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**Effective Procurement Planning: A Tool for the Timely Delivery of Works
Contract in the Roads Sector of Ghana**

By

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DEDICATION

This research is dedicated first and foremost to the Most High God; to my wife Mrs. Cynthia Otoo and my lovely son George Brakatu Otoo. I also dedicate this work to my mother Chief Inspector Juliana Numekevor and my Godfather C.O.P Prosper Agblor (The Commissioner C.I.D).

ABSTRACT

There has been the view that most of the agencies in the roads sector do not plan for their yearly procurement activities. The execution of their works contract and the procurement are done at the behest of politicians and mostly as emergency works. But, the Public Procurement Act 2003 (Act 663) states that all entities funded by state resources or partially funded by the state are to plan their activities for the preceding year latest one month to the close of the year. This study aimed at documenting the current procurement planning processes, the challenges that hinder those processes and to propose recommendations that will aid in effective procurement planning to ensure timely delivery of works contract in the roads sector. The case study approach was used to design the research, and the sampling technique used was the purposive sampling to select the units for the study. Because the study targeted the personnel who were directly involved with procurement planning at Ghana Highways Authority (GHA), a total of 46 questionnaires were distributed to Quantity Surveyors and Civil Engineers. Thirty (30) useable responses were obtained. The study revealed some challenges which hinder the effective procurement planning with respect to GHA. These included lack of adequate funding and poor performance of some contractors. Also the factors which emerged prominent with respect to enhancing timely delivery of works contract were the financial thresholds and the choice of contract type. The study recommends the provision of adequate funding which is the most challenging factor hindering effective procurement planning, frequent review of the procurement planning processes as stated in Section 21(3) of Act 663, effective contract management and adequate training for all personnel on procurement planning procedures and to enhance cooperation from implementing divisions.

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CHAPTER ONE

INTRODUCTION

1.1 RESEARCH BACKGROUND

Public procurement means using state resources or funds to purchase goods, services and works for use by state agencies (World Bank, 1995). Gershon (1999) also defines that the whole process of procurement of purchases from a third party (including logistics) and engulfs goods, works and services. The process covers the entire life cycle from initiation and defining needs for supplies by the end of the useful life of an asset or closure of a service contract.

However, Act 663 which is the legislation that superintends over every public procurement process has a final aim of the procurement system, in order to ensure that the state funded institution uses its resources in an equitable, impartial and efficient manner, in order to have valuable use for the things they procure.

For public institutions and agencies to commence any procurement activity that meet the needs of the bodies which they procure for, and the stakeholders who are involved; the Public Procurement Act, 2003 (Act 663) Section 21(2) declares categorically that, publicly funded agencies must present to its Tender Committee, at least a month to the close of the fiscal or financial year, its procurement plan for the upcoming year for necessary authorization.

This would give the institution the authority to forecast and budget for the needs of the organisation, to procure and deliver the goods, works or services timeously. Wogube (2011) asserted that value for money can only be possible in public procurement when the

processes involved are well planned and implemented according to plan. The procurement plan sets the stage for all procurement activities to commence in the procurement cycle.

Research has shown that public procurement takes up more than half of the public spending. In least developed and post conflict countries it can be as high as 70% of Gross Development Product (GDP) (UNDP, 2010). In Kenya which is a typical case study, state funded procurement sums up to 60% of public spending (Akech, 2005) while in Uganda, it accounts for 70% of its GDP (Developing Assistance Committee 2005, p.18).

Further research has shown statistics of state purchase in Ghana represents 50%-70% of the national budget (after salaries), and 14% of GDP and 24% of total imports. State funded procurement is understood to have both socio-economic impacts on the nation (World Bank CPAR, 2003). Therefore, it is important for public institutions to prepare their procurement plans with the maximum efficiency to avoid misprocurement. Considering the colossal amounts of public funds earmarked for procurement especially works contract, planning is key to deliver the works on schedule and within budget.

In Ghana, public institutions were already familiar with traditional planning that was common practices in the local governments; they have integrated the procurement planning which has become part of them: - notably, development planning and budgeting. The Procurement Act 2003, (Act 663) section 21(1) states that, public institutions should prepare a procurement plan to back its authorized plans and programme to indicate: package of contract, budgeted cost for a package, the method of procurement, and preparation steps and lead times.

One important fact in most developing countries especially Ghana is that state institutions are usually given less budgetary allocation than they ask for and yet are expected to operate

at full capacity. Basheka, (2008) argues that, budgets are often cut down and cost cutting measures are encouraged among these institutions. Therefore, procurement planning is key in ensure with the prioritization of the most important needs of the public or institution. Adequate planning is required to ensure maximum efficiency in the use of funds (Thai, 2004).

The Public Procurement Act, 2003 (Act 663) and Public Procurement Manuals of Act 663 outline rules, systematic guidelines and categorical procedures to aid public institution to carry out their procurement in-line with the Act and this includes the Ghana Highways Authority (GHA).

Procurement planning is defined as the mechanism to determine the needs of acquisition and the date of acquisition and financing so that the entire operations are fulfilled as required in an efficient manner. It serves as fuel that ignites all procurement activity. This implies that any slightest wrong in the planning process can have grave effect on the progress of the procurement process of that institution (Van Weele, 2005). One of the basic object of procurement planning in acquisition is, it has the ability in ensuring the process is carried out successfully and improves service delivery (Basheka, 2009).

1.2 PROBLEM STATEMENT

The Public Procurement Authority's Annual Report (PPAAR) (2011), exposed that majority of entities in Ghana are not well vested in procurement planning and needed to be trained in order to increase the capacity of entities in practicing procurement planning in their organisations. This practice has the tendency of affecting the procurement processes in a negative respect, resulting in public spending that do not satisfy the needs of the general public or that delivers less worth money spent.

Section 21 of Act 663, makes it incumbent on all public institution to precede their forthcoming financial year with a procurement plan. Planning of procurement sets the stage for the commencement of all procurement activities. Also, research has shown that some public institutions do not prepare their procurement plans well enough and some do not at all for the preceding financial year. This is one of the major problems that cause the derailment of most procurement activities for public institutions not meeting the needs of their organisations to delivery of goods, works and service on the states schedule (PPAAR, 2011). Road projects especially, undertaken in this country have either exceeded its contract sum or the project was not completed on schedule. These factors are as a result of inefficiency in the preparation of adequate procurement planning to execute works contract. The above mentioned issues are important in achieving the general objectives of the most important goals of government organizations of which the GHA is no exception, and this is of concern to the researcher. This study therefore sought to establish that effective procurement planning, can serve as a tool for timely delivery of works contract in the roads sector of Ghana.

1.3 RESEARCH AIM AND OBJECTIVES

1.3.1 Research Aim

The goal of this research is to emphasize the importance of effective Procurement Planning for the timely delivery of construction works in the Roads Sector of Ghana.

1.3.2 Objectives

The research aims at achieving the following objectives:

1. To document the current practices of preparing procurement plans in the Roads Sector.

2. To identify the challenges that serve as hindrance to effective Procurement Planning.
3. To put forward recommendations that will aid in effective Procurement Planning to ensure timely delivery of works contract in the Roads Sector.

1.4 RESEARCH QUESTIONS

The research questions will help elicit the following:

1. What are the best procurement practices in preparing procurement plans in the Roads Sector of Ghana?
2. What are the challenges to effective procurement planning in the Roads Sector of Ghana?

1.5 RESEARCH SIGNIFICANCE

The research significances are as follows:

1. The findings of the study will specifically help Roads Sector and other allied agencies to revisit their procurement planning if they are to improve on timely delivery of works.
2. The study will also help the Roads Sector to formulate ways on how to improve the delivery of works for its operations and personnel.
3. This study will also serve as a source of reference for other researchers for further research studies in the field of procurement planning and works delivery in other government agencies involved in works procurement.

1.6 SCOPE AND LIMITATION OF STUDY

The study focused on procurement planning, which involved the current procurement planning practices, the challenges that hinder them and recommend factors that will aid in

the delivery of works contract on time in the roads sector of Ghana. The research was carried out at the headquarters of the GHA in Accra, which is in charge of trunk roads in Ghana. It is one of the four (4) subsector agencies under the Ministry of Roads and Highways, namely: Ghana Highway Authority, Department of Urban Roads, Department of Feeder Roads and Ghana Road fund secretariat. The study sampled views from technical (junior and senior staff) and managerial staffs of the GHA, with the focus on Civil Engineers, Quantity Surveyors and Contract Managers.

1.7 RESEARCH METHODOLOGY

The research methodology employed for the research comprised the following: the research design, research style, research approach, sampling and sampling techniques, sampling frame and sample size, methods of collecting field data and analyzing the field data.

The research design adopted for the study was the descriptive type so as to describe observations and examine the findings, and come up with conclusions and recommendations for implementation.

The population for the study was the staff of Development Department of the GHA. The Authority has three (3) main departments namely: Administration, Development and Maintenance Departments.

The sample frame for the research involved the entire population which was made up of a total of 56. The sampling technique used was the purposive sampling, since the sampled population used for the study was from a pre-defined group of the Development Department.

A field survey approach was employed for data collection. This was due to the fact that the study was based on the use of questionnaire to elicit information from the respondents in

order to generate data for the analysis of the study. Finally, data collected was processed and analyzed using Descriptive statistics, Relative Importance Index (RII) and Kendall Rank Test in order to come up with frequencies and percentages. Microsoft Word and Excel were also used in drawing tables so as to clearly present the findings.

1.8 RESEARCH ORGANISATION

The research is arranged in five chapters:

Chapter one (1) of the thesis covers the overview of the thesis covers the overview of the study, problem statement, research aim/objectives of the study, research questions and significance of the study.

Chapter two (2) outlines the relevant literature review on public procurement in general and specifically public procurement.

Chapter three (3) focuses on the most suitable research materials and methods adopted for the study.

Chapter four (4) presents data analysis, results and discussions. Finally, chapter five (5) presents study summary results, the conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter deals with works done by various authors from varied sources. This includes magazines, publications, journals, the internet and books. It also deals with the definition of the major variables of the research and other issues based on the research questions.

2.2 OVERVIEW OF PUBLIC PROCUREMENT

Thai (2001) claims that, the history of Public Procurement predates long before the coming of Christ. This is supported by the discovery of an order written on a red clay tablet, which was found in Syria between the dates of 2400 and 2800 B. C. This involved the requisition for “50 jars of fragrant smooth oil for 600 small weights in grain” (Coe, 1989, p.87). There is also additional evidence in the trading of silk between the Chinese and the Greeks around 800 B.C.

Outsourcing can also be traced to the U.S.A in the procurement of printing and other services. Procurement activities were mainly done by commissioners and commissaries that were not trained as procurement personnel's. These individuals supplied goods and a service based on set commissions. There was no form of regulation and monitoring until the 1800 with the establishment of purchasing bureaus and boards.

Public procurement is very huge due to the big financial outlay involved. According to Thai (2001) United States federal government spends a large budget on procurement. It invested around \$33.19 million on procurement actions in fiscal year 2000. According to further claims of Thai (2001), the government sector of United States procures between \$1.4 and \$1.6 trillion annually. Furthermore, procurement contributes around 10% to 30% of GDP

worldwide. This makes public procurement an important tool for the attainment of socio-economic development of a country (Arrowsmith, 1998). There have been various reforms and changes by developing countries of their existing procurement laws (Arrowsmith, 1998, p.5).

2.3 THE LEGAL FRAMEWORK OF PUBLIC PROCUREMENT REFORMS IN GHANA

According to Ameyaw et al. (2012), since Independence, Governments have attempted to address weakness in Public Procurement processes through several financial laws, rules and policies. Reforms have come in the form of Constitutional re-engineering, Acts of Parliament, Legislative Instruments, Administrative Instruction and Financial circulars. Some of these legal regimes are: Ghana Supply Commission Act (1960) – reviewed later in 1990 by PNDC Law 245, Contract Act, 1960, National Procurement Agency Decree, 1975 (SMCD) 55 and Financial Administrative Decree, 1979 (SMCD) 221 and Financial Administrative Regulations (FAR) – L.I 1234. All these Laws, Decrees and Instruments did not achieve Governments intended public procurement objectives. This has led to government's decision to make some changes in thorough financial management system reforms. The reforms were done through a program known as the Public Financial Management Reform Program (PUFMARP) with its implementation starting in 1995. The PUFMARP has the major objective of achieving efficiency, transparency and accountability in the public financial management system. A major component of the PUFMARP program was the Public Procurement Reforms (Ameyaw et al. 2012).

According to the World Bank (2003a) public procurement represents about 24% of Ghana's total imports and 14% of Gross Domestic Product (GDP). Public procurement also

represents between 50-70% of the national budget (after personal emoluments). It will therefore be prudent if the public procurement processes are improved to create wealth and reduce poverty.

The World Bank in 2003 initiated a move to encourage developing countries including Ghana to strengthening their procurement structures. This was to make the Procurement systems more effective and also to encourage capacity building. To address the weaknesses identified by the World Bank and PUFMARP. With the need for a structure procurement practice as a policy of good governance and financial discipline, the finance ministry in Ghana established a committee called the Public Procurement Oversight Group (PPOG) with the central aim of helping government to make key changes in public procurement. This culminated in the drafting of the public procurement bill in September 2002 which was finally passed by parliament as law in 31st December 2003 as the Public Procurement Act 2003, (Act 663) (Kwaku, 2009).

This law was passed to serve as a guide to coordinate procurement activities purposely as a tool by procurement entities for fighting corruption, developing the private sector and reducing poverty (Kwaku, 2009).The Act also led to the establishment of Public Procurement Authority (PPA) to see to the proper implementation and adherence to the act with the aim of ensuring judicious, economic, and efficient use of public funds in a fair, transparent and non-discriminatory manner while promoting a competitive Local industry (Public Procurement Act 2003, Act 663).

2.4 DEFINITION OF PROCUREMENT PLANNING

The old adage in Project Management which says “when you fail to plan you plan to fail” cannot be overemphasized as far as capital projects are concerned. Planning is the most

crucial process in all development projects as it commits vast sums of money to a cause. Such funds, by implication, cease to be available for other purposes. It is of utmost importance therefore that tangible benefits should accrue from such expenditure in the national interest.

Van Wheel (2005) defines procurement planning as an activity which includes identifying the procurement needs of an entity and providing at the opportune time with required funds to meet desired goals. It serves as the power that propels the procurement process. Not getting it right at the procurement planning stage can be detrimental to the whole procurement process.

Agaba & Shipman, (2007), also state that, procurement planning include all the steps that public institutions use to plan procurement activities over a specified period of time. These also include staff budgets, purchases and expenses over a time period. It also involves assessing the needs to identify what has to be purchased, the type of goods or services that need to be purchased, stated timelines and strategies. It will also require putting in place measures for accountability for the entire process (Onyango, 2012).

According to the Economic Commission for Africa (2003), procurement planning can be described as the means by which organization acquire goods and services from external sources. Procurement planning includes defining what to procure, the process of acquiring such goods and scheduling a delivery time.

Procurement is thus one part of the commissioning process. It refers to a specific method of purchasing services which involves tendering for a contract. Sometimes it is more appropriate for a public body to fund a service through the provision of a grant, but then it will have less control over the precise outcomes to be delivered.

The United Nations Capital Development Fund (2013) state some uses of procurement plan which are: to ensure that procurement begins in time so that the product – goods, works or services - are delivered when needed. For the purposes of this study, the concentration would be on works procurement.

Furthermore, the use of the plan of supply is to propose the method that will be used for the purchase. Normally, this will be based on rules, but these rules can be complicated and may allow some flexibility. Through the procurement plan, the official procurement proposes a method to use. The CEO (or the official who has the power of approval) shall review the plan and the signature to indicate approval of the proposed method. In some cases, donor agencies may require the right to examine and approve procurement plans (the World Bank is routinely done as part of its arrangements to oversee the project).

Finally, the use of the supply plan serves as an apparatus for monitoring and ensuring that procurement processes are on the track.

2.5 THE PROCUREMENT PLAN FRAMEWORK

A comprehensive guideline on the scope and procedures by public entities did not exist in the procurement of construction works in Ghana. Works and services procurement activities were mainly regulated by Ministry of Finance conventions and circulars. The district, regional and central tender review boards were in-charge of the processing and awarding of contracts within the thresholds defined by the Finance Ministry. Meanwhile, procurements financed by the World Bank used the guidelines of the Bank (World Bank, 1995).

The method of procurement used for works contract was the traditional method. There is a statutory provision which ensures that all contractors are registered and classified under the guidelines of the Ministry of Water Resources, Works and Housing. Also, District,

Municipal and Metropolitan Assemblies use registered lists of contractors for pre-qualification and other contract conditions for works procurement. Projects administered by the World Bank also use the FIDIC conditions as a criterion for shortlisting and selecting consultants.

2.6 PROCUREMENT REFORM AT THE MINISTRY OF ROADS AND HIGHWAYS

Procurement has evolved in several ways until its present state. Until January 2000, the Ghana Supply Company was the agency responsible for public purchasing activities. Due to some challenges in their operations like inadequate data base, lack of trained personnel etc. There arose the need for other ministries to set up their own procurement process and structures. This required government to provide specific to each entity which was inefficient (Eyar, 2012).

To correct such inefficiencies, the Ministry of Roads and Highways decentralized by shifting responsibilities from ministries to project implementation units. This was meant to reduce the burden of procurement and allocate responsibilities to personnel in charge of implementing projects. It was however discovered that there were some weaknesses in this process such as inadequate procurement procedures and not enough policy strategy. To tackle these issues, there was a collaboration between the ministry of roads and highways with the world bank through training programs for contract managers, the establishment of rules and standards with the provision of procurement guidelines based on the one used by the world bank(World Bank, 1997), in addressing the major shortfalls.

2.7 PROCUREMENT PLANNING UNDER ACT 663

The Public Procurement Act, 2003 (Act 663) provides for the activities involved in procurement planning for public and state owned institutions under part III, Section 21 91-5) mandates as follows: In relation to the Procurement Plan

1. It is the responsibility of procurement entities to have a procurement plan that include
 - a. The Contract package,
 - b. An Estimated cost for each package,
 - c. The method of procurement,
 - d. With times and steps in processing.
2. Procurement plans should be sent to tender committees for approval by procurement entities. This should be done at least one month before the end of a financial year.
3. Procurement plans should also be submitted for updates every quarter after it is approve after budget approvals by tender committees.
4. There will be a tender review board where procurement entities will send procurement plans and contracts which are above the stipulated threshold for publication in the procurement bulletin.
5. To avoid this process, procurement entities should not segment procurement orders into smaller parts.

2.8 PUBLIC PROCUREMENT REGULATIONS

The following Regulation is issued to supplement the provisions of the Act:

1. In procurement planning there should be a proper integration and linkage with the process of budgeting from the Ministry of Finance and Public Procurement Authority.
2. The following should be included in every procurement plan:
 - a. The required goods, services and works in detail.
 - b. Show schedule of the timeline for delivery with dates of completion and implementation of each procurement task.
 - c. Where funding will be secured from;
 - d. Entities should indicate the items that will require aggregation into a single package or through other arrangements for similar items.
 - e. Value estimates of good, services and works with where funding will be sourced from.
 - f. Details of all expenses relating any planned or awarded procurement under existing long-term contracts.
3. To determine the optimal packaging of the contracts provided, the entity must aggregate the purchasing requirements for procurement, if necessary, to achieve economies of scale. In deciding where aggregation is appropriate, the entity shall consider all relevant factors, including:
 - a. Which procurements are by nature capable of attracting the same potential bidders;
 - b. Constraints in storage and Shelf-life.
 - c. When delivery, implementation or completion is required;

- d. Considering the structure of the market and its requirement bigger contract types and size which will attract the most competition.
- e. Procurements which will need similar requirement and contract conditions: and
- f. The probability of savings in time or cost in transaction through contract administration by procurement entities.

2.9 STANDARAD FOR PREPARING ANNUAL PROCUREMENT PLAN UNDER THE PUBLIC PROCUREMENT MANUALS

The Manuals of the PPA, 2003 (Act 663, p. 28) stipulates details for the preparation of entities procurement plans this outlines the contents of the plan, responsibility of procurement units and the actors involved, and guidelines for determining completion time scales.

2.9.1 Contents of the Procurement Plan

The plan for procurement for each Entity shall include:

1. Works, goods and services in detail and as required:
2. A detail of the dates of completion and times for delivery with goods, services and works:
3. Where funding will be secured from;
4. Items with the potential for aggregation into single package or uses in a similar way should be indicated:
5. The means for funding and cost estimates of packages of goods, services and works to be procured.
6. Expenditures and intended procurement which is under existing multi-year contracts.

In order to achieve economy of scale, procurement entities shall appropriately aggregate packages considering the following factors:

1. The procurement packages that have the likelihood of attracting the tenderers due to its similarity of nature.
2. Limitations in storing and shelf-life;
3. Delivery, times for completion and implementation.
4. Consideration of the market structure to derive the highest sizes that attract the most competition.
5. Procurements that will necessitate similar requirements in tendering and contract conditions.
6. The probability of savings in time or cost in transaction through contract administration by procurement entities.

2.9.2 Procurement Unit Actions

1. Four months before the beginning of the subsequent Fiscal Year, the Head of a Procurement Entity should instruct the Ministry of Finance and the Public Procurement Authority to start preparing the annual Procurement Plan.
2. Departmental heads, units and programs should be issued with formats and contents of a procurement plan alongside a clear indication of omitted items which can be purchased in the Fiscal Year only by doing the necessary adjustments in the quantities in a supplementary budget or items within the same vote sub-head.
3. Activities such as the receiving of submissions, checking of quantities with costs, clarifications, getting responses to queries and should be compiled and incorporated in the procurement plan.

4. Procurement plans should be submitted by the head of entity for approval and review by the tender committee.
5. The procurement plan can be reviewed in relation to the service priority after the annual budget has been approved with direct collaboration of departmental heads, units, projects and programs.
6. Seek approval from tender committees by sending a compilation of completed procurement plan through the entity head.
7. After the approval of procurement plans and budgets, departmental heads, unit's projects and programs should be duly notified.

2.9.3 Heads of Department, Units, Projects and Programs

There is also an outline of responsibilities in the Public Procurement Manuals (p.30) of the Public Procurement Authority. This include the requirement of departmental heads in ensuring that annual procurement plans are prepared for their own institutions including development funded projects which will be in a separate section.

Principal stages are as follows:

1. Revision of procurement plans to identify whether it is to postpone to the next financial year any planned procurement.
2. Requirements for procurement can be identified and categorized into goods, services or works.
3. Group items of the same characteristics into lots and packages with costs and estimates of items within the same lots or packages.

4. There are sections in the procurement act that determines the procurement methods to be used according to the threshold. There should not be bulk breaking to avoid particular methods of procurement.
5. Accordingly, responsibilities for approval should be very well defined whether tender review board, entity head or entity tender committee.
6. In finishing the template for procurement, consideration with realistic timelines is vital. Consideration should also be given to the following:
 - Activities in administration
 - Time periods for service, Manufacture and Construction.
 - Dates and times for delivery
 - Completion of contract
7. The completion date that appears on the procurement plan should be the date on which the entire project will be done with.
8. There should be a response to procurement queries raised.
9. The procurement process should be guided by the approved annual procurement plan and budget.

2.10 PLAN MONITORING AND UPDATING

In the processes of implementing a project, there should be updates of the procurement plan .it should also be properly monitored to ascertain whether it conforms with what has been planned in order to make changes when required. During project execution the original procurement plan should be regularly monitored and updated. Project monitoring will also ensure that projects meet the expected output in quality and other set targets. Where there are slippages in a major contract, contract awards and deliveries may be rescheduled. All

revisions of the procurement plan should be sent to tender committees for approval every quarter of each fiscal year.

2.11 DEFINITION OF WORKS CONTRACT

The term contract is often used to refer to an agreement, consisting of the exchange of promises, which is recognized by law as giving rise to enforceable rights and obligations (Dowuona-Hammond, 2011). Pollock (1902), also states that the most popular and exact description of a contract that can be given is one which defines a contract as a promise or set of promises which the law will enforce. However, for a contract to be valid and enforceable in the legal sense, the following ingredient should be available, which are; offer, unqualified, consensus ad idem, valued consideration, intention to create lawful relations, genuine consent, contractual capacity of parties, legality of object possible performance and certainty of term.

Osei-Asibey (2011), states that in most of construction contracts, these include; The terms in the offer (Form of Tender or Bid Form), The statement of acceptance (Award Letter or Letter of Acceptance), Data and information relied on for acceptance (Submitted Tender Document), Conditions of Contract, specifications (if any), Price, time and other agreed terms (Agreement form), Drawings (if any), Basis for price (Bill of Quantities) and Securities.

However, in construction contracts other sources of information may constitute additional terms of the contract. These may include Minutes of site meetings, Instructions of the Engineer or the Client to the Contractor, Correspondence which has the effect of giving information to the parties. An example is a letter from a Contractor for submission of Revised Work Program to the Engineer of the client.

2.12 TYPES OF WORKS CONTRACT

According to Acquaye (2011), there are three basic types of works contracts, from which other variations have been derived, to suit particular circumstances. The circumstances under which the types of contract and some of their common derivatives are used, the documentation required, and the merits and demerits of these different types, are discussed beneath.

The three basic types of works contracts, broadly defined according to the method of payments are:

- i. Lump Sum (LS)
- ii. Unit Rate (Ad-measurement or Re-measurement)
- iii. Cost Reimbursable Plus Fee

2.12.1 Lump Sum (LS)

These are also called “All-Inclusive Price” contracts, and are normally used for small, short duration, well defined and detailed works which are not subject to large quantity variations, or conditions of high risk. Examples are security posts, culverts and small bridge construction. In these cases, contract prices would normally be fixed sums (Davis et al., 2008).

Acquaye (2011), is of the assertion that, lump sum is where there is an agreement with the contractor on the contract sum before the commencement of construction. The contractor will give consent to carry out the work based on the earlier agreed sum before commencement of work. The bases for pricing in this kind of arrangement are the drawings and the bills of quantities and items inaccurately quantified can be recovered through approximate quantities of provisional sums. Care should be taken in order to keep this at a minimum.

2.12.2 Unit Rate (Ad-Measurement/Re-measurement)

With this type of contract there is an accurate determination of the contract sum on the completion of the contract and re-measured on some agreed basis.

Acquaye (2011), refer to ad- measurement contracts also as “re-measurement contracts”.

With this arrangement, for one reason or another, the contract cannot be measured before the tendering process begins. This presents the least risk in measuring contracts on the basis of drawings alongside approximate quantities (Acquaye, 2011).

2.12.3 Cost Reimbursable

With this type of contract, labour, plant and materials form an integral part of the price in addition to some fees that will cover overheads and profit.

Cost reimbursable is also termed as cost plus by Acquaye (2011), refers to Cost Reimbursable as “Cost Plus” contracts. With cost plus contracts the contractor agrees to be paid the actual costs of labor, plant and materials to undertake an undetermined amount of work in addition to payments to agreed amounts to cover overheads management and profits.

This contract type is where the contract sum is arrived at one the basis of the actual costs of labour, plant and materials, to which is added a fee to cover overheads and profit.

2.13 FACTORS AFFECTING THE CHOICE OF WORKS CONTRACT

Acquaye (2011) states some of the general factors which may affect, or influences the choice of woks contract type, are as follows:

1. The nature and complexity of the works.
2. The size and duration of the contract.
3. The degree of definite of the works and the element of risk/uncertainty.

4. The status of design.
5. The technical capability, design and supervisory resources of the Employer.
6. The financial resources available and/or budget constraints.
7. The previous experience of the Employer in a particular type of contract and
8. The practice and procedures of the associated funding agencies and the degree of compliance required with their procurement.

2.14 CHALLENGES AFFECTING PROCUREMENT PLANNING

A major challenge that affects most African countries is poor delivery of the procurement process and works. This can be attributed to the following factors:

2.14.1 Inadequate procurement personnel

Parasuraman et al. (1996) opined that there are not enough skills within government institutions. Personnel lack the necessary management, administrative, institutional and financial capabilities to meet the changing needs and situations. There is also a lack of linkage between local government authorities and tertiary institutions and decrease in trained professionals in municipal assemblies. Deficit within local government and other government agencies do not have the managerial, administrative, financial and institutional capacity to meet the rising needs of local people. This situation has resulted in shortfalls in the standards and service delivery of local authorities.

According to Russell (2004), there is a linkage between professionalism in public procurement, educational levels and qualifications of the workforce. A well educated workforce will reduce the risk of breaches to codes and conducts which can sometime be fatal.

2.14.2 Inadequate training and education on procurement planning

Enough clarity on roles to be played by procurement professionals is lacking leading to the non-identification of competent personnel for the right job (Hudson, 2008). To increase efficiency of procurement professionals, there should be a proper mapping of skills to avoid issues like failure in negotiations, premature contract management and other procurement processes.

Hudson (2008) is also of the opinion that procurement officers should be equipped with some qualities and personal traits along with some level of accountability which will in a long term be beneficial to stakeholders involved.

Due to the high level of importance attached to the quality of procurement personnel by the public procurement authority, it reports that there should be continuous training in areas such as procurement planning, contract management, procurement methods and processes to improve on efficiency and transparency. Procurement Personnel should also be wary of exhibiting a high level of integrity and uphold the image government where ever they find themselves.

In South Africa, a key limitation identified against the success of public procurement is the lack of skills and capacity of procurement personnel (Sheoraji, 2007). For a proper implementation of any process, the quality of the personnel was paramount and they should be of a high standard. Migiro and Ambe (2008) are of the view that even though there has been training for personnel in South Africa, there is still a gap in knowledge. This gap has often led to bad governance (McCarthy, 2006). Schick (2003), says “all levels of employees should be involved including the subordinates should be involved in preparation of budget so that they too can feel appreciated and acknowledged. If involved in the right way

motivation for employees will be increased.” Employees should be involved in the happenings of the organization so that they can be up to date with the daily operation of the organization. Past records used in the past will assist in consultation as they can be referred to if a similar situation arises as had in the past.

2.14.3 Non-compliance with the Public Procurement Regime

It is important for procurement practitioners to comply with the required legislative framework (ISO 10845-1 2008). Failure to do this will result in delays and court actions. Familiarity and compliance with legislative framework and social objectives is important. According to Matthee (2006), the non-adherence of procurement procedures and rules in relation to the choice of procurement methods, such as competitive method for both price quotations and tenders, and the wrong interpretation of preference point system has brought about some challenges affecting procurement compliance. Van Zyl (2006) is also of the view that lack of well-constituted tender committees, the employment of sub-standard suppliers and inappropriate application of procurement methods with reference to thresholds, validity period extensions and wrong application of restricted tendering process as some of the challenges of compliance.

2.14.4 Lack of Adequate Funding

Funding is now a major problem to most government works contracts. This is due to lack of funding to help facilitate work progress in contracts they have awarded.

In Uganda for instance local authorities are under delivering in the provision of basic services because of financial constraints. This affects the cost of provision of such services and affordability (Ahmed et al., 2005). Efforts to correct this will ensure that services can

reach the most deprived in society. Some of these financial problems are caused by late disbursement of fund and bureaucracies in the local government system payment systems.

2.14.5 Poor Performance by Some Contractors

According to the ISO Part10845-1 (2008), monitoring a project to find out if it is progressing well within time and required specifications and standards is vital. Project sites can be monitored using the following:

1. A monitoring group in the community can keep records of day to day happenings on site using a site note book. Records will help check progress of work and problems encountered on the project on a day to day basis.
2. Continuous inspection officials like the technical director and supervisors.
3. The leader of the community monitoring group should continuously go over the progress of work by the contractor against its work plan along with the works manager and technical supervisor.;
4. Intermittent progress reports submitted by the Technical Supervisor. These are required at each stage of payment, but in any case should be submitted at least one time per month.

2.14.6 Poor Contract Management

According to UNCDF (2013), the end product is important. Every expense should be spent to achieve this. This forms the basis for every contract. The success of a procurement process will be measured against this output. Works, services and goods should be delivered according to the specifications in the contract. There should not be interference in the work of a contractor so far as it is acting within the conditions in the contract. Such actions may include variations or change orders and increase or decrease in quantities. Such activities

should follow the due processes stipulated in the contract. Adequate planning, proper specification writing of the contract documents and establishment of clear roles and responsibilities are important for a successful contract management.

2.14.7 Lack of Risk Allocation

There is inherent risk in every stage of the procurement process right through pre-tendering activities like need assessment and budget planning which are aspects of procurement planning. There is always the risk of procurement officials compromising the integrity of the procurement process by not following due process such as wrong choice of procurement methods (OECD, 2007). Failure to deal with such risk will negatively affect the procurement process. With reference to the ISO Part 10845-1 (2008), states that, if the risk taken is high its reward will also be high. This presupposes that if a contractor takes a higher risk, the greater the cost it will bear; therefore contractors should assess very well the risks involved in the tendering for procurement projects. This will help in preparing to deal with such risk through some adjustments in price by both the client and the contractor. Procurement plans serves as a strategy to deal with effects of risk.

2.14.8 Lack of Review of the Procurement Processes

The absence of mechanisms to assess procurement processes is also a challenge. Political authorities lack the will to deal with the many issues raised by beneficiaries and are prone to corruption and being compromised.

Due to the complex nature of procurement, procurement entities should take regular reviews as follows:

1. Contracts meeting its intended objectives.
2. The need for modifications due to the changing needs of the contract.

3. Improvement in the procurement process for future projects.
4. Effects of factors outside the control of the organization.

The provision of feedback by will help in strategy formulation to achieve best value for money (ISO Part 10845-1 2008).

2.14.9 Misprocurement

In order for donor agencies like the World Bank to approve procurement expenditures, it should follow approved processes and guidelines set out in agreements and the procurement plan. Going contrary to these provisions will warrant the declaration of misprocurement by the World Bank. This will lead to the cancellation of the loan allocated for the procurement of goods, works and services even after obtaining a no objection from the bank.

In such cases, the Bank will declare misprocurement, and it is the policy of the Bank to cancel that portion of loan allocated to the goods, works or services that have been misprocured.

Even once the contract is awarded after obtaining a “no objection” from the Bank, the Bank may still declare misprocurement, when the lay down procedures are not followed according to the Bank’s procurement procedures. According to Johan (2006) politicians and senior democrats violate laid down rules to satisfy their selfish interest.

2.14.10 Poor Identification and Implementation of Procurement Methods

It is a prerequisite for local governments to ensure judicious use of their resources. Proper financial management can help achieve this aim. Corruption and, mismanagement of finances has become quite common with local government administrations which have led to the poor delivery of social services.

2.15 PROCUREMENT METHODS

Procurement methods are processes by which procurement tasks are performed. There are provisions in the procurement act of Ghana (Act 663) to guide public sector procurement in Ghana. The methods are often guided by financial thresholds and regulations. Schedule 3 of the procurement act (Act 663) of Ghana stipulates what procurement entities should follow. Procurement entities follow requirements that are based on competition.

2.15.1 Competitive Tendering

Competitive tendering using International Competitive Tendering (ICT) or National Competitive Tendering (NCT) is the most liked procurement method used alongside other methods with some limitations found in the provisions in Part IV of the Public Procurement Act 2003, (Act 663).

ICT is the procurement method, in which both international and national construction firms are invited to submit Tenders, through open tendering. The criteria for selection meet the international requirements (Acquaye, 2011). Acquaye, (2011) further explained NCT as the procurement method, in which only national or local firms are invited to submit Tenders, through open tendering. The criteria for selection meet only national or local requirements. And any International firm wishing to tender, has to meet the national requirement. This International firm must be duly registered in the home country of the procuring entity or majority of the company shares must be owned by a national of the procuring country to make the company valid to participate in NCT.

2.15.2 Restricted Tendering

This procedure requires the targeting of tenderers who meet a set qualification criteria usually limited between three and six in number. Procurement entities must seek approval from the public procurement authority before they apply this method. .Restricted Tendering is the procurement method, in which a limited number of Contractors, (usually between three and six), are invited to submit Tenders, through closed tendering, after it has been approved by the Public Procurement Authority. Sections 38 and 39 of the Public Procurement Act, (2003), deal with Restricted Tendering and Procedures for Restricted Tendering respectively. After the receipt of approval, the Procurement Entity invites the approved Contractors to submit tenders, by Letters of Invitation. Thereafter, all the processes required in open competitive Tendering are applied.

2.15.3 Two-Stage Tendering

This process requires the invitation of tenderers to submit proposals which are technical in nature or relating to quality and other characteristics without reference to cost. Qualified tenderers are negotiated with in accordance to any part of the tender. The next stage will involve calling on qualified tenderer to submit final tenders which will include price with some revision in scope. Evaluation is then done using price, quality or a combination of both.

2.15.4 Single Source Procurement

According to the PPA (2003), this type of procurement requires approval from the public procurement authority. Single source procurement or direct procurement involves acquiring goods, services and works from suppliers without competition. It may be applied considering the following factor:

1. Urgent and emergency situations where the use of other procurement methods are impracticable.
2. Where due to technical, physical or policy reasons, a particular procurement need can be satisfied by only one supplier.
3. When there is an important national security concern (non-economical) .

2.15.5 Request for Quotation (RFQ)

This type of procurement method involves the comparing of price quotations from at least three different suppliers to develop competition. Request for proposals is also referred to as shopping and can be applied when:

1. Procuring goods that are low in value and can be conveniently found with standard specifications. Schedule 3 of the procurement Act contains the threshold and value that require the use of request for quotations.

2.16 FACTORS THAT INFLUCENCE THE CHOICE OF PROCUREMENT METHOD

There are several factors that can aid in the choice of a particular procurement method. This include; an agreement between the procurement entity with funder or do` nor, financial thresholds level as stipulated in schedule 3 of the procurement Act, costs associated with going through a particular method or process, its impact on price, the particular time of the procurement cycle, currency constraints: currency of exchange whether local or foreign, required quantity, the size and pool of suppliers available and concerns with quality (Acquaye, 2011).

2.17 REVIEW AND APPROVAL OF EVALUATION REPORT

Specific stages have been outlined for review and approval in the Public Procurement Manuals for works procurement. It states the authority which undertake reviews;(Head of Procurement Entity, Tender Committee, District, Regional, Ministry or Central Tender Review Board)which reviews evaluation reports. They also address concerns raised by tenderers which border on the procurement process before making any approvals. The review authority may reject a report and order for retender when there are complaints of serious breaches that affect the integrity of the procurement process. The actions of a review body should be guided by the following:

The Review Body will:

1. Test that the evaluation and recommendations are accurate and represent a true state.
2. Check that acceptable prices are recommended; seek justification for price increase especially in situations where the lowest evaluated responsive tender is higher than the original estimated cost. Tenders can be cancelled, re-advertised or the scope of work can be changed when the price is unreasonable.
3. Flaws and inaccuracies in tenders can be serious grounds for the rejection of the evaluation report which will then be sent back for corrections and resubmission.
4. Minutes of meetings should be taken and should contain all discussions and decisions of the review authority.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This section evaluates the road map on how relevant data for achieving the objectives of the research was obtained. It covers areas such research design, research style, research approach, sampling and sampling techniques, which will include sampling frame and sample size study population, sampling design, sampling method, sampling procedure and sample size, strategies for determining sample size, sources and methods of data collection, data analysis, and presentation of data by the researcher.

3.2 RESEARCH DESIGN

The research applied correlational research design which involves quantitative research; it is concerned with conditions and relationships that exist. It also seeks to investigate possible relationships among variables without trying to influence those variables and it is interested in the degree of relationship between the variables. According to Lincoln and Guba (1985), often quantitative methods are characterized by assuming that there is one truth that is independent of human observation. Quantitative research is used to describe the variances between the variables and aid examine the findings, to assist the researcher come up with conclusions and put forward recommendations for implementation in the roads sector of Ghana on effective procurement planning; as a tool for the timely delivery of works contract.

3.3 RESEARCH STYLE

According Cavaye (1996), a study that seeks to investigate a predetermined phenomenon, but invariably does control or tamper with the variables: the ultimate aim is to have a total understanding of a phenomenon and its context is the case study research. This type of study naturally combines data collection techniques such as: questionnaires, observations, interviews, and document and text analysis. Benbasat et al., (1987, p.369) assert that, in situations where a particular study or theory are at their early stages, the case study research is very useful in conducting the research.

The research used the case study style to design its approach. This was to aid the research to gain a better understanding of the study and the processes that have been put in place (Morris and Wood, 1991). Saunders et al. (2007), also support the claim that case study has the some quantum of ability to create answers to questions such as why, as well as what, and how. Finally, case studies used in the analyses of policies, institutions, event decisions, and other systems that are holistically studied by single or several methods (Thomas, 2011).

3.4 RESEARCH APPROACH

Quantitative research uses the post-positivist approach, is one in which the first researcher makes claim for the development of knowledge that is (cause and effect thinking, reduction of specific variables and assumptions and questions, the use of measurement and observation, and test theories). Quantitative research utilize strategies of inquiry such experiments and investigations, and collects data on certain instruments that provide statistical data (Creswell, 2003).

3.5 SAMPLING AND SAMPLING TECHNIQUES

The target population for the study was Civil Engineers and Quantity Surveyors drawn from the Ghana Highways Authority (GHA) Development Department. The Development Department was the main study unit for this research which superintends over all planning, acquisition or procurement and developmental issues undertaken by the GHA.

The sampling technique was the purposive sampling, which was to aid in the identifying the total number for respondent for the study. The purposive sampling technique was used to assist in identifying the total number for respondents for the study. This technique for sampling has also been referred to as non-probability sampling or qualitative sampling. With reference to the above sampling technique the method involved in the selection of cases or units for the study was based on a specified purpose rather than random (Tashakkori & Teddlie, 2003a, p.713).

3.6 SAMPLING FRAME AND SAMPLE SIZE OF THE STUDY POPULATION

The targeted population for the study was civil engineers and quantity surveyors of the Development Department. They were specifically selected from three divisions which include: Planning, Contracts and Quantity Surveying. A sample size of 46 participants or respondents out of 56 of the entire population was selected. This sample size is the core population actively involve with acquisition and planning in the GHA. For purposive sampling, a sampling, a sampling frame is a resource from which you can select your smaller sample (Mason, 2002, p.140).

Table 3.1: The Number and Category of Respondents

Division	Category of Respondent	Study Population	Sample Size
Planning	Civil Engineers	15	13
Contract	Civil Engineers	27	21
Quantity Surveying	Quantity Surveyors	14	12
Total		56	46

Source: Primary Data

3.7 SAMPLING DESIGN AND PROCEDURE

The sampling procedure used was the purposeful sampling. This sampling method reveals to the researcher the various types of participants or respondents who have the requisite experience to partake in the study to be executed. The Civil Engineers and Quantity Surveyors were selected from three divisions on the basis of their affiliation with the Development Department. The selection was based on the participants having the needed data and expertise, that is procurement planning.

3.8 STRATEGIES FOR DETERMINING SAMPLE SIZE

The sample size for both civil engineers and quantity surveyors were determined based on Yamane's formula (Yamane, 1967).

$$n = \frac{N}{1 + N(e)^2}$$

Where, n = the sample size

N = the size of population

e = the level of precision

3.9 SOURCES OF DATA

Both primary and secondary data were used for the research. Questionnaires were used to collect the primary data or first-hand information from the field, while published sources such as textbooks, magazines, journals, manuals, internet and thesis from Kwame Nkrumah University of Science and Technology E-library among others.

The study was executed using both the primary and secondary information. Primary information is information collected directly from first-hand experience. Although, it was expensive in compiling the primary data to carry-out the research, cost was incurred in the production of questionnaires. The questionnaires were designed in a manner to fit within the scope of the researcher, nature of study, duration and goal of the research.

Secondary information is a published data and data collected is in the past. It helps to save time and make the primary data more specific for the collection of secondary data; researchers are able to determine what are the gaps and deficiencies. This data was collected from publications, journals, books and few internet searches.

3.10 METHODS OF DATA COLLECTION

Both open-ended and closed questions were used by the researcher. 46 questionnaires were distributed to respondents. The questionnaires given to respondents were solely answered and collected by the researcher. This helped to obtain the required data. The questionnaire allowed the researcher to get the study group to answer to the same set questions (Bernard, 2000). In designing the questionnaire, care was taken to ensure that the questionnaire addresses the needs of the research. The questionnaire was divided into four Section: A, B, C, and D. The sections captured respectively, the Demography Information of Respondents, Current Procurement Planning Practices in the Roads Sector and Compliance to the

Procurement Act (Act 663), Challenges that Hinder Effective Procurement Planning, and Procurement Planning Factors that Enhance Timely Delivery of Works Contract respectively. Section A was included in order to ascertain the reliability or credibility of the responses that will be given from the participants

3.11 VARIABLES MEASUREMENT

The study adopted a 5-point Likert scale which was used to rank responses on the current procurement planning practices, factors and challenges to effective procurement planning in the questionnaire. Respondents were asked to rank the variables on a scale ranging from strongly agree (5) to strongly disagree (1).

3.12 DATA ANALYSIS AND PRESENTATION

The data collected was processed and analyzed using Statistical Package for Social Science (SPSS 17.0) in order to come up with descriptive data analysis which includes frequencies, percentages, means and standard deviations for quantitative analysis. Two Microsoft applications (Word and Excel) were used to create tables and charts so as to clearly present the findings for qualitative content analysis.

3.12.1 Relative Importance Index (RII)

Relative Importance Index (RII) method was used to determine the relative importance of each of the factors and impacts identified. The five-point scale ranged from 1(strongly disagree) to 5 (strongly agree) was adopted and transformed to relative importance indices (RII) for each as follows:

$$RII = \frac{\sum W}{A * N}$$

Where

RII = Relative Importance Index

W = is the weighting given to each factor by respondents ranging from (1 to 5)

A = highest weight (i.e. 5 in this case)

N = Total no. of respondents

The RII value had a range from 0 to 1 (0 not inclusive), higher the value of RII, more important was the factor or impact affecting the pre-project planning process.

The RII was used to rank the different factors affecting the pre-project planning process. To make it easy to cross-compare the relative importance of the factors anticipated by the participants of the study rankings were used.

3.12.2 Kendall Rank Test

Kendall rank test was also conducted to assess the reasons for the adoption and non-adoption of effective procurement planning in works contract. Kendall's coefficient of concordance (W) measures the agreement among several (p) participants who are examining a given set of (n) objects. In this study, the judges or respondents were the civil engineers and quantity surveyors assessing their perceived understanding of the procurement plan and confirm how the plan can help deliver timely works contract in the roads sector. The "W" statistic was obtained from the formulas below:

$$W = \frac{12S}{p^2(n^3 - n) - pT}$$

Where n is the number of objects, p the number of judges. T is a correction factor for tied ranks (Siegel 1956, p. 234). It was estimated with the aid of the non-parametric test of K-related sample which gave the various mean rank values attached to the perceived reasons. It also provided the Kendall's W , which is their agreement level and the associated p -value. The significance of the P -value indicates that the judges are in concordance or agreement.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 INTRODUCTION

This section of the study illustrates the collated data, and analyses the data to address the specific objectives. The major areas the chapter discusses include socio demographic information of the respondents, the current practices of preparing procurement plans in the Roads Sector, the challenges that serve as hindrance to effective Procurement Planning and the procurement planning factors that enhance timely delivery of contract works at GHA.

4.2 SOCIO DEMODRAPHIC CHARACTERISTICS

The socio demographic characteristics of the surveyed respondents of GHA are examined in this section of the study. The major socio demographic information discussed included respondents current level of education, experience with current organisation, professional background, and division of work, years of experience with the current department, the respondent's present position and the years of holding the current position. The socio demographic result is presented in Table 4.1.

Table 4.1: Socio demographic information

Socio Demographics	Frequent	Percent
Current level of education		
Diploma	2	6.7
First degree	27	90.0
Master degree	1	3.3
Total	30	100.0
Experience with current organization		
1-5 years	18	60.0
6-10 years	8	26.7
11-15 years	3	10.0
16 years +	1	3.3
Total	30	100.0
Professional background		
GhIS	9	30.0
GhIE	20	66.7
GIOC	1	3.3
Total	30	100.0
Division of work		
Quantity surveying	10	33.3
Contracts	10	33.3
Planning	10	33.3
Total	30	100.0
Years of experience with the current department		
1-5 years	18	60.0
6-10 years	8	26.7
11-15 years	4	13.3
Total	30	100.0
Respondents present position		
Junior staff	2	6.7
Senior staff	26	86.7
Management staff	2	6.7
Total	30	100.0
Years of holding the current position		
Less than 1 year	3	10.0
1-5 years	21	70.0
6-10 years	5	16.7
11 years +	1	3.3
Total	30	100.0

Source: Field Survey, 2015

The result of the Table (4.1) shows that the current level of education of the majority (90.0%) of the surveyed respondents of GHA was first degree. However, 6.7% and 3.3% of the respondents also indicated that their current level of education is diploma and master's degree respectively. The majority (60.0%) of the surveyed respondent of the study have been in their current organisation for 1 to 5 years, whereas 26.7% have been in their current organisation for 6 to 10 years. however, 10.0% and 3.3% of the surveyed respondents have also been with their current organisation for 11 to 15 years and more than 16 years respectively. the majority of the surveyed respondents have a professional background of GhIE, whereas 30.0% of the respondents also have a professional background of GhIS. The remaining respondent of the survey however have a professional background of GIOC.

The result of the Table (4.1) further shows that 33.3% of the surveyed respondents of the study were in the division of quantity surveying, 33.3% were in the division of contracts and the remaining 33.3% were also in the division of planning. This therefore implies that the study sample had equal representation from three divisions of GHA including quantity surveying, contract and planning. The majority (60.0%) of the respondent have been working in the current department for 1 to 5 years. However, 26.7% and 13.3% have also been working in the current department for 6 to 10 years and 11 to 15 years respectively. This therefore shows that none of the surveyed participants have worked at their current department for more than 15 years.

The result of the Table (4.1) shows that the majority (86.7%) of the participants in their current position were senior staffs, whereas 6.7% were junior staffs. However the remaining respondents of the study were management staff in their present positions. The majority of

the surveyed respondents have been holding the current position for 1 to 5 years, whereas 10.0% have been holding the position for less than a year. However, 16.7% and 3.3% of the surveyed respondents have been holding their current position for 6 to 10 years and more than 11 years respectively.

4.3 Current practices for preparing procurement plans in the Roads Sector

This section of the study assesses the current procurement practices of GHA in preparing procurement plans. The result of this section of the study is presented descriptively as shown in Table 4.2.

Table 4.2: Procurement planning practices

Procurement Planning Practices	N	Minimum	Maximum	Mean	Std. Dev.
The head of GHA instructs the development of annual procurement plans in accordance with the Public Procurement Act 2003, Act 663.	30	1	3	4.40	0.621
The GHA prepares its procurement plans to support its approved programme and the plan indicates: contract packages, estimated cost for each package, the procurement method, and processing steps and times.	30	1	3	4.43	0.568
The GHA submits its procurement plans for the following year for approval to Tender Committee, latest one month to the end of the financial year.	30	1	3	4.13	0.776
The GHA submit updates of its procurement plans, at quarterly intervals after the approval of budget.	30	1	3	4.00	0.587
The GHA sends to the Tender Review Board, its procurement notices for contracts and procurement plans above the thresholds stipulated in Schedule 3 for publication in the Public Procurement Bulletin.	30	1	4	4.23	0.679
GHA divides procurement into parts or lower value of procurement in order to avoid the application of the procedures for public procurement in the Act.	30	2	5	3.30	0.988

Rank: [1-Strongly Disagree, 2-Disagree, 3-Not Sure, 4-Agree, 5-Strongly Agree]

Source: Field Survey, 2015

The result of table (4.2) shows that the surveyed respondents agreed with the statement that the head of GHA instructs the development of annual procurement plans in line with the Public Procurement Act 2003, Act 663 as shown by the mean response value of 4.40. The mean response value of 4.43 also shows that the respondents agreed with the statement that the GHA prepares its procurement plans to back its authorized plans and programme to indicate: package of contract, budgeted cost for a package, the method of procurement, and preparation steps and lead times. The mean response value of 4.13 also shows that the bulk of the respondents agreed to the statement that the GHA submits its procurement plans for the following year for approval to Tender Committee, latest a month to the close of the fiscal year.

The result of the table (4.2) further shows that the majority of the respondents of the study agreed with the statement that the GHA submit updates of its procurement plans, at quarterly intervals after the approval of budget as shown by the mean response value of 4.00. The mean response value of 4.23 also shows that the surveyed respondents agreed with the statement that the GHA sends to reviewing authority, its contracts notices and procurement plans which are above the stated thresholds in Schedule (3) of (Act 663) for display in the bulletin of the Public Procurement Authority. However, the mean response value of 3.30 indicates that the surveyed respondents were not sure whether GHA divides its works procurement into lower lots of value, in order to bypass or circumvent the application of the provisions of the law (Act 663). It can therefore be concluded from the responses that the GHA predominantly adheres to the legal framework of the Public Procurement Act, 2003 (Act 663).

Other procurement procedures practiced by GHA that are in line with the Public Procurement Act, 2003 (Act 663), include the World Bank’s procurement procedures and the European Union (EU) procurement procedure.

4.4 Challenges that serve as hindrance to effective Procurement Planning

This section of the study identifies the challenges of effective procurement planning experience by GHA. To achieve this objective, the respondents were presented with a list of 10 constraints usually reported in the literature as hindering efficient procurement planning. The task of each respondent was to rank the problems based on their agreement with listed challenges as hindering the effective procurement planning of GHA. The table 4.3 displays the mean ranks and by extension, the ranks of the problems as adjudged by the respondent of GHA.

Table 4.3: Challenges of effective procurement planning

Challenges	Mean Rank	Rank
Lack of adequate funding	7.38	1 st
Poor performance by some contractors	6.53	2 nd
Lack of review of the procurement processes	6.50	3 rd
Poor Contract Management	6.10	4 th
Lack of risk allocation	6.05	5 th
Misprocurement	5.90	6 th
Inadequate training and education on procurement planning	5.63	7 th
Poor identification and implementation of procurement methods	5.55	8 th
Non-compliance with the Public Procurement Act, 2003 (Act 663)	3.35	9 th
Inadequate procurement personnel	2.00	10 th

Source: Field Survey, 2015

The result of Table (4.3) was obtained following the non-parametric test for k-related samples in SPSS 17. The level of agreement between the 30 respondents sampled from GHA was tested using the Kendall's coefficient of concordance since there are more than three judges or respondents.

The result of table (4.3) shows that the nine major challenges of effective procurement planning at GHA include: (1) Lack of adequate funding (RII = 7.38); (2) Poor performance by some contractors (RII = 6.53); (3) Lack of review of the procurement processes (RII = 6.50); (4) Poor Contract Management (RII = 6.10); (5) Lack of risk allocation (RII = 6.05); (6) Misprocurement (RII = 5.90); (7) Inadequate training and education on procurement planning (RII = 5.63); (8) Poor identification and implementation of procurement methods (RII = 5.55); and (9) Non-compliance with the Act 663 (RII = 3.35). This finding is also consistent with the study of Ahmed (2005) and Asamoah (2014) that suggests that one of the critical challenges of effective procurement planning practices is funding of the process. Furthermore, Al-Bahar and Crandall (1990) also assert that poor performance of some contractors also impedes effective planning of procurement practices.

However, the least ranked challenge of the effective procurement planning of GHA is perceived by the respondents as inadequate procurement personnel with the least mean rank of 2.00. Other challenges also revealed to impede effective procurement planning practices include lack of effective strategic plan and the influence from politicians in the roads sector wanting to bend the procurement rules. The major impediment to the implementation of the procurement process and its reforms are the interference by politicians. A good number

of them think they have the right to circumvent the procedural law, thereby making capricious procurement decisions (World Bank, 2014).

Table 4.4: Kendall's Coefficient of Concordance

Test statistics	
N	30
Kendall's W ^a	.631
Chi-Square (χ^2)	116.291
Degree of Freedom	9
Asymp. Sig.	.000
a. Kendall's Coefficient of Concordance	

Kendall's coefficient of concordance (W^a), testing the null hypothesis that there is no agreement among the participants with respect to how constraining the inventory of problems affect effective procurement planning was rejected at a 1% significance level as shown in Table 4.4. The degree of unanimity as measured by the W-statistics is about 63% since the score is zero for random ranking and 1 for perfectly unanimous ranking. The respondents of the study therefore, can be said to unanimously agree that the most constraining factors to efficient procurement planning at GHA are more related first to funding and secondly to the poor performance by some contractors and then to lack of risk allocation. In support of this finding, the annual report of the NPPA (2005) recommends inter-alia that, the procurement laws can achieve its core objectives when there is a collective effort by actors in the procurement process, with the full backing of political will and adequate budgetary funding.

4.5 Procurement Planning Factors that Enhance Timely Delivery of Works Contract

This section of the study examines the procurement planning factors enhances timely delivery of works of contract at GHA. To achieve this objective, a list of six (6) factors were presented to participants to indicate their level of agreement to them as key factors that enhances timely delivery of contract works. The responses of the respondents were analysed using the Relative Importance Index (RII) to indicate the relative importance of each factor in terms of enhancing timely delivery of contract works. The Table 4.5 therefore presents the responses; the weight attached to each factor and their respective RII values and by extension the rank of each factor.

Table 4.5: Effective procurement planning to ensure timely delivery of works contract

Factors	Responses					RII		
	1	2	3	4	5	Weight	RII	Rank
Financial Thresholds	0	0	4	15	11	127	0.847	1 st
The choice of contract type	0	2	2	16	10	124	0.827	2 nd
Timescale schedules for procurement planning	0	0	2	22	6	124	0.827	2 nd
Procurement method to be employed	0	2	2	17	9	123	0.820	4 th
Right review and approval processes	0	1	3	20	6	121	0.807	5 th
Duration for completion of contract	0	3	8	14	5	111	0.740	6 th

Rank: [5-Strongly agree, 4-Agree, 3-Not sure, 2-Disagree, 1-Strongly Disagree]

Source: Field Survey, 2015

The result of table (4.4) shows that the key procurement planning factors that enhances the timely delivery of contract works included: (1) Financial Thresholds (RII = 0.847); (2) The choice of contract type (RII = 0.827); (2) Timescale schedules for procurement planning (RII = 0.827); (4) Procurement method to be employed (RII = 0.820); (5) Right review and approval processes (RII = 0.807); and (6) Duration for completion of contract (RII = 0.740)

in that order of ranking. In fact, all procurement activities in the road sector are expected to be within a defined financial threshold as described the Public Procurement Act, 2003. Moreover, the choice of contract and destructions or delays in the timescale schedules for procurement planning affects the planning processes and hence its effectiveness in ensuring timely delivery of construction projects under a defined timeframe and contract.

The listed procurement planning factors are perceived by the surveyed respondents to enhance timely delivery of contract works of GHA as all factors produced RII values greater than the minimum importance threshold index of 0.700.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter presents the findings summary of the study, draws conclusions based on the key findings and also makes recommendations and suggests areas for further study.

5.2 SUMMARY OF FINDINGS

The study sought to investigate the effectiveness of procurement planning as a tool for the timely delivery of works in the Roads Sector in Ghana by looking into: (1) the current practices of preparing procurement plans in the Roads Sector; (2) identify the challenges that serve as hindrance to effective Procurement Planning; and (3) propose effective procurement planning to ensure timely delivery of works contract in the Roads Sector. With regard to these earmarked objectives, the findings are discussed in subsections below.

5.2.1 Current practices of preparing procurement plans in the Roads Sector

It evident from the study, the current procurement planning practices of the GHA is in line with the legal framework of Act 663. To begin with, the head of GHA instructs the development of annual procurement plans in accordance with the Act. The GHA also prepare its procurement plans to back its authorized plans and programme to indicate: package of contract, budgeted cost for a package, the method of procurement, and preparation steps and lead times. Furthermore, the GHA submits to Tender Committee its procurement plans to be authorized for the preceding year, latest a month to the close of the fiscal year and updates its procurement plans, at quarterly intervals after the approval of

budget. The study further revealed that the GHA sends to reviewing authority, its contracts notices and procurement plans which are above the stated thresholds in Schedule (3) of (Act 663) for display in the bulletin of the Public Procurement Authority. However, the GHA do not divide its works procurement into lower lots of value, in order to bypass or circumvent the application of the provisions of the law (Act 663).

5.2.2 Challenges hindering effective procurement planning

The major challenges revealed by the study to impede effective procurement planning of GHA included lack of adequate funding, poor performance by some contractors, lack of review of the procurement processes, poor contract management, lack of risk allocation, misprocurement, inadequate training and education on procurement planning, poor identification and implementation of procurement methods and non-compliance with the Public Procurement Act 2003, (Act 663).

5.2.3 Measures to ensure effective procurement planning to ensure timely delivery of works contract

The major procurement planning factors that enhances timely delivery of contract works of GHA included financial thresholds, the choice of contract type, timescale schedules for procurement planning, procurement method to be employed, right review and approval processes, and duration for completion of contract.

5.3 CONCLUSION

From the research, it can be concluded that the procurement planning practices of GHA are highly in conformity with the legal framework of the Public Procurement Act 2003, (Act 663). The Chief Executive Officer of GHA instructs the development of annual procurement plans in reference with the Procurement Act of 2003, (Act 663). GHA further prepares its procurement plans to back its authorized plans and programme to indicate: package of contract, budgeted cost for a package, the method of procurement, and preparation steps and lead times. GHA submits its procurement plans to the Tender Committee for endorsement for the preceding year, latest a month to the close of the fiscal year; and also submit updates of its procurement plans, at quarterly intervals after the approval of budget. Moreover, the GHA sends to reviewing authority, its contracts notices and procurement plans which are above the stated thresholds in Schedule (3) of (Act 663) for display in the bulletin of the Public Procurement Authority. Furthermore, the delivery of these procurement planning practices can be enhanced through financial thresholds, choice of contract type, timescale schedules for procurement planning, employment of proper procurement methods, Right review and approval processes and the duration for completion of contract.

However, the adherence of GHA to the legal framework of the Public Procurement Act, 2003 is not without numerous challenges. The major challenges confronted by GHA in ensuring effective procurement planning practices include lack of adequate funding, poor performance by some contractors, lack of review of the procurement processes, poor contract management, lack of risk allocation, misprocurement, inadequate training and education on procurement planning, poor identification and implementation of

procurement methods. Based on these conclusions, several imperative recommendations have been made in the subsequent section.

5.4 RECOMMENDATIONS

Based on the fact that the study perceives that timely delivery of contract works in the road sector can be ensured through financial threshold, choice of contract type, timescale schedule for procurement planning, right review and approval processes; the study proposes several imperative recommendations that could remove the bottlenecks that impede the effectiveness of the procurement planning practices of the firms in the road sectors.

5.4.1 Provision of adequate funding

Based on the finding that the most challenging factor hindering the effective procurement planning practices in the Road Sector in Ghana is related to funding adequacy, it is imperative that organisations in the sector provide adequate and sustainable funds to ensure that the six key steps in the procurement planning phase including requirement, requisition, solicitation or selection, contract administration, and closeout are all carried out effectively to achieve higher project performance.

5.4.2 Review of the procurement processes

Furthermore, based on the finding that lack of procurement review processes impedes the effectiveness of the procurement planning practices of the institutions in the Road sector, the procurement processes should be frequently reviewed, probably quarterly as stated in the Act

663 Section 21(3) to remove all forms of challenges and bottlenecks to ensure effectiveness of the planning process.

5.4.3 Proper Contract Management

Based on the finding that poor contract management impedes effective procurement planning practices of institutions in the road sector, there is the need for proper contract management by those institutions in the sector. The proper contract management practices could include adequate delegation of authority and/or responsibility so as to ensure that financial and other approval decisions with regard to contracts are taken in time. This would help avoid delays that could increase cost and even the loss of the acquisition of contracts for project. Moreover, there is the need for effective and efficient monitoring and management of retained responsibilities due to external interference and pressures from stakeholders could lead to failure of contract management. Experienced and qualified personnel should be delegated responsibilities to ensure successful contract management. This could aid in avoiding ego clashes that could retard successful contract management. The contractor team and the project team should be should be well-equipped in terms of skills and experience to enhance contract management success. Adequate resources should be delegated to contract management. The right and qualified persons should be contracted and consulted, and adequate finance should be delegated to carrying out the bidding process.

5.4.4 Provision of adequate training and education on procurement planning

The staff of the division directly involved with procurement of the departments in the road sector should be well-equipped with adequate procurement planning training, since highly

qualified and trained personnel with the professional certification in procurement could aid in ensuring effective procurement planning practices. This can be achieved through provision of staff for the procurement units of the departments by building of capacity in the procurement profession for them to gain certification. This in turn, would ultimately help gain worth for the resources spent and transparency of process.

5.5 SUGGESTIONS FOR FURTHER RESEARCH

This study relies on perception of respondents and it is worth noting that further study can combine objective measurable and perceptual data on the Public Procurement Act 2003 compliance issues such as: the degree of open tendering procedures openly advertised; degree of contracts awarded; average number of days between invitation to bid and bid opening; percentage of responsive bids and the percentage of contracts awards publicly disclosed. This is because these metrics are very important indicators of: publicity of tender opportunities, contract award publication, duration for the compilation of bids; bid acceptance, and method of procurement which are all objective measurable indicators of compliance respectively. It could also add a sample of other kinds of judges such as suppliers or contractors; and civil society organizations concerned with corruption and transparency.

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APPENDIX 1

**KWAME NKURMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI COLLEGE OF ART AND BUILT ENVIRONMENT DEPARTMENT OF
BUILDING TECHNOLOGY**

TOPIC: EFFECTIVE PROCUREMENT PLANNING, A TOOL FOR THE TIMELY DELIVERY OF WORKS IN THE ROADS SECTOR IN GHANA

INTRODUCTION

Preamble

I am Nelson Kojo Otoo, an MSc Procurement Management candidate at the Department of Building Technology, Kwame Nkrumah University of Science and Technology, Kumasi. This research questionnaire has been designed to obtain the views of respondents based on their experience and involvement in procurement planning in relation to works contract in the Roads Sector in Ghana. The research aims at achieving the following objectives:

1. To document the current practices of preparing procurement plans in the Roads Sector.
2. To identify the challenges that serve as hindrance to effective Procurement Planning.
3. To propose recommendation that will aid in effective Procurement Planning to ensure timely delivery of works contract in the Roads Sector.

The findings of this questionnaire will be used as one of the main data sets for my thesis at the Kwame Nkrumah University of Science and Technology. Kindly respond to the questions by ticking (√) the appropriate box for each item.

Thank you for your help in conducting this research.

SECTION A: DEMOGRAPHIC INFORMATION

Please tick in the boxes provided

1. Respondents current level of education

Certificate Diploma First Degree Masters Degree Others

(Please State if other).....

2. How long have you been employed by your organization?

1-5 years 6-10 years 11-15 years 16yrs and above

3. Please indicate your professional background. Please tick as many as possible

CIPS GhIS GhIE GIOC Other

(Please State if other).....

4. Respondents division of work

Quantity Surveying Contracts Planning

5. How long have you worked in this division?

1-5 years 6-10 years 11-15 years 16years and above

6. Respondent's present position

Junior Staff Senior Staff Management Staff Other

(Please specify).....

7. How long have you held this position?

less than 1 year 1 – 5 years 6 – 10years 11 years and above

SECTION B: CURRENT PROCUREMENT PLANNING PRACTICES IN THE ROADS SECTOR AND COMPLIANCE TO THE PROCUREMENT ACT (ACT 663)

1. The following will be used: Strongly agree (SA), Agree (A), Not sure (NS), Disagree (D), and Strongly Disagree (SD)

PROCUREMENT PLANNING PRACTICES	SA	A	NS	D	SD
1 The head of GHA instructs the development of annual procurement plans in accordance with the Public Procurement Act 2003, Act 663.					
2. The GHA prepares its procurement plans to support its approved programme and the plan indicates: contract packages, estimated cost for each package, the procurement method, and processing steps and times.					
3. The GHA submits its procurement plans for the following year for approval to Tender Committee, latest one month to the end of the financial year.					
4. The GHA submit updates of its procurement plans, at quarterly intervals after the approval of budget.					
5. The GHA sends to the Tender Review Board, its procurement notices for contracts and procurement plans above the thresholds stipulated in Schedule 3 for publication in the Public Procurement Bulletin.					
6. GHA divides procurement into parts or lower value of procurement in order to avoid the application of the procedures for public procurement in the Act.					
7. In your professional practice at GHA, what other procurement planning procedures do you practices which are in compliance with the Act 663?					
a.					
b.					
c.					
d.					

SECTION C: CHALLENGES THAT HINDER EFFECTIVE PROCUREMENT PLANNING

1. The following will be used: Strongly agree (SA), Agree (A), Not sure (NS), Disagree (D), and Strongly Disagree (SD)

CHALLENGES	SA	A	NS	D	SD
1. Inadequate procurement personnel					
2. Inadequate training and education on procurement planning					
3. Non-compliance with the Public Procurement Act, 2003 (Act663)					
4. Lack of adequate funding					
5. Poor performance by some contractors					
6. Poor Contract Management					
7. Lack of risk allocation					
8. Lack of review of the procurement processes					
9. Misprocurement					
10. Poor identification and implementation of procurement methods					
11. In your professional experience, what other challenges do you opine hinder effective procurement planning at GHA, that can affect the timely delivery of works contract in Ghana?					
a.					
b.					
c.					
d.					

**SECTION D: PROCUREMENT PLANNING FACTORS THAT ENHANCE
TIMELY DELIVERY OF WORKS CONTRACT**

1. The following will be used: Strongly agree (**SA**), Agree (**A**), not sure (**NS**), Disagree (**D**), and Strongly Disagree (**SD**)

FACTORS	SA	A	NS	D	SD
1.The choice of contract type					
2.Procurement method to be employed					
3.Timescale schedules for procurement planning					
4.Right review and approval processes					
5.Financial Thresholds					
6.Duration for completion of contract					
7. In your professional practice at GHA, what other procurement planning factors do you think enhance the timely delivery of works contract in Ghana?					
a.					
b.					
c.					
d.					