Pelan Jalinan Digital Negara (JENDELA) initiatives timeline is not being compromised due to rigid and time-consuming procurement processes in MCMC. The research findings will improve collaboration, analysis, and decision-making through collaboration from supplies and MCMC through the online marketplace.

1.12 DEFINITION OF TERMS

The definition of terms in which the key or important terms in the study are clearly defined is an essential part of the research paper. In order to explain the terminology used in this analysis, researchers may use conceptual concepts to demonstrate the meanings of terms. The following terms shall have the following meanings:

Term	Definition
MCMC	Shall mean the Malaysian Communications and Multimedia Commission
PR	Purchase Requisition that an employee submitted to procure any goods or services
PO	Purchase Order (PO) is an award order issued to the appointed supplier to supply goods and services to the organisation
Buyer	Procurement employee who is executing the procurement process from the approved purchase requisition
Supplier	Registered suppliers to the organisation
MSMART	Online Procurement System

Table 3 – Definition of Term

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