LEAD TIME ANALYSIS OF CAPITAL ITEM PROCUREMENTS: A CASE OF PUBLIC DEPARTMENTS

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ABSTRACT

Lead time in public procurements is not a common topic which is discussed in the government sector. That is because of the lot of barriers in the public sector which affect the efficiency of the lead time of all the procurements in both government departments and ministries. Even though it is not a commonly talked topic, the impact which it makes to the government as a whole is a topic to be discussed. Public procurements can be divided in to two considering their nature as capital and recurrent item procurements. However the purpose of this research is to analyze the lead time of capital item procurements in government departments.

The study is designed to obtain views and ideas from suppliers and to collect secondary data which is already in the previous procurements files of the department. Literature review, questionnaires were used to collect data for the study. For the collection of data from previous procurements were done purposively selecting samples which represents various categories such as vehicle procurements, generator procurements, garage equipment procurements, and communication equipment procurements. The study found a number of reasons for delays or long lead times sometimes common for all categories and sometime separately related to some categories. Findings reveal that there are number of reasons for the long lead time or the delays in public procurements such as staff inefficiency, lack of funds, long approval process in procurement process, political uncertainties, staff transfers and more.

(Key Words: Capital Item Procurement, Public Procurement, Lead Time/Delays in Public Procurements)

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K.W.G.N. Pathum Wijesiri

LIST OF ACRONYMS

GNP	Gross National Product
NPC	National Procurement Commission
PTS	Procurement Time Schedule
VFM	Value for money
OECD	Organizations for Economic Cooperation and Development
NCB	National Competitive Bidding
LNCB	Limited National Competitive Bidding
PC	Procurement Committee
PE	Procurement Entity
ICB	International Competitive Bidding
TEC	Technical Evaluation Committee
GLC	Government Linked Companies

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1. INTRODUCTION

1.1 Introduction

Public procurement can be defined as the acquisition for public consumption (Weiss, 1993). That acquisition is done through the public procurement that the State, or its territorial or functional sub divisions, carrying out public works, building of roads and cares for health, education and public order. Starting from World War One the need of this function has gradually increased as the size of the government sector as a percentage of Gross National Product (GNP) has increased (Erridge 2002)

Today the all governments worldwide have received a great attention as providers of essential services, such as health, education, defense and other infrastructure. To meet the demand for these services, all governments purchase goods and services from the open market. On the other hand, governments are purchasers of construction works, supplies and services from the open market, placing their demands alongside those of the private sector (Walter 2003). Public procurement is different from private procurement, since the economic results of the public procurements are evaluated over a long period and through a complex process. At the same time, public procurement must be transacted with more other considerations in mind, besides the economy. These considerations should include accountability, non-discriminations among potential bidders and respect for national and international obligations. Due to these reasons, public procurement is governed by rules and regulations enacted by respective governments, in order to protect the public desires. It is worth noting that unlike private procurement, public procurement is actually a business process inside a political system and it has therefore important consideration of integrity, accountability, national interests and effectiveness (Wittig, 1998).

The volume of goods procured by Sri Lankan public sector also has increased as a percentage of Gross National Product (GNP) like other countries all over the world. In other words, Sri Lankan Government still provides most of the public services at their hands in servicing to the general public. Accordingly almost all the public sector

institutions are doing considerable amount of public procurement, which is finally added to the country's national accounts. Therefore, these procurements in public sector much more important than the private sector procurements since the public sector procurement is for the benefit of all the citizens of the country.

Due to this importance of the public procurements, it is a duty, a responsibility, an accountability of the public officers and the politicians to implement the public procurement process in a transparent manner. According to Wittig (2003) Public procurement can be identified as a business process within a political system. If the system fails in balancing these elements of the public procurement process could lead to waste of resources and poor development results in the most important single marketplace in developing countries.

Public procurement frameworks in both developed and developing countries alike make an unstable tension between the public expectations of the transparency and the accountability, and of the efficiency and the effectiveness of resource management. Public procurement is definitely a politically sensitive activity, because it involves a large amounts of public funds even within the context of the country's economy (Schapper, 2006). Therefore, the public procurement cannot be identified as a responsibility only of the public officers of the country's government. It is the joint responsibility of public officers and the politicians of the country. Therefore having an efficient public procurement system is important for the economic growth of countries and furthermore this is much more important to developing countries, because most of the essential services are provided by the public sector.

To achieve the efficiency through its public procurement system, every country have established rules and regulations, guidelines, codes of ethics in public procurements where they need to have smooth and conflicts free public service system. The Government of Sri Lanka also have its guideline for the public procurements, which is called the Public Procurement Guideline 2006 as well as the government has established the highest

institution for the public procurements as the National Procurement Commission. For a better understanding, each of above can be recognize as follows.

1.1.1 Procurement Guideline 2006

The Government Procurement Guideline of Sri Lanka was issued in 2006 and it was effective from 01.02.2006 in respect of all the procurements of Goods, Works and Services other than selection and employment of Consultants.

Before the issuance of this procurement guideline, the procedure was called as Guidelines on Government Tender procedure, which was a revised edition (1997) of old government tender procedures. There was another guideline which was Government Tender Procedure for Projects assisted by the Foreign Financing Agencies (Revised Edition- 2000) and there were set of Treasury circulars pertaining to the Guidelines on Government Tender Procedure issued up to 20.10.2005. All these tender guidelines and treasury circulars were replaced by these new Procurement Guidelines issued in 2006 and new Guidelines have two components, The Guidelines and the Manual. The Manual has been issued separately.

1.1.2 National Procurement Commission (NPC)

National Procurement Commission (NPC) is an apex entity, which was setup under the 19th Amendment to the Constitution of Democratic Socialist Republic of Sri Lanka. Under the Chapter XIX B of 19th Amendment, this commission was established for the purpose of formulating fair, equitable, transparent, competitive and cost effective procedures and guidelines for the procurement of goods and services, works, consultancy services and information services by Government institutions.

There were a number of amendments have been added to above previous procurement guideline and manual up to now and still the previous procurement guideline is followed for public procurements even though the above mentioned National Procurement Commission (NPC) has introduced a new procurement guideline with changes to the previous guideline.

1.2 Problem Statement

Even though above guidelines and institutions have been set for enhance the efficiency of public procurements, still there are many irregularities could be observed in procurements in public departments. The one of the main issues in the public procurements in government departments is the inability to meet the recommended lead time/Procurement Time Schedule (PTS) by the procurement guidelines 2006. The main objectives of National Procurement Guideline is to assist public departments to spend their funds efficiently and effectively in public procurements. However due to the inefficient procurement management, which resulted in long lead time/delays of the public procurements adversely affect in funds management. It is believed that this issue is much higher in the procurements of capital items however it is common in recurrent items procurements too. Even though some public departments are successful in achieving the efficiency in lead time of some projects, most of them are unsuccessful in most of projects. Therefore the purpose of this research is to identify what are the reasons for these inefficiency in the procurement lead time of capital items purchases.

1.3 Research Objectives

There are three research objectives which are to be accomplished at the end of the project.

- 1. To Study selected previous capital item procurements with the objective of identifying reasons for lead time delays.
- 2. To study views and ideas of procurement officers and capital items suppliers on the procurement lead time of capital items and analyze
- Identify the reasons for long lead time/delays in capital items procurements of public departments

The literature review covered both local and international research journals, which were related to public procurements in order to achieve the objectives of the research. The previous capital items procurements were selected from several procurement divisions attached to Sri Lanka Police, which is mentioned in the methodology chapter. At the time of studying previous procurements, it was also expected to have a pilot project in order to

get the procurement officer's views and ideas on the matters regarding the lead time of procurements and about other procurement related matters within the research scope. In this case, there were around 10 officers were interviewed and noted for the research study.

On the other hand, it was expected to bring suppliers views and ideas to the research as a pilot study and finally a questionnaire were provided to suppliers to have responses for specific questions prepared through those two pilot studies. These are explained in the methodology chapter in details.

2. Literature Review

2.1 Introduction

Public procurements are common in every country in the world since every government has its own procurement to continue its public services. Therefore, it is obvious that a lot of literature regarding the Public Procurements worldwide. However, a few local article found in Sri Lanka. This Literature Review sections covers what is public procurements and related articles about public procurements. The main objectives of this section are explaining about,

- 1. Public Procurements
- 2. Main Principles Public Procurements
- 3. Challenges and Importance in Public Procurement

2.2 Public Procurements

Public procurement is the process by which the Procurement Entities, purchase the inputs for vital public-sector investments. Those investments, both in physical infrastructure and in strengthened institutional and human capacities, lay foundations for national development. In procurement terms, those inputs are generally grouped into three categories:

- Works For example, bridges and buildings, harbors and highways;
- Goods Typically equipment, materiel and supplies, commodities, textbooks, medical supplies; and
- Services Expert advice and training, conventionally labelled Technical Assistance, as well as such things as building maintenance, computer programming, etc.

The quality, timeliness, appropriateness and affordability of those procured inputs can largely determine whether the public investments will succeed or fail. (Government Procurement Guideline 2006, Sri Lanka)

The Government Procurement Guideline of Sri Lanka was issued in 2006 and it was effective from 01.02.2006 in respect of all the procurements of Goods, Works and Services other than selection and employment of Consultants.

Before the issuance of this procurement guideline, the procedure was called as Guidelines on Government Tender procedure which was a revised edition (1997) of old government tender procedures. There was another guideline which was Government Tender Procedure for Projects assisted by the Foreign Financing Agencies (Revised Edition- 2000) and there were set of Treasury circulars pertaining to the Guidelines on Government Tender Procedure issued up to 20.10.2005. All these tender guidelines and treasury circulars were replaced by these new Procurement Guidelines issued in 2006 and new Guidelines have two components, The Guidelines & the Manual. The Manual has been issued separately.

2.3 Main Principles in Public Procurement

Value for money can be recognized as the core principle which is governing public procurements, and is supported by the underpinning principles of efficiency and effectiveness, competition, accountability and transparency, ethics and industry development. Procuring goods and services need to be satisfied that the best possible outcome has been obtained taking into account all relevant costs and benefits over the whole of the procurement cycle (Commonwealth Procurement Guidelines, 2005).

According to Raymond, (2008) there are number of key principles in Public Procurements. He has introduced them as Value for Money, Ethics, Competition, Transparency, and Accountability. These principles in Public Procurements has been defined in other researches as follows,

2.3.1 Value for money

Value for money (VFM) can be identified as the most important principle of procurement. VFM in the public sector entails consideration of the contribution to be made to enhance government policies and priorities while achieving the best return and performance for the money being spent (Bauld and McGuinness, 2006).

2.3.2 Ethics

Ethics is another key principle of the government procurements. Procurement professionals are held to higher standards of ethical conduct than people in other professions, yet some do not even know what is expected of them (Atkinson, 2003).

2.3.3 Competition

Competitive tendering is the means by which most goods and services are procured. Before moving on it is perhaps best to understand how competition occurs in procurement? For example, in Australia, if the Melbourne Ports Authority is interested in the purchase of Gantry Cranes, the Ports Authority will advertise and call for bids from potential suppliers. In this process there will be bids from major suppliers and a technical evaluation committee would be involved in the decision-making process while a tender board and technical evaluation committee would evaluate whether bids are in accordance with the technical requirements they have stipulated in the tender conditions. In this process competition occurs. The supplier's credibility in carrying out previous contracts of this nature, the price and the most competitive bidder will be awarded the tender. The most important information source for suppliers is the tender advertisement and, for the contracting authorities, the bids submitted and provision of inaccurate data will result in misunderstandings and increased costs (Erridge, 1999).

2.3.4 Transparency

The transparency is also important in procurement and it refers to openness. Transparency is an essential aspect of ensuring accountability and minimizing corruption, and has gained prominence in Organizations for Economic Cooperation and Development (OECD) countries, and is particularly associated with the rise of the governance agenda as transparency is a core governance value. Government procurement is one area where corruption is rampant in both developing and developed countries. The recipients of clandestine payments may not only be the officials who are responsible for decision making but also ministers and political parties. Transparency requires governments to adhere to higher standards of conduct by ensuring that conduct will be open to scrutiny (Smith-Deighton, 2004):

Raymond (2008) has further added,

"In developing countries such as **Sri-Lanka** we may find many concerns in understanding and supporting the development and use of procurement benchmarking Thus, it is clear that **Sri-Lanka** needs to benchmark the procurement principles and will need to:

- Improve value for money (VFM) in the government procurement process by the provision of better services and facilities to the community
- Improve domestic and international confidence in the integrity, transparency and fairness of the procurement process
- Develop professionalism in procurement at all levels. Enhance the skills and knowledge of officers handing procurement
- Improve efficiency in the public procurement process in terms of lower costs for the government and business sectors"

The relationship between public procurement and what is often termed "good" governance is gaining increasing attention. Effective procurement practices provide governments with a means of bringing about social, environmental and economic reform. Conversely, malpractice within public procurement is a government's major source of corruption and financial loss. Internationally, public procurement is steadily moving towards a policy role, enabling an alignment of procurement policy with government policy. Consequently, changes in modes of governance are often reflected within procurement, notably increased stakeholder participation, transparency and accountability (Wendy Phillips, 2007).

2.4 Challenges and Importance of Public Procurement

Delays and cost overruns in public sector procurements can raise the capital-output ratio in the sector and bringing down the efficacy of investments. Yet there are no estimates of the delays and cost overruns, and of their opportunity cost (**Morris (1990). It is** therefore clear that the delays or the long lead time in public procurements is a challenge and it is important to continually have an efficient lead time in public procurements.

"The Red Book"[1] (The Putrajaya Committee on GLC High Performance, 2006) observes five common weaknesses in the Malaysian procurement system. They are as follows: (1) Failure to buy products in the right quantities, and at the right specifications and prices, resulting in higher total cost of ownership. (2) Inefficient and ineffective procurement processes, resulting in long cycle times. (3) Opaqueness and ambiguity in the procurement process, resulting in leakages and corruption. (4) Inadequate infrastructure to support procurement, including flaws in organization and governance. (5) Non-existent or ineffective vendor development programs (VDPs)

According to Amemba (2013), the most prevalent challenges in the public procurement process is the selection of the most suitable procurement methods, with appropriate justifications. He further says, record keeping is also a major challenge in the sense that very few public entities have designated records management officers.

"The high value of the transactions in the public procurement process along with pressures to lower costs could result in bribery, corruption and other practices which could be deemed unethical. In the public sector, it is important that procurement professionals exhibit the highest levels of ethics through being impartial, professional and transparent in the day to day conduct of procurement activities. Ethical procurement best practice starts with the employees in procurement following an ethical code which dictates their behavior and actions while conducting business." (Amemba, 2013)

Public procurement has undoubtedly become an increasingly important issue in economic and business circles globally. This is evidenced by the growing interest of donors, governments, civil society, professional organizations, the private sector and the general public on matters of public procurements (Walter, 2003). Financial concerns still remain the biggest barrier to Sustainable Procurement in the Public Sector, with public sector procurers resistant to paying more to buy sustainably. Across regions, environmental aspects of Sustainable Procurement are relatively established but there is variation in other aspects of Sustainable Procurement such as buying from diverse suppliers, supporting human rights and ensuring safe practices in the supply chain (Brammer, 2010).

The conduct of public procurement has reflected tensions between public expectations of high standards of governance, management requirements for performance, overt (and covert) political influence and pressures from broader stakeholder interests such as business. However there are no clearly agreed international best practice models for the management of public procurement to address these issues and government responses have varied accordingly (Schappe, 2006).

Similar to all other professions, government procurement dealt with a number of challenges, posed by its changing environment. Recognizing its weaknesses, the government procurement profession has been working very hard to reach a higher level of intellectual respect (Thai, 2000). He has further added,

"One of the most important challenges in government procurement is how to best utilize information technology in an age of communications revolution, or commonly called information superhighway. This revolution has had great impact on all aspects of the society, including government. In the private sector, there has been a successful revolution, e-commerce. Every governmental unit has to purchase goods and services for its operations and needs professional procurement officials to effectively and efficiently manage procurement"

Politicians have major responsibilities for strategic procurement management as a result of democratic accountability, the need to set strategic procurement priorities, ensure procurement managers have the will and competence to deliver aligned procurement strategies, and in the performance management of procurement strategy implementation. To improve the validity of public procurement strategy and management research there is a need to be more critical of potential responses from procurement managers and look for triangulation from other actors, particularly those of the respective politicians. Indeed, there is a need for more research on politicians' perspectives on public procurement (Murray, 2009).

Public procurement has moved from simply a mechanistic, administrative and bureaucratic function towards a strategic activity used to support and deliver government objectives. This is demonstrated by the alignment of procurement policy with government policy and its employment as a tool for social and economic reform. Public procurement professionals keen to enhance public services and contribute towards social and economic reform and has presented cases where they have succeeded. Yet, public procurement's function as a pillar of good governance appears to remain popular rhetoric, as opposed to mainstream practice (Phillips, 2007).

Public procurement is concerned with how public sector organizations spend taxpayers' money on goods and services. Public procurement is guided by principles of transparency, accountability, and achieving value for money for citizens and taxpayers. Public sector expenditure is substantial: government organizations across the world tend to spend between 8 per cent and 25 per cent of GDP on goods and services (Walker 2009)

The nature and context of public sector purchasing differs from commercial practice. The public sector spends taxpayer's money, is subject to public review and needs to be transparent and accountable in its purchasing processes. Thus whilst buyers in government and the commercial sector might both be concerned with reducing cost and achieving value, public sector buyers have the additional task of achieving social, environmental (and other) benefits in their purchasing to fulfil the responsibilities of government to society. Some private firms also pursue socially responsible purchasing, but this is a choice rather than an obligation (Walker 2009)

3. METHODOLOGY

3.1 Introduction

At the literature review, it was observed that, to be aligned with the key principles in public procurements, the best practices must be established in the public procurement process. In this case, the efficiency in the procurement lead time does a major roll since this lead time factor affect the whole procurement process and results of public procurements.

For the purpose of this research, it has been decided to use three research methods, they are study of selected previous capital item purchases, interview of capital items suppliers to Sri Lanka Police through a survey and a pilot study for getting procurement officers and suppliers' views and ideas to the research. The first two methods were used for data collection for the research and the third method were followed to support the analysis part from the first two methods.

3.2 Research Design

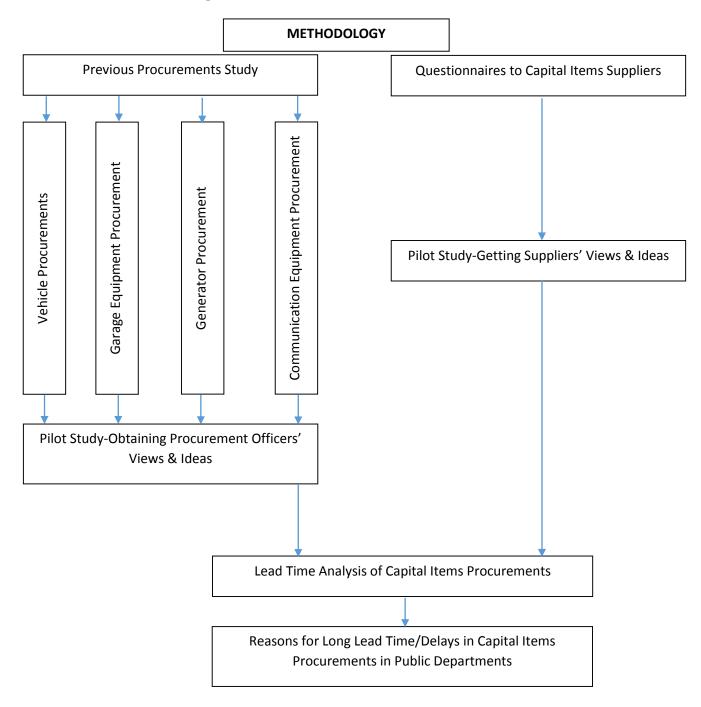


Figure 3-1: Research Methodology

3.3 Study of Previous Capital Items Procurements – First Stage of Data Collection

This method is the most important method in doing this research because it provides primary data that was extracted from secondary data sources. On the other hand, this is the most reliable data source since it provides data as it is and analyzing becomes much easier than other methods (Alison, 2016).

3.3.1 Type of Capital Items Selected and Sample Design

As mentioned above, capital items procurements were considered for the study. Therefore, the previous capital item procurements, which have been done by Sri Lanka Police Department during year 2012 to 2018 were selected and out of it the sample for the study was selected randomly. Stratified sampling method was used for the selection of the sample for the study since a lot of number of capital items procurements are done by Sri Lanka Police per year and studying all the previous procurements for the research is not practical. Previous procurements under 4 categories were selected and weight given for each category was depended approximately on the volume of each categories to the total procurements.

At the selection of sample, the 33rd supplementary to the Public Procurement Guideline of Sri Lanka (www.treasury.gov.lk), which has mentioned the authority level of each procurement committee was considered. Based on that the upper limit for the procurement value of Rs. 100 Mn was established for the sample since Sri Lanka Police' main procurement committee has been authorized to approve procurements up to Rs. 100 Mn. Furthermore procurements that were done as per the National Competitive Bidding (NCB) were selected for the study. On the other hand, the department follow this procedure (NCB) for procurements over Rs. 2 Mn. Therefore the selected sample procurements values are between Rs. 2 Mn to 100 Mn.

Procurement Categories	Number of Cases (Year 2012 to 2018)
Vehicle Procurements	12
Generator Procurements	6
Communication Equipment Procurement	8
Garage Equipment Procurement	4

Table 3-1: Selected Procurement Categories for the Study

As mentioned above in the beginning of the methodology chapter, there had a pilot study to get an understanding how procurement officers think about the research questions and objectives of the research. Those ideas and views of them were also collected in an informal manner in order to be supported the research.

3.4 Questionnaire to the Capital Items Suppliers – Second Stage of Data Collection

3.4.1 Population and Sample Design

This is the next major method in collection of data. The questionnaire was designed to get the suppliers views to the research who supply capital items to the public departments including Sri Lanka Police. Therefore we can identify the population of the study as the all suppliers who supply capital items to the public departments.

The questionnaires were given to suppliers who were registered to supply capital items which cost between Rs. 2 Mn to Rs. 100 Mn to Sri Lanka Police and the suppliers names should have been in the registered suppliers list of year 2019 of Sri Lanka Police.

3.4.2 Period that was considered for Data Collection

The data gathering via the questionnaire was done for a period of two weeks. The suppliers for the sample were selected randomly who are coming to Police Transport and Communications Divisions on above mentioned time period. The number of suppliers are considerably very high since they are coming for reasons such as submit quotations, collect payments, negotiations, field tests, discussions and for various other reasons. Therefore, it was decided to collect first 30 responses from suppliers as the sample for the primary data collection to the research.

3.4.3 Administering of survey questionnaire

The following methods were used by suppliers to responds for the questionnaires,

- Fill the hardcopy of the questionnaire at the department and handed over
- Send emails, whatsapp messages attaching the questionnaire to the suppliers who were "busy" at the department and collected them via the emails and whatsapp
- Allow suppliers to fill the questionnaire softcopy at the department providing them a laptop

At the same time, there had a pilot study to identify the sources as it was done with some of suppliers in an informal to collect their views to the research purpose and the study purpose.

3.4.4 Factors Considered in preparing the Questionnaire

- Previous Procurements Study
- Discussion with officers when the previous procurement study happened
- Informal discussions with suppliers

The Questionnaire which were prepared for getting responses from capital items suppliers is attached at the end of this research.

4. RESEARCH ANALYSIS

4.1 The Lead Time Analysis with Previous Procurements Study

The studying of previous procurements belong to above categories were done at the places where those files were stored and the permissions for the study these files were obtained from the head of divisions. Vehicle Procurements and Garage Equipment Procurements are done by the Police Transport Division at Narahenpita. Therefore the permission was obtained Director, Police Transport Division and the permission for the study of previous Generator and Communication Equipment Procurements was obtained from the relevant Director, Police Communication Division at Mirihana.

Procurements files were studied carefully one by one separately and the first target was to find out how long the Lead Time of the procurement was. In this case for the studying purpose, it was decided that the initiation of the lead time of the procurements starts at the time of publishing them in the newspaper for inviting bidders to quote for the relevant procurement. On the other hand, the end on the lead time was considered as the time which the agreement was signed with the awarded supplier to complete the order.

4.1.1 Procurement Process for Considered Lead Time

Procurement Process

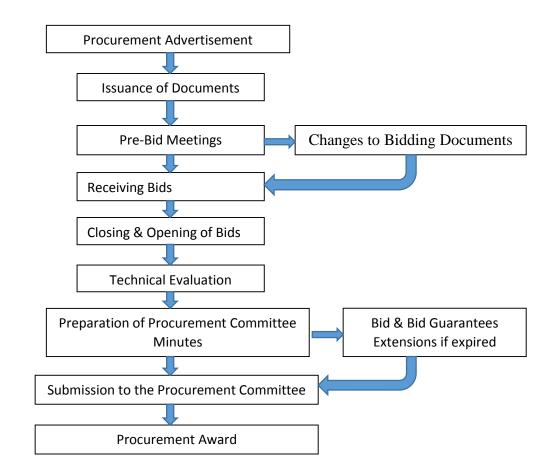


Figure 4-1: Procurement Process

The all procurement files have the newspaper advertisement copy of procurement invitation to suppliers with the date when it was published and that date was considered as the first date of which the lead time started. At the same, the agreement which was signed between the supplier and the head of the department was attached to every procurement file which it is easy to find the date of signing the agreements. While analyzing the lead time of each procurement files it was identified what are the reasons for the procurement delays or the long lead time of every procurements and the Public Procurement Guideline of Sri Lanka was used as a guideline to study these cases.

"According to section 4.2.3 of Public Procurement Guideline, it has introduced Procurement Time Schedule (PTS) for every public procurement. Under this section, 31st supplementary to the Public Procurement Guideline 2016 has introduced compulsory and maximum bidding period allowed for every level of procurement. This maximum bidding period was considered as the standard lead time for this study which is allowed for a procurement."

At the first meeting the Procurement Committee (PC) in consultation with the Procurement Entity (PE) shall determine the Procurement Time Schedule (PTS) allocating time slots for each action of the relevant procurement strictly adhering to the given time frame by the 31st supplementary to the Public Procurement Guideline 2006 (Department of Public Finance, www.treasury.gov.lk). In this regard the Departmental Procurement Committee which is appointed by the Secretary of the line ministry or the Sri Lanka Police as the Procurement Entity has the freedom to decide suitable time periods for individual procurement actions (such as bid evaluation, contract award determination by the PC, appeal procedure and other necessary actions) other than compulsory bidding period depending on the nature and complexity of the procurement (Section 4.2.3 of Public Procurement Guideline 2006).

"Procurement Entity means a Government ministry, provincial council, Government department, statutory authority, Government Corporation, and government owned company, local authority or any subdivision thereof or any other body wholly or partly owned by the Government of Sri Lanka or where the Government of Sri Lanka has effective control of such body that engages in Procurement" (Public Procurement Guideline 2006)

4.1.2 Factors considered for selecting of suitable time durations for each procurement actions,

- 1. Complexity of Specifications
- 2. Emergency of items to be procured
- 3. Funds availability
- 4. Quantity of the procurement
- 5. Expert availability for evaluation
- 6. Value of Procurements

 Table 4-1: Recommended Procurement Time Schedule (PTS) by the Public Procurement Guideline

Value of the Procurement	ICB (International Competitive Bidding)		NCB (National Competitive Bidding)	
	More than Rs.2000 Mn.	06	15	03
Rs. 750 Mn. to Rs. 2000 Mn.	06	13	03	10
Rs. 250 Mn. to Rs. 750 Mn.	06	09	03	06
Rs. 50 Mn. to Rs. 250 Mn.	06	08	03	06
Rs. 20 Mn. to Rs. 50 Mn.	06	08	03	05
Rs. 1 Mn to Rs. 20 Mn.	-	-	02	04

Source: Public Procurement Guideline 2006 Section 4.2.3

According to above table, it is clearly mentioned that the compulsory and maximum allowed periods for each level of procurements based on the value. Compulsory period has been introduced to maintain the transparency through the competition, proper evaluation and finally achieving the value for money from the public procurements. On the other hand, the maximum bidding period has also been introduced to maintain the timeliness and other economic factors such as price fluctuations, foreign currency fluctuations, and non-economic factors such as technology, transparency and standardization the system.

When considering the above table, Sri Lanka Police's Procurement Committee as a department is allowed up to Rs. 100 Mn procurements to be awarded. Therefore, only last three rows of the above table is considered for this study which values started from 2 Mn to 250 Mn. On the other hand, Sri Lanka Police does not do International Competitive Bidding (ICB) since the upper limit of the procurements is Rs. 100 Mn and the local suppliers do the import and supply of items or the supply of locally manufactured items required by Sri Lanka Police as well as the local agents of the international suppliers quote for the items which are internationally manufactured. Therefore the allowed maximum bidding period coming under National Competitive Bidding (NCB) is considered for this analysis.

Based on the allowed lead time mentioned in above schedule, Procurement entity should complete all procurement actions such as calling for bids, bid evaluation, contract award determination by the Procurement Committee, appeal procedure and the award in above given periods.

As mentioned above, the study was done to find out the period that was taken for each the Procurement. The given maximum allowed time schedule, actual lead time and the deviation is shown under each procurement categories considered for analysis.

4.1.3 Lead Time Analysis of Vehicle Procurements

As the first procurement category it was selected to analyze the lead time of vehicle procurements. The table 4-1 shows the lead time of each selected vehicle procurements and the deviation from the maximum period which is allowed by the Public Procurement Guideline of Sri Lanka 2006.

No	Good Procured	Quantity	Value of Procurement (Mn)	Recommended PTS (Maximum Period) By Guideline (Weeks)	Actual time taken (Weeks)	Deviation	Remarks
1	Single Cabs	15	32	5	12	7	• Started at last quarter of the year
2	Station Wagon	1	11.4	4	12	8	• Started at the last quarter of the Year
3	Double Cabs	2	16.2	4	14	10	• Started at the 3 rd quarter of the Year
4	Trail Bicycles	12	13.5	4	14	10	• Started at the 3 rd quarter of the Year
5	Vans	2	17.5	4	15	11	• Started at the 3 rd quarter of the Year
6	Cars	2	15.5	4	18	14	• Started at the 3 rd quarter of the Year
7	Boom Trucks	1	8	4	19	15	• Started at the 3 rd quarter of the Year
8	500CC Motor Cycles	100	59	6	24	18	 Start at early in the year Long period in the TEC Purchase for common purpose and no individual interested division
9	Ambulance	05	48	5	26	21	 Start at early in the year Long period in the TEC Purchase for common purpose and no individual interested division
10	Gully Bowsers	10	42.6	5	35	30	 Start at early in the year Long period in the TEC Purchase for common purpose and no individual interested division
11	600CC Motor Cycles	40	60	6	37	31	 Start at early in the year Long period in the TEC Purchase for common purpose and no individual interested division
12	Three Wheelers	75	22.8	4	44	40	 Start at early in the year Long period in the TEC Purchase for common purpose and no individual interested division

 Table 4-2: Lead Time & Lead Time Deviation-Vehicle Procurements

The study has given a significant priority for vehicle procurements since 12 procurements out of 30 procurements of the sample are vehicle procurements. In every year, Sri Lanka Police send their requirement of new vehicles to the Sri Lanka Treasury so as to include them in the National Budget. Even though the requirement is in every year is large, the department get a very less budget allocation to purchase new vehicles. Therefore, it is a responsibility of the department to carry out their vehicle procurements in an efficient manner to have new vehicles to the department in the same year when the budget allocation were given such as prior preparation of bidding documents, invitations to bidder very early in the year, appointment of technical evaluation members very early and monitor the procurement process in order to complete procurement as fast as possible. For that purpose, it is very important to do the annual procurements within the lead time which is allowed by the Public Procurement Guideline or at least with a reasonable deviation from the allowed maximum lead time. However, when studying the above deviations it is very clear that the deviations are very significant almost in every vehicle procurements.

On the other hand, some vehicle procurements' actual lead time is very short even though there are deviations from the allowed bidding period. At the same time some procurements' lead time is very long comparing with others. Therefore, the further study was carried out so as to find out whether there is a relationship between the value of the procurement and the deviation from the allowed lead time. This relationship can be shown in a graph as follows,

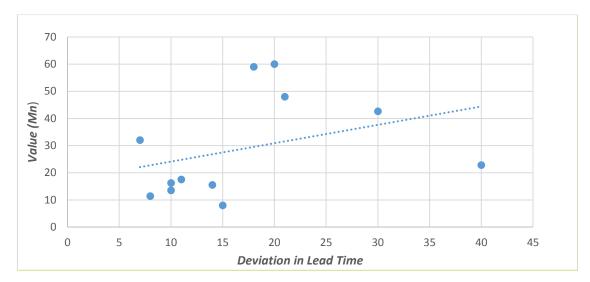


Figure 4-2: Value of the Procurement Vs the Deviation in Lead Time

The above Graph shows the relationship between the value of the procurement and the deviation in lead time. For a better understanding of the relationship, it was calculated the **Pearson Correlation Coefficient** to find out whether the relationship is strong or not. And the calculated **Pearson Correlation** using above values is **0.350061** which means the relationship is weak even though there is a relationship.

According to above evaluation, it is obvious that there is no clear relationship between the value of the procurement and the deviation from the allowed lead time. However, there are reasons why some procurements have short lead time and some of them have very long lead time in the actual lead times.

For instance, the above mentioned 12 vehicle procurement have deviations from the recommended lead time from minimum 07 weeks to maximum 40 weeks. From these lead time deviations, it can be calculated **the median** of lead time deviations is as **14.5**. Based on the above data in the table of vehicle procurements, it is clear that there are 6 vehicle procurements' lead time deviations are less than the median. And the other 6 procurements' deviations are greater than the median. Therefore, it was interesting to find out whether there is a relationship of these deviations of lead time with another factor. Further, it is reviewed those deviations with the quantity of items of these procurements

since it is found that those 6 lead time deviations of vehicle procurements which are less than the median which was calculated above, have the quantity of procurements is very less.

Furthermore, 4 out of 6 procurements' quantities of vehicles are very low as 2, 2, 2, and 1. The other procurements which belongs to this group of 6 which has lead time deviations of 10 and 7 weeks have quantity procurements of 12 and 15 numbers of vehicles which the quantity is not very large. Therefore it is obvious that there is an evidence where there can be a relationship between the quantity of each vehicle procurements and the deviations of lead times. The following graph is created to see the relationship between the deviation in lead time of vehicle procurements and the quantity of the procurements.

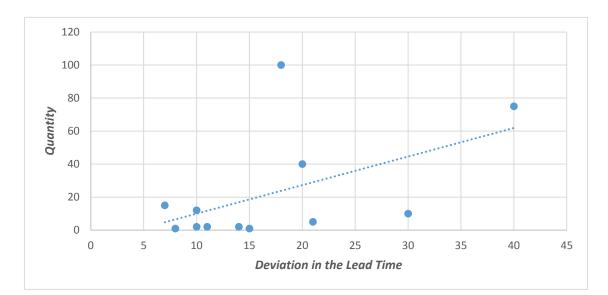


Figure 4-3: Quantity of the Procurement Vs the Deviation in Lead Time

The above graph shows the relationship between the **Quantity** of the procurement and the deviation in lead time. For a better understanding of the relationship, it was also calculated the **Pearson Correlation Coefficient** to find out whether the relationship is strong or not.

And the calculated **Pearson Correlation** using above values is **0.514234** which means the relationship is moderate and much closer to strong.

In this calculations, it is clear that there is a strong relationship g between the quantity of vehicles of each procurements and the lead time deviations of each vehicle procurements. The following are the reasons that have contributed for these delays.

1. Vehicle procurements with large quantities starts at the beginning of the year and being in the process throughout the year.

The annual procurement plan of every public department should be prepared at the beginning of the year just after they are received annual budget funds allocations. Because of this reason, the officers of these departments think that they have enough time period to complete these procurements in the year. Therefore, the following up process over these procurements are being happened very slowly. As instance, the large procurements from 8 to 12 have been started early in respective years and were in the process throughout the year. Not only that but also the Technical Evaluation Committee itself has spent nearly 8 to 16 weeks to complete the evaluation of those procurements. Finally some of those procurements had been awarded at the end of the year without allowing the procurement entity to use the same year funds allocations due to the large deviation of lead time. Therefore, it is very clear that these procurements' with large quantities usually deviates from the allowed time period.

2. Procurements with small quantities are usually begun at the 3rd or last quarter of the year.

Vehicle procurements with small quantities happen due to savings of allocations, emergency procurements, vehicles for newly appointed higher rank officers and some other special reasons most of the times at the later part of the year. Therefore, these procurements must be completed during the remaining part of the year so as to use the same year budget funds allocations. Therefore, these procurements usually have a short lead time than the procurements start at the beginning. As instance, the first 7 vehicles

procurements of the table have respectively a short lead time when compared with other procurements. All those 7 procurements have been initiated to spend the funds allocations which were expected to save at the end of the year. The all those procurements have been started around in 3rd and 4th quarters of the year and procurements for separate divisions. These divisions have followed up the procurement process and managed to complete the procurements before end of the year.

3. The procurement committees and technical evaluation committees takes a long time to study and recommend, approve the procurements with large quantities.

Generally large number of bids are received when the quantity that is planning to procure is a large number. In such a situation, the evaluation gets complex, external influences are big which make more delays in recommending and approving process. Furthermore a sample testing also will take place when large quantities are purchased. As mentioned in the table, all procurements from 8 to 12 have been in the evaluation process a long period of time.

4. Large quantity procurements are common and not followed up frequently while small quantity procurements have individually interested officers and they are followed up well until they are completed.

Actually, procurements with large quantities are procured for some common purposes to facilitate the whole department while small quantities are procured for individual and special purposes. While these small quantity procurements have owners who follow up the procurement and lead the procurement related officers to do the job immediately. As an example, there five procurements are in the above table which' quantities are 1nce and 2s where they have been completed with a short lead time. These procurements have been done in order to fulfill the request of separate division of the department. The reason for

having a very small lead time because they have followed up the whole process of that procurement which was done by the procurement division until the job is completed. This intervention finally shorten the lead time.

4.1.4 Lead Time Analysis of Procurement of Garage Equipment

As the Second procurement category it was selected to analyze the lead time of Garage Equipment procurements. The table 4-2 shows the lead time of each selected vehicle procurements and the deviation from the maximum period which is allowed by the Public Procurement Guideline of Sri Lanka 2006.

No	Good Procured	Quantity	Value of Procurement (Mn)	Recommended PTS (Maximum Period) By Guideline (Weeks)	Actual time taken (Weeks)	Deviation	Remarks
1	Garage Equipment (Miscellaneous)	27	9.6	4	44	40	 Bid has been extended 3 times 3rd party involvements Long period on individual officers recommendations
2	Garage Equipment (Miscellaneous)	20	7	4	42	38	 Bid has been extended 3 times Long period on individual officers recommendations
3	Garage Equipment (Miscellaneous)	10	4.2	4	36	32	 Bid has been extended 3 times Long period on individual officers recommendations
4	Garage Equipment (Miscellaneous)	15	4.5	4	49	45	 Bid has been extended 4 times Long period on individual officers recommendations 3rd party involvements Specification Errors

 Table 4-3: Lead Time & Lead Time Deviation-Garage Equipment Procurements

There are 10 garages maintained by Sri Lanka Police Department while the main garage is at Colombo and other garages are located island wide. Equipment requirement for all these garages are done d by the central garage and the procurement process is o handled by Police Transport Division. Procurements of garage equipment can be divided in to two as procurements less than Rs. 2 Mn under Shopping Procurement Procedure of Public Procurement Guideline and procurements greater than Rs. 2 Mn under National Competitive Procurement Procedure. Therefore, the garage equipment procurements over Rs. 2 Mn are few in the selected period of time for the study. Due to that reason it was studied 4 garage equipment procurements and the deviations in lead time of all four procurements are considerably higher when compared with vehicle procurements.

According to the study, delays in all these garage equipment purchases have happened because of the long period of technical evaluation and activities which were created through such long period in evaluation such as bid and bid security extensions, quoted items become out of stock and outdating. As example almost all 4 selected garage equipment procurements' technical evaluation period is more than 4 months. With this extended period in the procurement process, following extra activities come in to the process which make the lead time longer than the allowed lead time.

1. Validity of Bids and Bid Guarantee should be extended again by again throughout the procurement lead time

Normally, the bid validity and a bid security period of a procurement is no more than 90 or 120 days. However, with the long lead time of a procurement, validity of both bid and the bid security have to be extended. This cannot be done in a short period since it has to be done in a formal process. When the bid validity period getting close, bidders should be informed to extend their bids and the bid security validities. This may take few days for the bidders to take the decision whether they are going to accept the extension or not. On the other hand there can be additional conditions and negotiations by bidders and the bids, again they have to extend their bid securities from banks which add more days to the procurement lead time and sometimes with additional cost adding to the quoted price. As

instance, almost all selected procurements of above table have been extended due to the long lead time.

2. More third party involvements and influences

When the lead time get much longer because of the evaluation process, the tendency of having the interventions of unnecessary people is high. Normally these kind of things are very common in the evaluation process. It creates petitions, appeals by bidders over evaluation and the procurement process in an informal or formal manners. As instance, one garage equipment file from the studied list had been in the evaluation process for more than 4 months. And a petition has been sent by a supplier mentioning that the procurement is going to be awarded to another bidder even though he is the eligible bidder. He has directly criticized the act of the technical evaluation committee. Therefore, there had been an inquiry to find out who has given the technical details out before award the procurement and any error in the technical evaluation. These kind of situations also finally lead the evaluation process longer and the procurement gets delayed. There found 2 procurements out of selected 4 with these kind of involvements.

3. Specifications' errors and outdated specifications

The specifications are much complex in garage equipment procurements. Therefore, a small error in the specifications make the evaluation process longer. There can be amendments in pre-bid meetings because of these errors in specifications and bidding period can also get longer because of this reason. And the other reason is the procurement entity uses outdated specifications for garage equipment purchases. When they are not updated and not reviewed before bidding, they have to be amended at the pre-bid meetings and bidders request to extend the bidding period so as to get facilitated them to quote for the changed specifications. As instance, the fourth procurement of above previous procurements had some errors in specification and the specifications had been changed at the pre-bid meeting and it has extended the bidding period.

4. Officers negative attitudes on the procurements of garage equipment for Sri Lanka Police

This situation is also influencing the large equipment and not for the small equipment. The police transport division is the authority who has the responsibility over the maintenance of nearly 10,000 of vehicle fleet of Sri Lanka Police. There are two method used by the police transport division to maintain and repair vehicle as doing them inside police owned garages and outsourcing them. Most of the times, some officers think outsourcing them can be effective than doing them inside because outsourcing makes a quality output and faster than doing it inside. This kind of attitude of officers make them not willing in expending over big garage equipment for police garages and it was observed some recommendation delays in equipment procurements. Almost every selected procurements above, have this problem.

4.1.5 Lead Time Analysis of Procurement of Generator

As the third procurement category it was selected to analyze the lead time of Generator procurements. The table 4-3 shows the lead time of each selected vehicle procurements and the deviation from the maximum period which is allowed by the Public Procurement Guideline of Sri Lanka 2006.

No	Good Procured	Quantity	Value of Procurement (Mn)	Recommended PTS (Maximum Period) By Guideline (Weeks)	Actual time taken (Weeks)	Deviation	Remarks
1	Generators (30 KVA)	5	9.6	4	48	44	 No expert in the original TEC No payment for external experts
2	Generators (30 KVA)	7	13.2	4	57	53	 No expert in the original TEC No payment for external experts Lack of funds Wrong Capacity measurement
3	Generators (15 KVA)	85	89.2	6	45	39	 No expert in the original TEC No payment for external experts
4	Generators (15 KVA)	3	3.7	4	43	39	 No expert in the original TEC No payment for external experts
5	Generators (5 KVA)	24	3.6	4	31	27	 No expert in the original TEC No payment for external experts
6	Generator (250 KVA)	1	5.6	4	61	57	 No expert in the original TEC No payment for external experts Lack of funds

Table 4-4: Lead Time & Lead Time Deviation-Generator Procurements

The procurement of Generators to Sri Lanka Police department is one of the responsibilities of Police Communication Division at Mirihana. These generators are procured for the use of island wide police stations and for the functional divisions of Sri Lanka Police. There is a separate team in the department which is used for the maintenance of Generators at the Police Communication Division.

Generator procurements also have common reasons which affect their lead time and there are specific reasons which belong to generator procurements and affect their procurement lead times. As mentioned above,

- 1. Validity of Bids and bids' securities should be extended again by again throughout the procurement lead time.
- 2. More third party involvements and influences such as petitions, appeals and unnecessary negotiations.

Are common in generator procurements also. On the other hand, there are some other reasons why the lead time of generator procurements get much longer as mentioned above. Followings are some specific reasons for generator procurements why they also have a huge deviation in allowed procurement time.

1. No external expert in the original Technical Evaluation Committee (TEC) but the external expert is appointed later as required by the TEC.

The Technical Evaluation Committee for the generator procurements is comprised with three or four internal committee members chairman and members. However, it is mentioned in the instructions to TECs, if the TEC needs of having an external expert to get support from, the TEC has to appoint an external expert. On the other hand, the TEC chairman has to send a request from the head of the external expert's department asking whether department can have the support of an external expert from them. Then the department has to wait until the other department head recommends an expert for the procurement. As example, all of the previous procurements which were mentioned above had no external expert at the first appointed Technical Evaluation Committee. However, the Chairmen of all these technical evaluation committees have appointed an external expert from the Ceylon Electricity Board which has extended the lead time of all procurements.

2. No payment for external experts since they are not in the original Technical Evaluation Committee.

According to the Public Procurement Guideline of Sri Lanka, only the chairman and the members of the technical evaluation committees are paid. The supplement 32 to the Public Procurement Guideline 2006 provides provisions to pay the chairman and the members of the technical evaluation committee and Sri Lanka Police has not taken any step for the payment of external members of the committee. It was observed that there is no evidence of paying to external members of any generator procurement and the opinion of the external expert has always been delayed due to this reason.

3. Lack of Funds Allocations for generator procurements

Even though, budget proposals are submitted every year for generator procurements, the department does not receive enough funds for the generator procurements every year. This situation leads the department to start the procurement process without funds allocations because of the requirement. However, once the procurement is recommended by the Technical Evaluation Committee, the procurement officers submits it to the procurement committee and the procurement committee members do not take the decision of approving the procurement without the funds allocation and keep the procurement beside until the funds are received. As example from the previous procurement study, it was observed that two procurement of 250 KVA generator and 7 numbers of 30 KVA generator procurement have been started at the very beginning of the year 2017 without allocating funds for it. Even though the procurement process was completed at the end of the 8th month of the year, the Procurement Committee has not awarded due to lack of funds allocation. Because of that reason the procurement has been awarded at the beginning of the next year after receiving funds allocations.

4. Wrong capacity measurement by the generator unit of the department

It was observed that, the process of procurement of generators has been stopped at some point of the procurement lead time when the evaluation committee has recognized that the capacity of the generator to be purchased is not matched with the requirement. As instance, the 5 numbers of 30 KVA generator procurement has originally created to purchase 5 number of 50 KVA generators. However, at the pre-bid meeting which had further discussions among Technical Evaluation Members, Generator Sections Officers and the suppliers who purchased bidding documents, it has been decided that the 50 KVA capacity Generators are not the most suitable generators for that requirement since the capacity is higher than the requirement. Finally this issue made the procurement entity to amend the specifications in order to purchase 30 KVA generators. This kind of things can happened when a proper capacity evaluations were not done.

4.1.6 Lead Time Analysis of Communication Equipment Procurements

As the fourth procurement category it was selected to analyze the lead time of Garage Equipment procurements. The table 4-4 shows the lead time of each selected vehicle procurements and the deviation from the maximum period which is allowed by the Public Procurement Guideline of Sri Lanka 2006.

No	Good Procured	Quantity	Value of Procurement (Mn)	Recommended PTS (Maximum Period) By Guideline (Weeks)	Actual time taken (Weeks)	Deviation	Remarks
1	Analog/Digital Walkie-Talkies	300	13.8	4	66	62	 Field test before evaluation Few suppliers TRCSL approval is needed for importing samples
2	Walkie-Talkies	750	17.2	4	38	34	 Field test before evaluation Few suppliers TRCSL approval is needed for importing samples
3	Heavy Duty Batteries	100	2.5	4	43	39	•Field test before evaluation
4	Fixed Station Antenna	100	3.6	4	19	15	-
5	Walkie-Talkies Batteries	100	3.9	4	28	24	•Few suppliers
6	UHF Repeaters	11	24.7	5	49	44	•Few suppliers
7	VHF Repeaters	5	13.7	4	50	46	•Few suppliers
8	Walkie-Talkies	500	25.5	5	54	49	 Field test before evaluation Few suppliers TRCSL approval is needed for importing samples

Table 4-5: Lead Time & Lead Time Deviation-Communication EquipmentProcurements

The Police Communication Division is the responsible authority in Sri Lanka Police which does the procurement process of acquiring communication equipment to the department. The division receives over Rs. 100 Mn annually for these procurements. However, the documents shows that they have not spent these funds allocations efficiently throughout the year to purchase necessary communication equipment. One of the main reason that

contributes to this inefficiency in spending funds allocations in annual budget is the inefficiency in the procurement system where they cannot finish their annual procurement within the year. It is very clear that some communication equipment procurements' lead time is over a year. Therefore, it is understood that most of the communication equipment procurements are not competed within the year they were started.

As it was discussed in other categories of capital procurements, procurements of this category also have common reasons which affect the lead time of the procurements as well as they have some specific reasons which are related to only this category of procurements. As it was mentioned in the other procurements, there are reasons which are common for communication equipment procurements also,

- 1. Bids and bids' securities should be extended again by again throughout the procurement lead time.
- 2. More third party involvements and influences
- 3. No external expert in the original Technical Evaluation Committee (TEC) but the external expert is appointed later with the recommendation of the TEC.
- 4. No payment for external experts since they are not in the original Technical Evaluation Committee.
- 5. Not enough funds allocations are received for these procurements

The communication equipment procurements are very complicated, the equipment are updating day by day. Therefore, if the procurement is not done at the right time and delayed, then there is a huge risk in purchasing outdated the equipment d. However, it was very clear at study, the procurement efficiency is very low in this category of procurement in the department. Therefore, the following reasons were identified as the specific reasons for longer lead time of communication equipment purchases.

1. A field test is done at the time of evaluation which makes a lot of unnecessary problems

It was observed that there had been arranged a field testing for walkie-talkie procurements which make conflicts among bidders and the procurement entity. These field tests have been done in the presence of agents of all the bidders, the officers in Police Communication Division and representatives from Arther C Clack Center. Most of the times bidders are not satisfied with the results of the field tests. Lack of knowledge of these representatives is one of the main reason for these objections and on the other hand, Sri Lanka Police has not provided inadequate information to bidders to send knowledgeable representatives to the field test is another issue. It had been a very arguable matter since most of unsuccessful bidders have complained over the way of the field test was done and sometimes these field tests may have to be repeated.

2. Huge competition among the bidders since a few players are in the market

It was observed that, there are a very few players in the market for communication equipment such as walkie-talkies and repeaters and because of that reason the competition among the players are very tough. As instance, Sri Lanka Police have purchased 3 brands of walkie-talkies to the department in recent past namely Hytera, Motorola and Kirisun. These three brands have only one local agent for each brand. Therefore, it is understood that the competition is happening among these three players. No bidder want to miss any of the procurement and if one bidder knows that he is going to be rejected, he is not happy. According to the study which was done over the previous communication equipment procurements, these unhappy bidders have made complains and petitions almost at all the complains and petitions were considered before awarding the contracts. As instance, there were found 2 walkie-talkie and 2 repeater procurements in the table with this matter.

3. Bidding period (Date of Invitation to Date of Bid Closing) has been extended than the normal bidding period due to need of approval of the Telecommunications Regulatory Commission of Sri Lanka (TRCSL) for importing and submit the samples.

These communication equipment are purchased for the security purposes and general public or the other institutions are not allowed to import them without the approval of The Telecommunications Regulatory Commission of Sri Lanka (TRCSL). Therefore, the bidding period has always been extended over the request of suppliers in order to submit their samples before the bid closing date. Even though this is an unavoidable reason, it has directly affected the procurement lead time to deviate from the allowed lead time. This is very common in walkie-talkies procurements as observed in the study.

Above are the specific reasons for why the communication equipment procurement lead times are deviating so much from the allowed lead time. According to what was discussed above, it is clear those which reasons are common to all the procurements and some are specific to only one category of procurements which was mentioned above. At the same time, the study of previous files of capital procurements could give an understanding of very inherent reasons for the Sri Lanka Police which continuously affect the lead time of procurement and finally affect the efficiency of the entire process of a public department.

4.2 Questionnaire to Capital Items Suppliers

As mentioned in the methodology of this research, the questionnaire was prepared with the study done on the previous procurements and the views of officers and suppliers which were collected at random and informal discussions. The questionnaire was comprised with 5 open ended questions, 10 rating questions and 2 detail questions which were prepared for getting information from capital items suppliers. Following are the analysis of the responses for each questions one by one for a better understanding of the lead time of capital procurements of public departments.

4.2.1 Section A: Yes/No Questions

1. The lead time in capital items procurements by public departments is inefficient than the private sector procurements?

The procurements of the government sector which has a clear separation from the private sector procurements. This question was asked the suppliers since their operations are also private sector operations and they have some clear idea about how efficient is the public sector procurement and whether they are efficient or inefficient than the private sector procurements. It was observed that 80% of suppliers have said "Yes" which means that most of them think that the public procurements of the department are inefficient when comparing with private sector procurements.

2. The actual lead time for Capital item procurements is relatively longer than recurrent item procurements in government departments?

Here it is analyzed the lead time of capital items procurements of public departments. However, the above mentioned discussions had with suppliers and internal officers it was realized that not only capital items procurements but also recurrent items procurements are having some lead time problems. This question was asked the suppliers and according to them 57% said "Yes" while considerable amount which is 43% suppliers have said "No" meaning that nearly half of them think both capital and recurrent procurements have relatively long lead time.

3. The lead time in public procurements varies according to the value of the item that is going to be procured?

This was actually analyzed in the previous procurements study too. However, as the responses of suppliers, there are 90% says "Yes" while only 10% say "No". With this situation, it is understood that most of suppliers think the procurement lead time get longer with the increase of the value. Even though in the previous procurement study did not show a significant relationship between the value and the lead time except for the vehicle

procurements which there was some kind of a relationship, suppliers think there is a significant relationship between the value and the lead time.

4. The longer lead time in public procurement process could be reduced by restructuring the system? Such as new strict rules for procurement lead time, well trained staff for procurement activities etc.

Most of suppliers strongly think the lead time of procurements can be reduced with new rules, trained staff and other restructuring process. 80% of suppliers says it is possible in making the procurement lead time in public departments efficient with restructuring the procurement system.

5. Suppliers are reluctant to bid for public procurements due to long lead time in the process?

It is observed that in the previous study, only few suppliers are bidding for all the capital items procurements in the public sector. At the same time 93% of suppliers say one of the main problem in the public procurement is the long lead time in the process. It is very clear that this reason significantly affect the most of the suppliers not to bid for procurements of public departments.

4.2.2 Section B: Rating Questions

The responses for 10 rating questions are summarized at the table 4-5. The rates of 1 to 5 was mentioned as 1. Strongly Disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly Agree.

Responses for these questions were analyzed calculating the "Average Score" for each question earned.

A. Public Departments have a less attention over the lead time of capital procurements than the recurrent procurements?

This question was picked up for the questionnaire because some officers and some suppliers think the public departments give their attention very much on the recurrent procurements since the recurrent procurement represent the day to day needs of public department which they cannot neglect. Average score for responses for this question is 4 and it means that there is a high possibility of having less attention over the capital procurements than the recurrent procurements.

B. How long the lead time of the procurement depends on the quantity of items to be purchased from the procurement?

Average score is 3.73 for this question's responses. Therefore it is possible of saying most of suppliers think there is a relationship between the quantity to be purchased and the lead time of the procurements. However at the previous procurements study it was found that some kind of a strong relationship was shown in the vehicle procurements but not a much relationship in other capital procurements.

C. Efficiency of the staff involved in departmental procurement process directly affects the lead time?

At the previous analysis, it was observed that almost every procurements have been affected by this reason. It was proved up to a strong extent that it is acceptable because the average score is 3.83 for the responses for the questions by the suppliers.

D. Current political situation of the country significantly affect the efficiency of public procurements?

This question was include in the questionnaire considering the views of suppliers since they always complain about the current political changes badly affect the today's business and it is indirectly having a relationship with the lead time of procurement of public sector. Average score is 3.63 for this question which means this is right with a high probability.

E. Allowed Procurement Time Schedule (PTS) of Public Procurement Guideline of Sri Lanka is not practical for capital items procurements?

This was actually explained to suppliers who is not aware of this PTS and the average score is 3.33 meaning that up to some extent it is true. At the same, throughout this research it was recognized that these department cannot achieve the allowed PTS with the present procurement conditions.

- F. The suppliers' contribution in public procurements such as registering as suppliers, accurate bid proposals, competitive rates, providing required supporting documents etc. are also important in accelerating the lead time? In the previous procurement study, there were found some errors which were made by bidders in preparing their documents for the bidding. Actually these errors can be minor or major deviations and however when considering the price and quality factors, the technical evaluation committees and procurement committees are struggling in making decisions. Is such situations what happens is, there can be negotiations happened and sometime the procurement committee recommends recalling for fresh bids for the procurements while adding a long period to the lead time of such procurements. However, the average score for this is 2.6 and not many suppliers are accepting this as a truth.
- G. Long lead time or Delays in public procurements contribute for higher price quotations by bidders

Average score is strong as 3.9. This is actually common argument that the price quotations which is given to public sector are much higher than the actual market rates of those items. At the same, it can be observed that in the previous procurements also, the prices quoted by bidders are very higher than the prices of those items in the actual market. On the other hand, there can be reasons for these higher price quotations by bidders such as the long lead time which creates payment delays, lot of negotiations, bribery and corruptions and other related reasons.

H. Long lead time/Delays in procurement leads for more briberies and corruptions in public departments

It was observed that in the previous procurements which were delayed extraordinarily have been audited over bribery and corruptions matters. At the same time, there is a saying in the practice, once a procurement is getting delay the people say *"there is something happening under the hand"*. Therefore this question was also included in the questionnaire how they think about above statement. Average score is 3.46 for suppliers' responses means most of them also agree with this statement.

I. The delays/long lead time in public procurement process could be rectified by changing/ introducing new rules and regulations?

This question was asked suppliers just to know whether they are in a view that these lead time delays in the public sector procurement can be reduced or not. Another reason why this question was included is, most of the suppliers says "the issues in the procurements of public department can never be reduced because it is the normal situation of the public institutions". Average score is 2.46 for suppliers' responses. It is revealed that most of suppliers think this would not change.

J. There is a high suppliers' turnover in public procurements due to long lead time/delays in public procurements?

The long lead time which extended bids and bid securities sometimes up to 5 times is a headache for the suppliers. It was seen in some previous procurements the bidders had to extend their bid and bid securities with their costs 4, 5 times for a one procurement. Some suppliers say they do not bid for the public procurements again because of this very long time in the process. According to their arguments it costs a lot for them because of price increases of the quoted items and the time they expend over these procurement. Average score is 3.56 for this question since most suppliers accept this statement.

After above rating questions the questionnaire had two questions which were included to have detail responses. The responses received for each two questions are shown below with the questions.

4.2.3 Question 1: Briefly explain some reasons for long lead time in procurements in public departments?

The responses received from suppliers are summarized in the original condition as they were and categorized as bellow,

Funds Related Reasons	Staff Related Reasons	Process Related Reasons	Political Related Reasons
			and Malpractices
 Insufficient budget at the initial stage Allocations delays Funds problems Delays in payments Obtaining approvals for monetary facilities is not easy and take a long time for procurements in public sector Lack of fund allocations Funds matters Lack of funds 	 tasks 2. Staff transfers 3. Staff inefficiency 4. Staff expect benefits from suppliers 5. Less salaries to procurement staff 6. Don't care 7. Staff inefficiency 8. Lack of knowledge and careless file handling by procurement officers 9. Higher rank officers interventions 10. Biased on interested suppliers 11. Procurement staff has not an intention to finish the tender in a short time 12. Officers expect benefits 13. Delays in making decisions 14. Staff transfers 15. Some officers seek benefits and make the procurement delay 16. Procurement officers' decision making is inefficient 17. Procurement people delay 18. Delays by staff 	 Awarding with further negotiations Time taken for bid security extensions Long chain in the process No transparency Every stems taken a long time Lack of proper following up system Bid validity and bid security extensions due to delays in decision making Delays in technical evaluations No punishments for delays There is not a good lead time management system Not thinking about the loses of delays Delay in testing Delay in testing Delay in evaluations Every procurement action take a long time to be completed There is no proper procurement management system Tong time for evaluation of bids No flexibility in the process Rules and regulations of the tender guideline of the government Gap between bid opening and closing Long time to the award Long documents delays Long documents delays Delays in process 	 No transparency Change in political environment Bribery Opportunity is given only for limited number of suppliers Procedures are long and a lot of officers in the process of recommendations and approval Political interventions Changing political situation Bribery and corruptions Involves a lot of stakeholders Political influences in high value procurements Petitions by unsatisfied suppliers Delays to submit to tender boards

Table 4-6: Suppliers' Reason for Lead Time Delays

4.2.4 Question 2: What are your suggestions to accelerate the lead time in capital items procurements of public departments?

The responses received from suppliers are summarized in the original condition as they were and categorized as bellow,

Changes in Current	Development of the Staff	Improve the Process Speed	New Rules and Systems
Ũ	Development of the Star	Improve the Process Speed	New Kules and Systems
Practices			
1. Reduce paper work 1. 1 2. Can't accelerate the 2. 1 procurement lead time in the 3. ' public sector 4. 1 3. Need to be more open to 1 public sector 5. ' 4. Enhance transparency 5. ' 5. Stopping briberies and 6. ' corruptions 5 6. Use experienced experts in 7. 0 the technical evaluations 1 7. Reduce political and 0 unnecessary officer's 8. S involvements 9. ' 8. Calculating cost of delays 6 9. Standardize lead time 10. corruptions 11. 11. Introduce more flexible 11. guidelines 1 12. Enhance the good 12. relationship with suppliers 13. 13. Prevent unwanted peoples 13.	Punishment for delays Trainings Punishment to staff who make procurement delays Train staff and change salaries Training and punishments to staff Change attitude of the procurement staff and officers Staff training Target based performance evaluations for procurement staff . Transfer officers if lead time is not allowed achieved . Hire good people to procurement branch . Special procurement staff who make decisions quickly	 Procedure 2. Establish strong KPI's 3. Improve a proper following up system 4. Build good relationship with suppliers 5. Decision making at the right 	 Restructuring the system New system Apply lean supply chain management concepts to pubic procurements Establish lead time management system Change the system New technology Good system for procurement management

Table 4-7: Suppliers' Suggestions for accelerate the Time Delays

5. CONCLUTION

5.1 Introduction

It was observed that in the analysis chapter, the reasons which affect the procurement lead time in public department can be divided in to two as,

- 1. Reasons which affect separate procurement categories
- 2. Reasons which affect all procurement categories commonly

On the other hand, it is obvious that the inefficiency in the lead time not only in the capital items procurements but also in the recurrent items procurements of public departments. According to the procurement officers and suppliers, most of them believe that these reasons are inherent to all procurements of public departments. As observed throughout the research, those inherent reasons which affect the procurement lead time of public departments can be elaborated as follows.

5.2 Inherent Reasons which affect the Lead Time of Procurements in public departments

1. The procurement method which is used by the department is not the best method every time

This one is very common in vehicle procurements. Not only in vehicle procurements but also it is a doubt whether the officers have selected the best method for the relevant procurement of capital items. As instance, it is very clear that the best accepted method for the purchase of motor vehicles is Limited National Competitive Budding (LNCB) since it reduce the cycle time and the load of work in vehicle procurements. However, these government departments including the Sri Lanka Police, publish their invitations to bidders on newspapers following the National Competitive Bidding Procedure (NCB) which add more time to the procurement lead time. If they use the Limited Competitive Bidding Procedure, they could have shortened the bidding period since in Limited National Competitive Bidding, the procurement entity can directly send invitations to suppliers to be reached them immediately and it finally reduce the budding period and the procurement lead time of such procurements. The following procurement methods can be followed by public departments for the acquiring of their capital items according to the public procurement guideline of Sri Lanka (2006)

- International Competitive Bidding
- National Competitive Bidding
- Limited/Restricted International Competitive Bidding
- Limited/Restricted National Competitive Bidding
- Shopping
- Direct Contracting
- Repeat Orders

2. Bidding time period between the invitation to bidders and the bid closing is always one month or more for capital procurements

Even though the allowed lead time is 4 weeks to 6 weeks for all procurement actions, the department allocate above 4 weeks only for the bidding period. With this situation, it is impossible to meet the allowed lead time and it increases the deviation of lead times of each procurements. In some occasions, it was observed that the bidding periods have been extended on the requests of bidders. Therefore, the allowed Procurement Time Schedule (PTS) is not achievable in these type of procurements.

3. Time taken by the Technical Evaluation Committees (TEC) is very long

As it was early mentioned in above analysis of procurement categories, this technical evaluation can be long due to some specific reasons which are inherent only to those type of procurements. On the other hand there are other reasons which are common in technical evaluation to all these capital procurements. It was observed that there are sub reasons why these technical evaluations are taking a long time to be completed. Such sub reasons can be identified as follows.

i. Selection of members for technical evaluations committees are not logical

Normally two police officers and one or two civil officers are included in a technical evaluation committee. However, it was observed that no technical expert is included in the technical evaluation committees until the committee itself identifies the need of an expert and get them appointed by the procurement entity. At the same time, it is found that for all motor vehicle procurements, only one expert engineer has been appointed. Because of this reason, the procurement evaluation get delayed, because he has to share the time with other work that he is expected to do during the period.

ii. Payment delays or no payment for the members for the technical evaluation committee members

As it was early mentioned, the members of technical evaluation committees should be paid according to the instructions on the supplementary 32 of Public Procurement Guideline. However, it has been taken a long period of time to arrange payments for these members and most of the times they have not been paid. Therefore, the members of technical evaluation committees are not satisfied about payment and no encouragement for them to complete the evaluations on time.

Table 5-1: Payment for TEC Members

		Payment for Other
Value of the Procurement	Payment for	Members
(Mn)	Chairman	
25 Mn to 100 Mn	10,000.00	8,000.00
5 Mn to 25 Mn	5,000.00	3,000.00
2 Mn to 5 Mn	2,500.00	2,000.00

Source: 32 Supplementary to Procurement Guideline 2006

Payment for TEC members for Procurements values between 2 Mn to 100 Mn are mention in above table since a public department procurement upper limit is 100 Mn. iii. Officers are reluctant to follow up the task of the technical evaluation committee Technical committee members' names are confidential for procurement officers. They have no authority to ask the technical evaluation committee members why the report is delayed. Only the head of the department has the authority. In this case, procurement officers are silent until the evaluation is sent by the committee. On the other hand, in some occasions, the committee is not followed up until the report is reminded by the head of the department. This confidentiality finally affect the lead time of the procurement.

4. National Policy changes

These are very common in capital items which are imported and supplied to public departments by suppliers. There are two ways how the national policy changes affect the lead time of public procurements.

• Procurement entity's decisions over pending procurements due to the changes of National Policies

The procurement entity has no option on some national policy changes. In such a situation the lead time of any procurement which affected by the policy change getting longer. As instance, one motor vehicle procurement of above mentioned procurements was to award at the end quarter of last year. However, at the same period of time the government of Sri Lanka issued a gazette notification mentioning that the importing motor vehicles to government and semi government institutions are temporally stopped (treasury.gov.lk). In this situation, the department had no chance to award the procurement until the ban is lifted which finally extend the lead time of that procurement.

• Suppliers' decision over pending procurements due to the changes of National Policies

The prices of importing items can be increased by the national policy changes. This situation negatively affects the public procurements since the suppliers of capital items do not supply their items for the quoted prices even though they have been awarded. On the other hand, the department cannot put away their invoices since the price increases are not a fault of suppliers but a result of the national policy decision. As instance, a procurement of 2 numbers of cars had to be extended due to the bid validity and the security have been expired. In a situation like this, the department inform them to extend their validity of bid and the security. However, the local agent of relevant motor vehicles has refused to extend the bids due to price increase happened because of the national budget of Sri Lanka. After several negotiations the department came to a decision to buy them with a higher price however the lead time of that procurement was also extended from a considerable period of time.

5. Inefficiency in the staff who assist the procurement officers and procurement committees in processing procurement files

One of very common reason for the delays in procurement. Every procurement which are done by the department has a contribution from this reason. There are sub reasons why these staff are handling procurement files are inefficient. However, among these officers there can be efficient officers but as whole the system is not fully efficient. Following sub reasons can be identified which affect the efficiency of the staff.

• There is no enough knowledge about the procurement management

This situation can actually be seen in the lower level staff in the procurement divisions. The reason for this is the staff use for these handling files of procurement are not permanent staff and subject to transfer anytime according to the department's requirements. Therefore, these officers have no time to learn about the procurement management well.

• Staff attitudes towards the procurements

Procurement management is a very important role of a public department. However, this importance of the subject should be communicated to the staff who assist the procurement process of the department.

6. Lack of funds allocations

This is another reason which contributes to longer lead time. Normally the department should have enough funds allocations at the commencement of the procurement process. However, at practice, they start procurement thinking that the funds allocations will receive in the future before the award of a procurement. But most of the time what happens is the department cannot receive required funds prior to the award. In such a situation the procurement committee does not approve the procurement and wait until the funds are received.

7. Price increases due to the fluctuations of foreign currencies

In the recent past the country experienced that major foreign currencies appreciated against Sri Lankan Rupee. Most of the times the procurement entity want to extend the bids of suppliers because of the long lead time. However, at the recent past when the foreign currencies are appreciated against the rupee, the suppliers did not extend their bids with the quoted prices. After that lot of negotiations are happening and the procurement lead time is automatically extended until the award is given.

8. Re-approval if the estimate exceed or time period passed

This happens most of the times in vehicle procurements. The initial approval for the motor vehicle procurements should be taken from the National Budget Department of the Ministry of Finance, Sri Lanka. This approval is given with an approved cost and approval valid time period which is normally one year of time. If the procurement is not started at early after obtaining the national budget approval, there is a possibility of exceeding the approved cost by the quoted prices of bidders. The procurement entity cannot exceed this approved price and what they have to do is they have to amend the approved cost which take some more days to get it approved and finally the lead time deviated from the allowed lead time by the Public Procurement Guideline of Sri Lanka. On the other hand, it was found that some procurement was not completed within the time period given and because of that reason the department had to extend the period which also added to the lead time of the procurement.

9. Officers take long time to make decisions on the procurements coming to their recommendations

It was observed that in most of the procurements, some officers have taken extraordinary time to recommend the procurement without any reason before submitting them to the procurement committees. These are actually some debatable situations which affect the transparency of the procurement and finally those type of situations affect the lead time of those procurements

10. Careless technical evaluation leads re-technical evaluations

The Technical Evaluation Committee of a procurement like the heart of that procurement since this committee is the authority which decides whether the procurement is proceeded or not. However, there are committees who does their job is with a responsibility and there are some few committees were found at the study who did not have done their job perfectly and finally those procurement have been sent for re-evaluations with adding more weeks to the lead time of procurements.

11. Careless preparation of bidding documents

Preparation of bidding documents should be done by a team of experts because a minor mistake of the bidding document can ruin the entire procurement to be done. For example, the procurement entity has to mention clearly in the bidding documents whether the testing charges should be paid by the bidder or not at the submitting of bids. Asking bidders testing charges after closing bids is a problem which make unnecessary delays.

12. Appeals or petitions by unsuccessful bidders on various reasons

This is a very common situation in all type of capital procurements. Capital procurements values are very high. At the same time the profit from a capital procurement which the bidders are expecting also very higher than the recurrent items procurements. Therefore, the competition among bidders is very tough and all the bidders are trying to be the successful bidder. However, only one can be the winner and it make others suffer. Some bidders cannot accept the defeat and jealous of the successful bidder and make appeal and petitions increasing the procurement problems which make additional delays.

6. **REFERENCES**

Alison Wolf, (2016), "Market Research Methods"

Andrew Erridge, (2002), "Public Procurement and Supply Management Strategies".

Atkinson, W. (2003), "New buying tools present different ethical challenges".

Bauld, S. and McGuinness, K. (2006), "Value for money".

- Cyrus Saul Amemba, (2013), "Challenges Affecting Public Procurement Performance Process In Kenya".
- Commonwealth Procurement Guidelines, (2005).
- Christopher McCrudden, (2004), "Using public procurement to achieve social outcomes", Natural Resources Forum 28.
- Department of Public Finance, Sri Lanka, available at: www.treasury.gov.lk
- Erridge, A., Fee, R. and Mcllroy, J. (1999), "An assessment of competitive tendering using transaction cost analysis", Public Money & Management.
- Geraldine John Kikwasi (2012), (Ardhi University, Tanzania) "Causes and Effects of Delays and Disruptions in Construction Projects in Tanzania".
- Helen Walker, (2009), "Sustainable procurement in the United Kingdom public sector".
- Henry Alinaitwe, Ruth Apolot, Dan Tindiwensi, (2013), "Investigation into the Causes of Delays and Cost Overruns in Uganda's Public Sector Construction Projects".

Jeanette Raymond, (2008), "Benchmarking in public procurement".

J. Gordon Murray, (2007), "Improving the validity of public procurement research".

Khi V. Thai, (2000), "Government Procurement: Past and Current Development".

Mott MacDonald, (2002), "Review of Large Public Procurement in the UK"

- Paul R. Schappe, (2006), "An Analytical Framework for the Management and Reform of Public Procurement".
- Sebastian Morris, (1990), "Cost and Time Overruns in Public Sector Projects"
- Smith-Deighton, R. (2004), "Regulatory transparency in OECD countries: overview, trends and challenges", Australian Journal of Public Administration.
- Stephen Brammer & Helen Walker, (2010), "Sustainable procurement in the public sector: an international comparative study".
- Walter Odhiambo and Paul Kamau, (2003), "Public Procurement Lessons from Kenya, Tanzania and Uganda".
- Wee Shu Hui, (2011) "Procurement issues in Malaysia".
- Wendy Phillips, (2007), "Public procurement a pillar of good governance?" (2007).