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KUMASI, GHANA.**

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Procurement Methods used by the Telecommunications Companies in Ghana.

by

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A dissertation submitted to the department of Building Technology, College of Art and Built Environment in partial fulfilment of the requirement for the degree of

MASTER OF SCIENCE

November, 2016

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**DECLARATION**

I hereby declared that except from this submission is my work towards MSc. Procurement Management and that to the best of my knowledge it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the university except where due acknowledgement has been made in this text.

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## ABSTRACT

Procurement methods are part of the policies and programmes directed toward achieving effective and efficient development of a company. As an instrument for guaranteeing a company's development, when well planned and implemented, has the potency of contributing to the realization of improves resource mobilization. Thus the study sought to determine the traditional, design and construct and management procurement methods used by the telecommunication industry in Ghana. The study also determined the various procurement methods used by the telecommunication companies in Ghana. The study comprised of 20 procurement personnel from the five telecom companies using a census survey. A self-administered questionnaire was used for the collection of data used for the study. The data was analyzed using frequencies, percentages, mean, standard deviation and one-way ANOVA. The study revealed that majority of telecommunication companies uses the traditional methods of procurement often, although others do not use design and construct and management procurement method not often. However there was a significant difference among the telecommunication companies with regards to how often they used traditional, design and construct and management procurement methods. It was therefore recommended that procurement trainings, workshops and seminars should be organised for the various procurement departments so as to sensitize them of the benefits that comes with different procurement methods.

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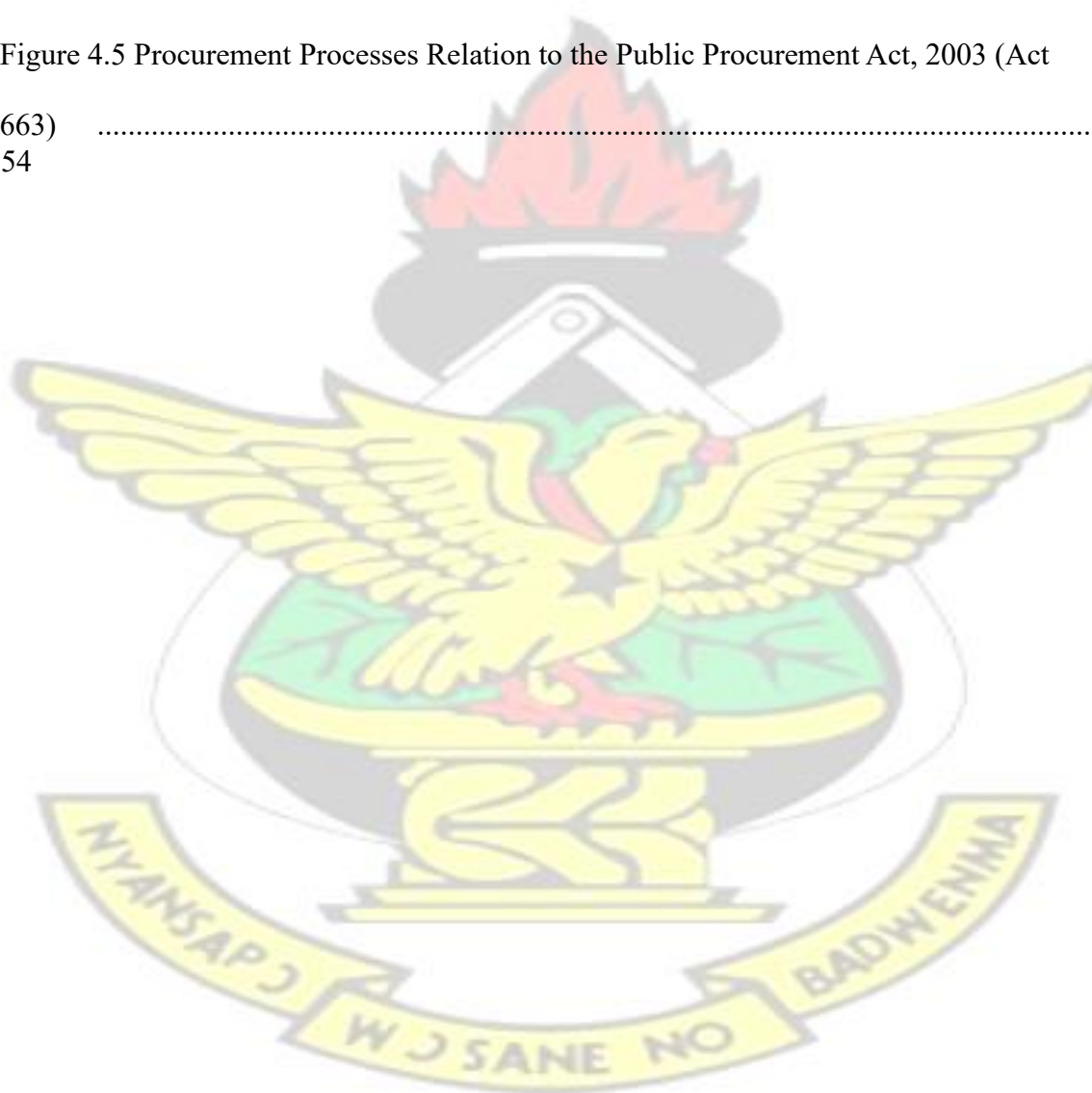
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## ACKNOWLEDGEMENT

My principal thanks goes to God Almighty for his care and guidance to produce this work.

I am very grateful to all those who helped me in diverse ways or the other to prepare this project work.

I acknowledge with gratitude and wish to express my appreciation to my supervisor Prof. Ayarkwa for careful reading, suggestions and guidance any time anywhere we needed his services.

I am particularly indebted to the telecommunication companies, Glo, Ghana, MTN Ghana, Vodafone Ghana, Airtel Ghana and Tigo, particularly their procurement personnel who made valuable suggestions, contributions and more importantly showed concerned to make this a success.

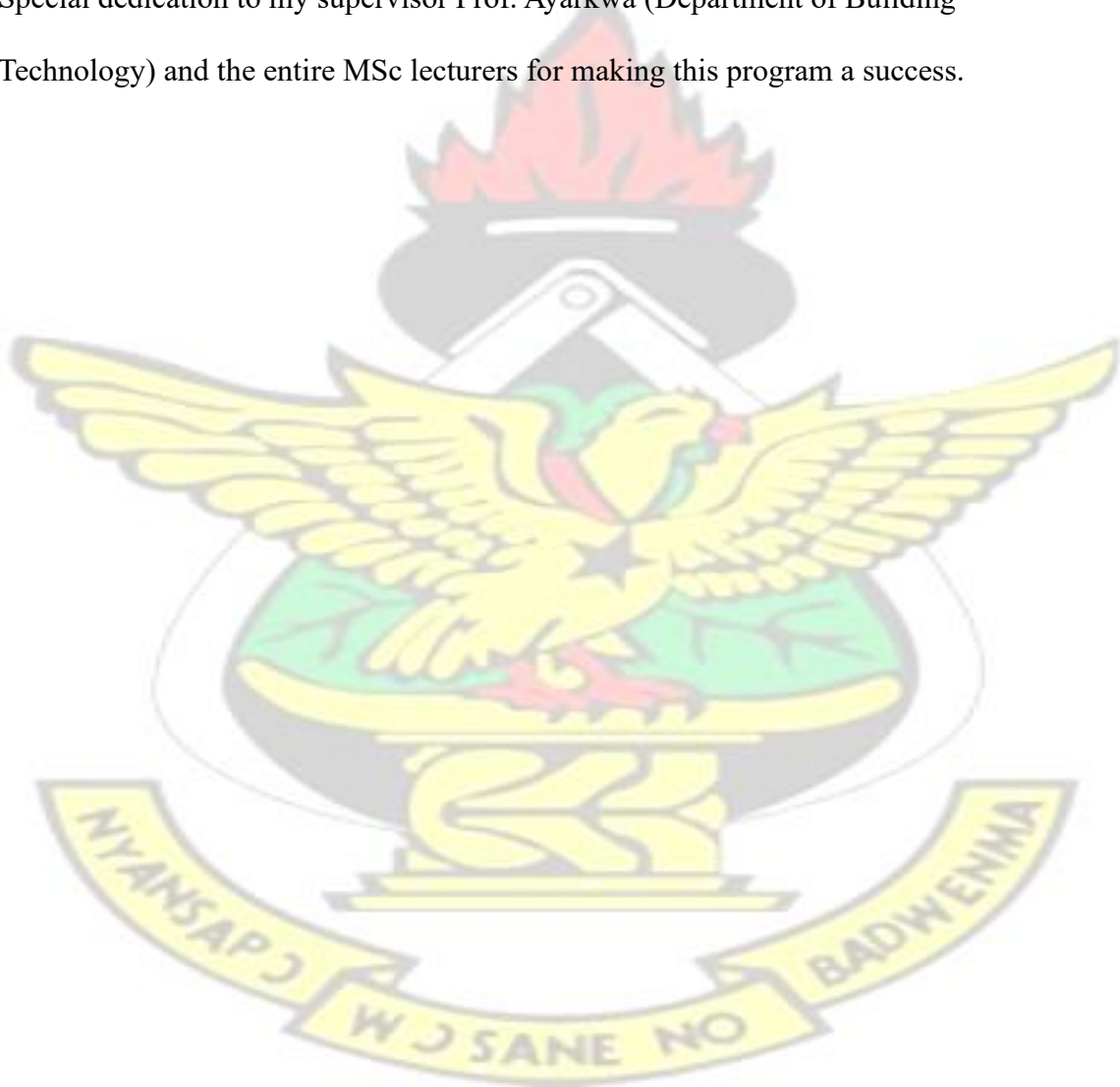
Finally, a note of gratitude and concerned must go to Miss Martha Baidoo and Prof. Ayarkwa for their moral and financial support, and to all my good friends Jacob Kofi Minta, Musah Abudu, Nana Yaw Adomako, Julien kojo Amoako, Manasseh Nyarko, Patrick Tanoeh, Bernasko Paul Siasia and Philip Kobena Brew.

I relive all the persons who contributed to this project of responsibility for any error and omissions in content because I was not wise enough to heed the sound advice they offered.

## DEDICATION

This work is dedicated to the following: My late father and mother Mr. J.Q. Amissah and Miss Naomi Agyeriba Sey, my wife Miss Martha Baidoo, my children Arnold Amissah Quainoo, Nana Banyin Amissah Quainoo and Shekhinah Agyeriba Amissah Quainoo, my brothers and sister Aaron Amissah Quainoo, Herbert Amissah Quainoo, Jude Amissah Quainoo and Ziporah Amissah Quainoo.

Special dedication to my supervisor Prof. Ayarkwa (Department of Building Technology) and the entire MSc lecturers for making this program a success.



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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND**

“The procurement sequence includes preparation, engaging proposals, choosing contractor, giving contracts, implementing and handling contracts, and concluding accounting and reviewing. Procurement is an imperative part of a company’s success and improves value and wealth formation. As objects produce the part of procurement is progressively documented as one that adds to the achievement of the business. Subsequently, the requirement for inactive procurement structure as a possible for enhanced growth, cannot be exaggerated” (World Bank, 2003).

According to Hackett et al (2007) “procurement is the procedure of acquirement of works, goods and services from outside the performing organization. Also Choi (2012) defined procurement as ‘obtaining means commencing external sellers’. ‘Procurement processes are acute to managerial entities from houses to companies, societies, and the government. Procurement is a vital action and its effective accomplishment is important to any society ‘From the practical perspective (Choi, 2012).

Procurement is the shared opinion of agreement for divisions in any association as well as dominant source for business understanding of gaining of goods and services. Real procurement sections of an institute function on a company misunderstanding view point. They assess the ‘entire cost ownership’ of produces, if a tough produce though less ening active provision costs. Procurement delivers support in formative alternate attainment and payment methods. Procurement purposes a mass and examine past information to offer chances, adjustment of goods and services and device valuing contract for goods and services founded on capacity or effectiveness, and corporate-wide facilities agreements.

They deliberate matters such as permanency of things and forth coming redistribution of chattels, and transport steadiness due to thoroughness features and lawful submission for obtaining and recording necessities” (Allair, 2005).

“Today, many professionals have echoed the need for instituting procurement systems in the telecommunication companies. The procurement function in the telecommunication companies has experienced important modifications in new ages and improves procurement presentation. (Dimitriades and Maroudas, 2007; Macbeth & Ferguson, 1994) which in turn has a straight influence on the positive distribution of developments and services, comprehensive economic managing by attaining value for money in administration, corporate and personal spending, decreasing exploitation and positive private segment development and stock through proper procurement methods.

The choice of the suitable procurement technique is acute for both the client and other project participants; it is a factor that underwrites to the whole client’s satisfaction and project accomplishment. This choice is reliant on numerous influences such as time, cost and quality which are extensively measured as the important standards for clients looking for to attain their end product at the bottom rate and in the shortest time” (Hackett et al., 2007). The reality of an extensive diversity of procurement systems obtainable to project designers on the market nowadays has result to numerous contrasts being made on how the procurement approaches helps achieve the best result.

## **1.2 STATEMENT OF THE PROBLEM**

Procurement processes employed by the telecommunication industry as Brook (1998) advocated has widely been criticized but continues to be used. However, despite the laudable benefits that come with procurement, the application of certain methods is riddled with issues (Schneider, 2001). These issues comprise postponements in obtaining goods,



works and services for projects as a result of the numerous approval levels, inability of administrations to secure quality goods, works and services, as well as values and so on. The situation is no different in Ghana. Most studies in Ghana have focused primarily on the public sector and its associate procurement characteristics. However, the procurement method used by the telecommunication industries in Ghana is missing from literature. In an attempt to close this gap, the thesis current looks at the procurement methods used by the telecommunication industry in Ghana.

### **1.3 AIM OF THE STUDY**

The aim of this research is to ascertain the various procurement methods used by the telecommunication industry in Ghana.

### **1.4 RESEARCH QUESTIONS**

In order to accomplish the above objectives the resulting study questions will be asked:

1. What are the various procurement methods employed by the telecommunication companies in Ghana?
2. What are the challenges encountered in the use of procurement methods within telecommunication industry in Ghana

### **1.5 OBJECTIVES**

The study will seek to achieve the following objectives:

1. To identify the various procurement methods employed by the telecommunication companies in Ghana
2. To identify the challenges encountered in the use of the procurement methods.

## **1.6 JUSTIFICATION OF THE STUDY**

This study is important since it would add to understanding and development of literature in the topic extent in examination; and assist also as a source for further study. It would also provide framework for ensuring effective procurement methods in the telecommunication industry so as to enhance good corporate investments through transparency and accountability. It is expected that the study would help the stakeholders in regulating procurement activities of the telecommunication networks in the area of efficient procurement practices. It would also influence national and corporate procurement policies which would be of relevance to other public institutions and would also serve as a guide on what strategies to adopt in efficient procurement practices.

## **1.7 SCOPE OF THE STUDY**

The study seeks to identify the various procurement methods employed by the telecommunication companies in Ghana and also identify the challenges that encountered in the use of procurement methods. The focus of this research was limited to five telecommunication networks in Ghana. Therefore, this study narrowed its scope to procurement personnel working at Tigo Ghana, Vodafone Ghana, Airtel Ghana, MTN Ghana and Glo Ghana. The study covered both male and female procurement persons with no restrictions to their ages as well as their work experience. The subjects (procurement persons) identified for the study were all selected by way of census. All the data for the study were gathered on the premises of the selected subjects and as such the data were gathered using a well-designed questionnaire.

## **1.8 RESEARCH METHODOLOGY**

The research adopted a quantitative method. A critical review of the germane literature was conducted to discover the theoretical paradigms underpinning procurement processes of telecommunication industry. This served as a guide to the areas needing critical attention as well as the factors to consider in the design of questionnaires so that credible responses could be obtained.

Telecommunication companies precisely in the Greater Accra Region were purposively selected as cases for the study. Based on the fact that, these are the major established telecommunication companies in Ghana. Descriptive statistics which included frequencies, percentages, mean and standard deviations were used in the analysis of the data. A one-way ANOVA and Relative Importance Index were further employed to analyze the data. The data was represented using tables.

## **1.9 ORGANIZATION OF THE STUDY**

The thesis is arranged in five sections. In Chapter One, the outline of the obtained was obtained. The chapter covered the study background, the statement of the problem in study, purposes of the study, research questions, and significance of the study, the scope of the study and limitation of the study. The literature related to the study was analysed in Chapter Two which looked at the theoretic and experiential appraisal of the study. In Chapter Three, the overall procedure of the study was described, which included research design, a description of the instrument that was used in the data gathering. Chapter Four illustrates the results from. Finally, in Chapter Five, summary, conclusion and recommendations of the study were presented.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This section presented the literature review of the study. The literature review of the study constituted both past theoretical and empirical studies on procurement methods.

#### **2.1 The Concept of Procurement**

##### **2.1.1 What is Procurement?**

“Procurement is the procedure from which a project squad manates to accomplish one or numerous contract for the stock of works, goods and services that are portion of the supply of a project” (Ribero, 2009). They are numerable and are usually procured in batches. Walls are defined as civil engineering and earth moving endeavors. They are measured in length, area or volume. Services are the provision of expert advices that can results in either in a product or an action (e.g. training or technical assistance). More broadly the generic term is an object of procurement is used to indicate goods, works and services or any mixture thereof. Procurement is the method by which contract performers are obtained. The method of choosing a contract performer for each of the objects of procurement contained in the projects (List of goods and services) has to be resolute at an initial phase as this can affect the project develop procedure.

##### **2.1.2 Basic Principle of Procurement**

“The donor’s rules or guidelines indicate the underlying principles upon which procurement agreement are to be undertaken for contract financed using the donor’s resources” (Ribero, 2009). “These rules and guidelines typically includes transparently, which involves public notification of the availability of funds for contracting and upfront indications of the main central that will be used to determine the contract assured , equal opportunity for all eligible and qualified contractors, suppliers and consultant and few



condition of contract, in particular equal access to information , economy and efficiently , which means selecting appropriate mode of procurement and reducing transaction cost” (Ribero, 2009).

### **2.1.3 Standard Bidding Documents**

Most donors have their own standard bidding document for goods or works and their standard request for proposals (RFP) for services. It is generally mandatory that the borrowers use these documents and that procurement be done according to the procurement guidelines or rules proper to the borrower. “The overall propose of using standard bidding documents is to ensure that the borrowers rules are duly take into account, so that the safeguarding measures are in places for two parties of the future contract and to simplify review by the borrower” (Ribero, 2009). The bidding document for a particular contract performs several essential functions including defining the rules by which bidders should abide when preparing and submitting their bids, defining the technical requirement of the procurement including the technical specification of the works, goods and services to be obtained and defining the material which will be used to evaluate the bids and decide on the winning bidder. “Bidding documents usually comprise standard sectors, such as commands to bidders and overall settings of agreement exact sections which very accord to the contract being tendered” (Graycar and Smith, 2011).

### **2.1.4 Procurement Cycles**

Procurement is done according to standard procurement cycles that are specific to each category of item-goods, works and services and to each donor. “The principle of transparency equal opportunity, economy and efficiency discussed above are woven into the donors’ procurement cycles, which are defined for each type of object of procurement



and according to the estimated contract value”(Ribero, 2009). “Not all procurement approaches are founded on the notion; some ponder that obtaining is whole when the goods or services are distributed. This can be straighter nevertheless it does not inspire a wider vital of the procedure”(Nickson, 2008).Procurement cycle consists of the following stages:

- Appraisal collection
- Regulate desirable amounts
- Settle need and capitals
- Select procurement process
- Select sellers
- Agree agreement relations
- Screen instruction position (constant administration)
- Receiving and examination

#### **2.1.5 Procurement Planning**

During project implementations numerous procurement sequences are assumed alongside or successively in instruction to produce the supply and achieve the project purposes, in these sense, procurement in development projects is characterized by it respective nature, large amount of funds involved and tight timeframes in order to be responsive to a specific project implementations scheduled. “Procurement planning is the scheduling of all the procurement cycles, taking into account the duration of the execution of each stage” (Rebeiro, 2009).Procurement preparation includes classifying which scheme wants can be greatest encountered by means of product or services outer the business. It includes determining where to obtain, and how, to obtain, what to obtain, when to procure and how much to procure. It is vital to be through and original once preparation procurement. The input desired for procurement preparation includes:

- The scheme choice declaration

- Department needs
- Product depiction
- Market circumstances
- Constraint and assumption

“It is significant to describe the possibility of the scheme as well as the product market condition and constraint and assumption. Though, it is also important to distinguish precisely why you need to obtain goods, works and services” (Skitmore and Marsden, 1998).

#### **2.1.6 Contracts Administration**

Once a contract performer has been recruited the project team is faced with final goods of the procurement process, which is to obtain deliverables against payment. It is important for the scheme director and his squad is aware of the various types of contract and their specificities, as well as the key aspect of contract execution. “Contract administration can be complete and should be performed jointly by multidisciplinary team involving for instance, the relevant sectors specialist, an accountant and a procurement expert, under the supervision of project manager” (Ashworth and Hoog, 2008).

#### **2.1.7 Mode of Procurement**

The modes of procurement that will be implemented are discussed during appraisal, during loan negotiation and upon approval of the annual work plan. The borrower should pay careful attention to the selection of procurement modes, as those modes will determine the speed at which the project will be implemented and the ease of that implementation. “Nowadays it is common that the smallest contract values according to the conclusion of the assessment made in the Country Procurement Assessment Report (CPAR) made available by the World Bank. In such situations the donors commission various

procurement audit missions to be carried out by people that are familiar with the national system to attest of the sound use of local procedures” (RICS, 1996).

## **2.2 Procurement Systems**

“The choice as to what ever obtaining method to adopt must be complete as initial as conceivable and supported by the patron’s commercial circumstance for the scheme. The risks connected with individually procurement structure and how they can distress the client should also be measured. In plan and build methods of procurement the contractor admits the risk for plan and constructing of the project. Plan and build differences happen where the phase of plan risk can be allocated additional consistently. The stability can be attuned as mandatory, nevertheless the superior the risk expected by the contractor, the advanced the tender amount is probable to be. With managing procedures of obtaining goods and services, the equilibrium of risk is greatest heavy for the client as the contractor is if only ‘managing specialist’ to a project.

### **2.2.1 Procurement Methods**

According to Brook (1998) tendering is a performance by which “proposal of reference (estimate) is complete by a tender (contractor) once so wanted by a client might be a single, a set of individuals, a business, an administration department. Such tenders can be a single group business, a standard size business, the higher quality of contractor (multinational)”. Buchan, et al (1995) stated that, traditionally, from the client’s standpoint, “There are three ways to select a builder to carry out work. These are exposed tendering, selective tendering and negotiated tendering”. Based on the L.I 1606 (1995) section 5 sub-section 5, the D.A. practices the above tendering procedures. Through the condition documentation phase, the object with the necessity regulates when they need the

imports distributed and building works accomplished. The procurement process must be resolute at this initial phase since the influence on the procurement leadperiod, and likewise to safeguard that the accountable individual is capable to established accurate time frames and potentials for contract prize in the early phases of growth and meaning of their procurement condition. This modest application of procurement the support of the acquiring object initial on assistances to evade dissatisfactions, impractical prospects and obstruction since, owing to deprived preparation, it is unbearable to see opportunities established throughout the condition description stage. At this phase of the procedure, it is also imperative to agree if a modest or non-modest procurement process will be cast-off. The difficulty of a condition, obtaining class, and financial worth are all imperative influences to reflect on codetermining on the procurement technique (Tilley and McFallan, 2000).

### **Traditional Procurement Method**

The traditional method, the company receives that plan task will usually distinct starting building, advisors are selected for project cost mechanism, and the contractor is answerable for proving the works. This concern spreads to all workmanship and resources, and comprises all work by subcontractors and sellers. “The contractor is typically selected by modest tendering on whole info, nevertheless may if essential be selected previous by cooperation on the foundation of fractional or theoretical info”(AlBahar and Crandall, 1990).The traditional process, by means of two-phase tendering or discussed tendering, is occasionally mentioned to as the ‘Faster Traditional. Whereas this permits an initial twitch on site, it similarly involves fewer inevitability about cost. Three kinds of agreement are as follows:

1. *Lump sum agreements*- wherever the agreement amount is resolute earlier building commence, and the sum is arrived in the contract.



2. *Measurement contracts* – wherever the agreement amount is precisely recognized on accomplishment and afterward before-measurement to some decided foundation.
3. *Cost repayment*– wherever the agreement amount is reached at on the foundation of the real costs of labour, plant and resources, to which is further a payment to shelter expenses and return.

### ***Lump sum***

The contractor assumes to transport distinct quantity of task in arrival of a decided amount. This can be a secure sum not prone to measurement, in which circumstance there would be no chance for the owner to create differences. “The amount is expected to be theme to inadequate variations, typically to shelter duty etc variations not predictable at the period of bidding. The amount might be prone to variations in the budget of labour, materials and. Regaining can be use of a formulation” (Al-Bahar and Crandall, 1990).

### ***Measurement***

Measurement agreements are also mentioned to as ‘re-measurement agreements’. The assumption is that it has remained significantly intended, and that rationally precise image of the sum and excellence of what is mandatory is assumed to the tenderers. Perhaps the greatest actual quantity agreements, connecting minimum risk is to the owner, are those founded on drawings with estimated amounts. Measurement agreements can also be founded on drawings and a ‘Plan of Rates’ or values set by the owner for the tenderers to contend. This kind of agreement can be suitable wherever there is not sufficient period to make uniform estimated quantities or work is very unclear. “Clearly the owner has to receive the risk intricate in beginning work with no precise knowledge of the whole cost, and usually this kind of agreement is top kept to small works”(Al-



Bahar and Crandall, 1990).

### ***Cost reimbursement***

‘Cost Plus’s is occasionally discussed as cost reimbursement agreements. The contractor assumes to take an unknown sum of effort on the foundation that they are rewarded the main or real cost of materials, labour and plant. In count, the contractor obtains settled payment to shield managing, profit and overheads”(Al-Bahar and Crandall, 1990). Cost reimbursement agreements comprise:

- *Cost-plus percentage fee* – the charged is straight connected to the major cost. It is typically an even rate percentage; nevertheless it can also be on a descending measure. Though, the contractor has no actual inducement to work at determined effectiveness, and this different is first probable to be measured where the necessities are chiefly unknown pre-contract.
- *Cost-plus fixed fee* – The amount to be charged is bidding by the contractor. This is suitable delivered that the sum and type of work is principally predictable. The contractor has a motivation to work competently in order to stay in the fixed charge.
- *Cost-plus fluctuating fee* – The amount differs in amount to the variance concerning the projected cost and the definite major cost. The supposition is that as the later cost upsurges, the contractor’s invented inadequacy will effect in an amount that cuts. This method rest upon their presence of accurate opportunity of establishing the sum and type of work at tender point.

Other traditional procurement methods include:

### ***Single Source***

“Obtaining building works goods and services and from a spring is devoted to as: solesource procurement, sole-source selection, single-source procurement, direct

procurement, and others” (Dissanayaka, 1998). This is evidently a non-competitive procurement process, and it must be adopted only under special situations, viz.:

- Aimed at alternative circumstances;
- When an individual is competent to accomplish the condition;
- For the continuance of preceding task that cannot be developed from a different industry or individual as result patent, compatibility matters, or special rights;
- The entire cost is in the verge established for this process of obtaining;
- For the procurement of connected stuffs that are obtainable only from a single source;
- For different circumstances anticipated in the obtaining legal and controlling structure.

The use of this technique must be headed by a severe endorsement procedure.

(Dissanayaka, 1998).

### ***Request for quotations***

The appeal for quotes is a procurement technique adopted for minor worth procurements of willingly obtainable standard goods, standard building works, or standard services procurements. This procurement technique is viewed as “offer to estimate and spending, and it does not need the training of tender leaflets to identical degree as open tendering, appeal for suggestions or double-stage tendering”(Tucker, 1998). The offers are not composite, and this process is measured non-competitive for the obtaining unit regulates which suppliers, contractors or service providers to demand quotes from as extended as a smallest of three are requested. This procurement technique is adopted under circumstances specified in the obtaining legal and governing structure and, therefore, can be demanded in lettering: email, fax, courier, however not telephone call. Occasionally restrictions established on the time and occurrence in which this technique can be adopted for the procurement of comparable work, goods or services. “This is to avoid the obtaining

unit from excruciating necessities to fall in the verge level where the appeal for quote process can be practical” (Tucker, 1998).

Quotes established in reaction to a demand for quotation would be primary assessed to control agreement with the practical provisions or possibility of task of the condition and also for agreement with managerial necessities of the demand for quotations. “Merely next the organizational and practical agreement resolve, a value judgment is finished among industries create to be biddable, and then obtaining directive is employed with the purchaser succumbing the final charge quotation in the specified distribution or conclusion time” (Tucker, 1998).

The benefits and difficulties of using demand for quotations?

#### *Benefits*

- Procurement lead-time is meaningfully condensed specified that no necessity to make solicitation forms, or to publicize requests. And the time for quotations proposal is also correspondingly condensed.
- The total of quotations established is incomplete to the total of dealer’s quotations were demanded from, so the assortment procedure stage is also abridged.
- The procuring and/or demanding units would typically have an appealing decent impression of where and from whom the services, works or goods can be obtained, so there’s a greater chance of answer to the appeal for quotations.

#### *Difficulties*

- Gives the situation to peccadilloes for the obtaining unit agrees which dealers, contractors or service providers to direct demand for quotes to, and struggle is actual partial.
- Can be mistreated for the breach of requests into reduced extents in directive to relate this technique of procurement.

- Can simply result to demanding quotations from a restricted total of industries even if the goods, services or works are obtainable from a larger number.

### ***Two-Stage Tendering***

Some have suggested that contractors can contribute skill and knowledge as to the types of construction or details of design affecting methods of construction and that it should be available to the architect or engineer during the design period (Pegnato, 2003). Those who advocate this idea propose a two-stage tendering. At the first stage a contractor or contractors are selected based on factors such as managing and plant size, and the foundation of their labour charges, overheads and prices. The selection may also be based on bills of approximate quantities rates. The selected contractor works as a participant of the design squad, facts are established and BOQ is prepared. At the second stage the contractor is asked to submit more detailed price. Where two or more contractors are selected at the first stage or the preliminary stage, all the contractors must give a detail price after which the most cost effective tender is acceptable. “Where more than one contractor is involved, in the second stage of determining the prices of the project, the contractor who tender are more acceptable price is accepted. The other contractors are reimbursed with their second-stage cost” (Pegnato, 2003).

Two-stage tendering is like the appeal for offers since the procedural and fiscal suggestions are acquiescedun connectedly, nevertheless one earlier the other, somewhat than concurrently. Two-stage tendering is adopted for the obtaining goods, services and building works, and there are numerous methods in which the procedure may be approved. Two of the greatest joints are exemplified below:

*The first procedure is as follows:*



- “The first stage is used for defining receptiveness to the appeal for proposals and for illustrative and attainment of contract on the practical conditions. In this first phase, purchasers are demanded to give a technical offer with their top answer for satisfying the condition. The offer is assessed and recorded, and the industry with the maximum graded practical proposal requested for negotiations with the drive of attainment of agreement on the proposed technical solution”(OECD/DAC, 2007).
- “Stage two is for getting the concluding suggestion of the theoretically maximum ranked company. This procedure is actually comparable to the excellence-based selection (QBS) measures adopted to demand offers from consulting companies when the Expressions of Position are problematic to describe in extremely dedicated and compound necessities(OECD/DAC, 2007).

The second process is the following:

- “Under this current of the process, in the primary phase potential purchasers are demanded to succumb offers on a partly advanced practical requirement, and they are likely to underwrite to the conclusion of the procedural stipulations and deliver a procedure and work strategy for transporting task. The technical proposals submitted are evaluated for responsiveness to the solicitation documents. An amplification and negotiations conference is detained with all receptive bidders, and minutes of this conference are organized and dispersed to all receptive purchasers. The consequences of this conference are used to confirm the procedural stipulations and the scope of work. First stage receptive purchasers are then requested to succumb methodological and monetary tenders founded on the revised technical stipulations and scope of work” (Love et al (1998).

*Benefits of the two-stage tendering procedure:*



- It is an added supply method to giving deals for it permits contribution of potential auction-goers in the meaning of the technical stipulations and scope of work.
- The favored purchaser is likely to have a noble accepting of the condition, which possibly decreases risks in the application of the deal.
- Potential purchasers are capable to make proposals for development of the technical stipulations and scope of work of the task, done their technical offer and elucidation negotiations.
- The tendering time is abridged.
- The technical method and procedure can be attuned to costume the settled technical stipulations and scope of work.

*Shortcomings of the two-stage tendering procedure:*

- Lengthy procurement lead-time due to two stage tender procedure.
- Second stage discussions with the upper most graded purchaser can demonstrate problematic and extended.

***Demand for Offers***

The Demand for Proposal (RFP) is a two covering obtaining technique that can be used for goods, services or works. “It is used when sellers, contractors or services providers are anticipated to suggest an exact answer (methodology and work plan) to satisfying an exact condition” (Pocock, 1996).

According to Pocock (1996) “companies are obligatory to succumb methodological and monetary proposals in two distinct covers”. The official suggestion is assessed first and ranked giving to before-established assessment principles, and only the monetary proposals of those companies that attained the least succeeding mark (score), designated in the RFP, are unlocked and assessed. The RFP technique changes from open tendering in six ultimate features:

### *Procurement legal outline*

In the rules of many worldwide expansion banks (World Bank, Asian Development Bank, African Development Bank, etc.) demand for offers are adopted mainly for the engagement consulting companies. But the two-stage obtaining process is kept for the gaining of goods, works and non-consultant services. The procurement instructions of numerous nations (Kenya and Rwanda are a characteristic case) also survey this structure of using demand for offers principally for the assortment of consulting businesses.

### ***Restricted Tendering***

Under this method, Buchan et al. (1995) stated that, “the client and quantity surveyor compiles a list of the chosen constructors for the development. Those on the list of builders will have selected for their recognized ability dependability and established capability type of work envisage. This process is known as prequalifying”.

Local establishments and administration organizations retain a list to which builders can relate to link. Constructors are prudently examined earlier actually place on the overall list. It is from this list of accepted constructors that a list is ready to those who will be requested to bid for an exact project. The certainly of performance and good workmanship is of less doubt since known builders of good performance are invited to tender. “The major disadvantage is that there is a possibility of ring formation or cartel thereby resulting in higher sum than the open tender type. Restricted tendering is a procurement process which bounds the demand for tenders to a choose total of sellers, builder or service providers. This process of procurement is also termed Restricted Bidding and Selective Tendering” (Buchan et al. 2003). Though well-thought-out a modest obtaining process, rivalry is partial to first companies accepted or requested by the procuring unit.

### ***Open Tendering***

According to Buchan et al. (2003) under this method, “an announcement is placed in the newspaper stating that the client requires a task to be approved and engaging builders to relate for the tender forms”. Any builder regardless of competence may relate for the document and tender. Usually a credit is mandatory in discussion for the document the guarantee is reimbursed upon receiving of a tender. The disadvantage of the method is in the selection of a contractor of whom the client cannot be confident. The method was disapproved in the Banwell report of 1946 and is not greatly used in U.S.A. It is motivating to remind that in U.S.A open tendering are used for all federal building works and lowest tender will except in usually circumstances, be awarded the contract.

The only provision made by the federal authorities is that the builder must obtain a bond from a bank or an insurance company in which the latter guarantees that in the event of the builder failing to carry out the work the federal authority will be reimbursed for the full cost of having the work completed by another builder. “Open tendering is the ideal modest public procurement process adopted for obtaining infrastructure works, goods and services. It is performed in agreement with well-known actions established in the obtaining strategies and comprehensive in the typical tender documents” (Buchan et al. 2003).

Open tendering is also recognized as open modest tendering, open solicitation, and the obtaining advertisements used to demand for offers for these supplies are recognized as:

Invitation to Tender. The basic requests of open tendering are that they must:

- Be exposed to all capable and concerned bidders,
- Be publicized locally (and worldwide, once requisite),
- Take impartial experiences principles,
- Take unbiased and perfect technical stipulations,

- Devise perfect and neutral assessment standards, and

It is supposed that this procurement process promotes active competition and enhances assessment for change; though, there are influences conflicting the open tendering technique are firmly process-based and were mainly intended for the obtaining of simple goods. Thus, it is not appropriate for compound procurements where the emphasis is extra on the production and result of the contracting procedure rather than on severed devotion to values. Drawbacks of the open tendering practice are:

- Long period structure for accomplishment of the obtaining act,
- Needs severe devotion to measures,
- Under takes current inside size for the accomplishment of pure and exact stipulations,
- Controls dealers 'partaking in influential the technical stipulations,
- Restrict the opportunity of constructing extensive connection with suppliers,
- Overpowers modernization, and
- Extreme formalism may edge supplier contribution

### ***Bills of firm quantities***

The client selects an architect/engineer to design based on the client's brief, the quantity surveyor prepares the bill of quantities, and builders are requested to succumb tenders in struggle to convey the work. "The deal is given to the contractors who succumb the best reactive tender. The importance structures about this technique are (a) both quantities and the unit rates in the bill form part of the agreement and (b) the project is almost finished earlier the validation of the agreement. Such agreement is called lump sum agreement or fixed/firm price contract" (Walker, 1997). The advantages of this approach are;

- The scheme is entirely planned by thorough employed drawings and stipulations earlier tenders are implored from builders. This eliminates to big eventualities that could ascend throughout building if the design scheme is not entirely welldefined.



- Quality in the construction project can be measured by means of the working drawings and requirement which are the basics of the contract between the client and the contractor. This allows the client's representative to associate the material and workmanship with what are identified. Without working drawing and specifications, there is very little the client's representative can do to device the value of the development.
- The unit rates in the bill of quantities provide a decent foundation for prizing variation to the design if they do arise. The detailed breakdown of the tender sum can be seen at a glance.

On the other, some disadvantages exist in the use of this procurement system:

- The process is slow especially because of the sequential nature of the process. The design must be finish and working drawing prepared before the quantity surveyor can quantify and prepares the bill of quantities.
- Even though cost estimate is often prepared during the design stage, the client cannot be certain about the actual cost of the project unit tenders are received.
- Conflict may arise if extensive variations arise during construction due to error in the drawings or specification prepared by architect/engineer.

#### ***Approximate bills of quantities***

This approach is like the one described above but the quantities are estimated and subject to re-quantification throughout the course of building. The vital physiognomies are only the unite rate are tie on the builder, and the measures are temporary and not compulsory. "The bills are set for the scheme with whole account of materials and requirement to allow the builder to estimate unit prices but there is not much time to do thorough quantities" (Tilley, 2000). The returns of using this system are;

- Construction of the project can begin earlier

- The additional expenditure of making fixed quantities can be saved. But this saving may however, be misplaced when the quantities are completely measured.

Some of the drawbacks include;

- The BOQ cannot provide the buyer a truthful entire cost of the project.
- The work in the concluding study may prove costlier than if full quantities were quantified to begin with.
- The architect/engineer may leave out so many detailed out during the design stage to be “sorted out” on site. This may lead to delay and disruption of contractor’s progress, which results can claim by the contractor for compensation in cost and time.

### ***Drawings and Specification***

“This approach is common in the United State of America. Contractors are given drawing and specifications and they prepare their own quantities from the drawings before estimating the cost of the project. In the United Kingdom, the system is normally used for relatively small works or for subcontract works” (Ramus, 1981). It is that the drawings are complete to enable contractors to accurately estimate the cost of the project. The main advantages are the elimination of the cost that might be incurred by the client in engaging the services of the quantity surveyor to prepare bills of quantities for the project and secondly the risk of inaccurate measurement of quantities is shifted to the contractor. The disadvantages include the following:

- The evaluation of variations which may arise during construction could present problems in the absence of bills of quantities and unit rates.
- The period of tendering is longer because contractors must do their own measurement.
- Contractors may not have the same basis for estimating the cost of certain items in terms of their quantities. Because it is likely that in some cases contractors may come up with different quantities for the same item.

### *Schedule of rates*

“This approach is like by means of bills of rough quantities. Agreement subsequent from the procurement procedures are referred to as measurement contracts or measured contract” (Sharif and Morledge, 1997). The schedule may be in the following procedures;

- Regular schedule
- “Ad hoc” schedule
- BOQ from preceding contract.

*Standard schedule*—“In a standard schedule, all the stuffs that are probable to happen in a building project are recorded under the suitable trade units with a unit rate allocated to each item. Builders are asked to tender percentage accompaniments or deductions on the several units or sub sections”(Sharif and Morledge, 1997). The unit rates can be attuned by means of the percentages introduced by the builder whose tender is accepted for valuing variations if they occur.

*“Ad hoc” schedule*- This plan is set to suitable a specific project. Simply items obligatory for the project are itemized under the suitable units and subsections. The items may be pre-priced or left for the contractors to value. “The selection of the contractor will be founded on the rates estimated or the percentage additions or deductions tendered”(Sharif and Morledge, 1997).

*Bills of quantities from previous contracts*- “If a planned structure is comparable to a preceding one inform, the BOQ for the preceding construction may be used. This method may be suited for housing contracts which are being constructed in phases. “The bills of quantities used in one phase may be used as basis for tendering for a succeeding phase”(Sharif and Morledge, 1997).

### **Design and Construct Procurement Method**

With design and construct procurement a builder receives accountability for approximately or all of the design. At hand would be fast orientation to this in the agreement, and the degree of design accountability must continuously be established as obviously as conceivable. Except the agreement conditions then, appears that the obligation for strategy is a total responsibility below which the builder license suitability for the drive envisioned.

More or less plan and build methods bound the plan obligation of the builder to the usual expert responsibility to use sensible maintenance and ability. Liberated advisors involved by the builder are consequently under a responsibility no superior than standard. A protection or approval of responsibility is probable to be insignificant if supported by passable insurance, and this is somewhat that must be check earlier a builder is chosen. If the builder does not take in-house designers, which are often the case, and the builder adopt outside advisors, their individuality must be recognized earlier a tender is established.

“Through a plan and build technique, it is likely confirm a faster commencement on site, and the near addition of plan and building can effect in more real program design. Time, though, is desirable by the client’s advisors to make a satisfactory established of requests, and time is wanted to associate and assess the arrangements from contending tenderers. When an agreement is contracted, any variations by the client can demonstrate costly. A quantity of differences of plan and build occur, that comprise” (Turner, 1990):

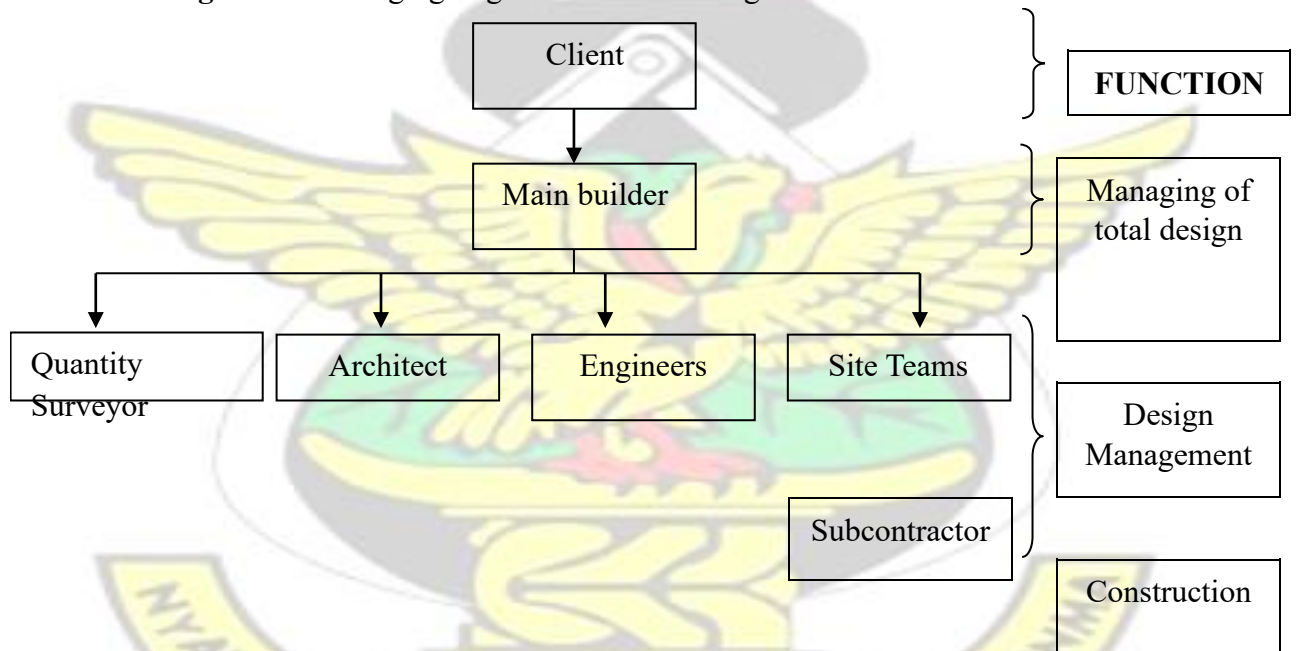
- *Direct*
- *Competitive*
- *Develop and construct*
- *Package deal*
- Other variations include:



### ***Design and build:***

Design and build system of agreement is the form which has a distinct unit, usually a builder drive to gross accountability for the design in entire for building and conclusion of a building project. Design and build does the correct mechanism it is requested to do; the client will engage a chief builder who will be accountable for not only the building part of the work but also the plan part which means it engaged the accountabilities of both the building to the conclusion of the work.

**Figure 2.1** Managing Organizations for Design and Build Contract



Source: Roshana (1999)

### ***Arguments in favour of the design & build arrangement***

From an owner's viewpoint, the plan& build agreement offers a distinct source of accountability. The builder has remarkable duty for both building and design faults. The client can pull through straight from the builder for lacks in either design or building of

the project. Thus, the client must not control originally whether a fault was instigated by a mistake in design or building. In a further customary building agreement, this subject needs to be set so that the client can control whether the design expert or the builder is at liability. “Additional piece satisfactory to the client is that the builders allow any further costs that may happen as a consequence by means of faulty or insufficient designs set by his engineer. For the client permits the modicum of the designs in a characteristic building agreement, he is accountable for any enlarged charges for faulty or insufficient designs. In a plan& builder agreement, the builder is accountable for design as well as building and settles to encounter the client’s act stipulations than simply construct the building. Therefore, if the design is ineffectively planned, the builders are then inept to look to the client for further reward” (Hester et al (1991)).

### ***‘Turnkey’ contracts***

Successful in numerous stages like ‘package’ pact style of agreements, ‘design and build/ design and construct’ agreements, EPCC kind of agreements, etc the describing distinctive is the joining the important responsibilities of the project, i.e. plan, creation (building or construction) and managing in a distinct platform. The builder acquires whole accountability and transmits exclusive responsibility for plan and building. In such characteristic agreement, the client approaches a builder with an established prerequisite may be simple transitory or comprehensive requirement, drawings, plans, etc contingent on the flora and complication of the project or the degree to which the client has the appearance of his requirements.

The builder answers to the client with a bid so-called the ‘builders ‘offers’ which will contain construction and plan of work, agreement amount and the way in that the agreement value has been estimated, e.g. the agreement charge examination, etc. BOQ is

severely not pertinent in a 'Turnkey' agreement and if roughly similar to these is adopted, they are simply for the drives of the agreement amount examination or for building sum to the builder.

### ***'Package' Deal Type of Contracts***

Harbans Singh (2003) advocated that, this process of the procurement where the builder is accountable for both plan and building (and for even supporting, whole fitting out, 'technology' assignment, etc). The shared differences comprise:

- Design and Build (D&B) agreements
- Design and Construct (D&C) agreements
- Production, Procurement and Building (EPC) agreements
- Engineering, Procurement, Installations and Construction (EPIC) contracts
- Engineering, Procurement, Construction and Commissioning (EPC) contracts
- Collection of the builder is generally founded on modest bidding or cooperation and sum achieved on an interim, momentous or lump sum plain.

### ***Build, Operate and Transfer Contracts***

Harbans Singh (2003) advocated that, "this original means of agreement obtaining textured on the local act straight as an outcome of the administration's transfer rule". In the arrangement, the builder is liable for:

- funding the scheme at all phases
- commissioning the pertinent plan and building
- functioning and upholding the works over a specified period

### ***Develop and Construct.***

The client provides the design consultant with a detailed brief and consultant prepares a conceptual or sketch design and the site layout. The competing contractors advance the

theoretical plan and yield comprehensive drawings. The contractors select and stipulate resources and then succumb these proposals with their price to the client. This system is used when the client wants to have an idea about full idea of the project beforehand attractive competing bidders and however needs a distinct agreement to take accountability for the full design and implementation of the project.

### **2.2.1.3 Management Procurement Method**

Numerous alternatives of managing procurement methods occur, that comprise; *managing contracting*, *building managing* and *plan and accomplish*. There are modifications among these obtaining approaches. In the case of managing contracting, the builder has straight votive relations with the entire works builder and is accountable for all building task. In building managing, a builder is compensated a charge to work wise accomplish, progress a programme and direct the plan and building doings, and to expedite teamwork to advance the project's constructability.

#### ***Management contracting***

The employer employs as sovereign expert squad, and also a managing builder. Their participation at before-construction phases will be as consultant to the squad, and throughout building they drive accountable for performing the tasks by means of straight tasks agreements. With this kind of agreement, it is likely to mark an initial twitch onsite and attain primary conclusion. Since its suppleness, it permits the employer to alteration the plan throughout building as drawings and materials of part can be attuned and confirmed as the work earnings.

For a managing agreement to be positive there need to be confidence and respectable collaboration on the part of the employer, the project advisors and builders. The builder must rather be selected no later than the plan design phase. The builder can recommend on



the project programme, bid act, provision of resources and goods, and building programmes.

### ***Building management***

The managing builder is nominated afterward a cautious collection procedure and is paid a supervision stipend. The elementary change is that tasks agreements, though agreed and managed by the managing builder, are straight among the employer and tasks builder. Though in intelligence this gives the employer a better degree of switch, it also means that the employer receives a substantial quantity of risk. The management contractor is just ago-between, and typically cannot promise that the scheme will be end to time and cost.

“A total of returns have been recognized that can be obtainable by the CM method. These may be abridged as follows” (Walker 1999);

- Abridged hostility among the project squads and the squad accountable for overseeing building;
- initial participation of building managing specialist;
- overlay of plan and building;
- amplified rivalry for building work on huge schemes due to task pack and excruciating the building doings into additional digestible 'chunks';
- further expansion of certification;
- less agreement differences;
- public responsibility

### ***Design and manage***

A design and manage approach is like the managing contracting. In a design and manage agreement, the builder is rewarded an amount and accepts accountability, not lone for tasks

builders, however for the design squad. The collective differences of design and manage are (Turner, 1990):

- *Builder*— a plan design and management body plans and accomplishes the task, normally for an amount and provides the scheme by engaging works builders as its subcontractors to plan/or build.
- *Advisor*— a plan designer/manager is the employer's manager, who enterprises and succeeds the project, finds subcontract bidders from works builders who then each go into a straight agreement with the employer.

In this procurement scheme, a distinct group is selected to plan and achieve the building process which is assumed by subcontractors. It is imperative to note the modification concerning this preparation and plan and construct. In the design and build, the builder both designs and builds. The distinct group accountable for the development can also be a contracting business or a consultancy exercise. The chief shared physiognomies of the design and manage scheme are;

- A distinct body is designated together design and manages the scheme.
- The distinct group can be a builder or an advisor
- The real building of the scheme is accepted by subcontractors.

### ***Benefits and drawbacks of managing procurement***

The chief *benefits* of expending managing method to procurement are:

- the employer contracts with only a single company, that permits better-quality organization and team work among designers and builders;
- possible for time reserves for the general scheme as plan and building doings are met;
- under a *design and manage* form, the builders undertake possibility and accountability for the incorporation of the project with building;

- works parcels can be contract competitively at fees that are present;
- better buildability done constructor contribution into the plan;
- characters, possibilities and accountabilities for all parties are clear; and □ suppleness for variations in design

The core *drawbacks* of expending managing method to procurement are:

- price confidence is not attained until the finishing works package has been let
- well-versed and practical employer is needed
- poor price certainty
- near time and info switch needed
- employer must offer a best excellence brief to the plan squad as the design will not be thorough till means have been dedicated to the project (Building managing and management contracting); and
- employer misplaces straight switch of project excellence which is prejudiced by the builder (design and manage)

### ***Joint ventures***

“A business among two or more firms cover construction, automatic and electrical manufacturing, or other professional for the drive of bidding for, and implementing a construction or civil engineering agreement, each of the contributing firms having joint and separately accountability for the predetermined responsibilities to the client” (NJCC, Guidance Note 1- Joint Ventures Bidding for Contracts in the UK, RIBA Publication Ltd, 1996, p.1, cited in Rasmus et al. 2008).

Members of joint ventures can be sole proprietorships, partnership, or corporations, but the joint ventures are a separated business entity. Joint ventures are project specific and may best be described as a special purpose partnership. They relate to single projects even

though such project may take a period of years to complete. “The members in a JV come into contract that describes that defines the goals and purposes of the associated and evidently outlines such materials are the development occupied capital, the percentage interest of each member; which builder will offer the management character; limitation of liability; settlement of arguments between parties; the separation of profits and losses; the exact tasks and contribution of individuals parties; the particulars of agreement management and plan organization; the management of secretarial and buying the process in case a party default on its obligations; and dissolution of the contract” (Clough, 1986).

### ***Partnership***

“Partnering is simple a viewpoint of presenting hope and players task into the building practice, engendering promise to shared goals, boosting a common attention on the project and how it may greatest be carried, looking for solution to difficulties and eliminating confrontational approaches” (Rasmus et al, 2008). “Partnering is one of the relationship-based or collaborative procurement systems. It has been labeled as a structured managing approached which enables team working through prescribed limits by assimilating the scheme team and leveling the supply chain” (Hackett et al, 2007).

The three important features of partnering are

- Formal shared purposes of better performance and reduce cost.
- The lively exploration for incessant quantifiable development, which is possibly, qualified in contradiction of firm main performance indicators (KPIs).
- “A decided shared method to problematic resolving” (Hackett et al, 2007).



## Challenges of Procurement in the Public Sector

“Public procurement is an imperative purpose of administration. Yet, a total of tasks are confronted” (Shaw, 2010). “Initially, the pure greatness of procurement expenses has a countless influence on the economy and requirements to be well succeeded. Certainly, in all nations in the flora and fauna, estimations of the monetary doings of administration procurement directors are supposed to be in the order of 10-30 % of GNP” (Caldwell et al, 2009). Competently managing this size of procurement expenses has been a strategy and organization apprehension as well as a trial for public procurement consultants.

“Furthermore, public procurement has been applied as an imperative instrument for attaining financial, societal and other objects” (Arrowsmith and Trbus, 2008; Shaw, 2010). There is then, a must to obey with a countless of regulations and rules and this offering a task. For example, in its account to the Unites States Congress, the Commission on Government Procurement states that “The greatness of the Government’s expenses for procurement and scholarships generates chances for executing nominated national rules” (Federal Acquisition Institute, 1999: 1.8). Likewise, The World Bank stipulates the succeeding four main trepidations or purposes of public procurement for projects backed by its loans;

- Ensuring that the credit is used to purchase only those goods and services wanted for the project,
- Ensuring fair rivalry for all capable tenders from the World Bank’s qualified states,
- Promoting clearness or honesty, and
- Encouraging growth of native builders and producers by permitting indigenous purchasers to construct in a boundary of partiality for indigenous builders and manufacturers (Maurer, 2004).

“Additional contest is that, as a result numerous causes, public procurement has been apparent as an expanse of excess and exploitation” (Shaw, 2010). “For instance, in The District of Columbia, USA government misused hundreds of thousands of dollars in expenses by vending cast-off extra auto mobiles for; ‘bargain basement fees’ in sales run by untaught staffers” (Nakamura, 2004). In a period of 30 months, The District of Columbia sold 11 fire trucks for a total of \$3,125 while like cars in make and model had been sold on the Internet for a total of \$360,875. Exploitations and inducements are extensive in government agreements. “In the United States, exploitations in government agreements have been frequently testified in newspapers; and the first week of September 2004 observed the writing of a burst of illegal trials in contradiction of state executives for violations of state procurement rules. Distinct newspapers conveyed on tendering dishonors from Illinois, Connecticut, Wisconsin, and Maryland” (Nakamura, 2004). Consequently, incapacitating the undesirable awareness and the impartial realism, to a convinced degree, is one of the main tasks in public procurement.

Moreover, Shaw (2010) argues that, “As numerous republics have stimulated to a local and or worldwide economy, public procurement consultants surface another task that is, how to fulfill with their administration’s procurement rules and social and financial procurement objectives without impious local and/or worldwide trade contracts”. For instance, how to fulfill with general financial rules, without commerce unethically with distant firms as provided in local trade arrangements and/or the World Trade Organization (WTO) contracts is not easy, which wants a cautious reading of trade contracts in order to take benefits of singular necessities.

# KNUST

## **CHAPTER THREE RESEARCH METHODOLOGY**

### **3.1 INTRODUCTION**

The study was focused on identifying how often the various procurement methods are used by the telecommunication companies in Ghana. The study also identified the challenges that encountered in the use of procurement methods. This section grants the procedure of the research. The procedure of the research comprises the following procedural steps: (1) Research Design, (2) Population of the Study (3) Sample and Sampling Procedure, (4) Research Instrument, (5) Dependability and Rationality (6) Data Collection Procedure, (7) Data Scrutiny Methods and (8) Study Ethics.

### **3.2 RESEARCH DESIGN**

Research design is the general plan for linking the theoretical study difficulties to the relevant experiential study. Both information and approaches, and the way in which these will be arranged in the study project, need to be the most actual in creating the solutions to

the study question. The study sought to identify the various procurement approaches used by the telecommunication companies in Ghana and the challenges encountered in the use of the procurement approaches.

### **3.3 RESEARCH METHOD**

Quantitative research methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by handling pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon. For this particular study a quantitative research method was adopted.

### **3.4 POPULATION OF THE STUDY**

The study targeted all the telecommunication companies in Ghana. They include; MTN Ghana, Tigo Ghana, Vodafone Ghana, Airtel Ghana and Glo Ghana. The primary aim of the study informed on the decision to target procurement experts and officers working in these companies. Information was gathered from the head office of the telecommunication companies as to the number of the procurement experts and officers within the company. This information is displayed in table 3.1. From the table the total number of procurement experts and officers totaled up to 20. Thus the study had a total population of 20. Due to the small population size a census survey was adopted for the study. A census survey uses the entire population as the sample. Although cost considerations make this impossible for large populations, a census is attractive for small populations (e.g., 200 or less). A census eliminates sampling error and provides data on all the individuals in the population.. Finally, virtually the entire population would have to be sampled in small populations to achieve a desirable level of precision.



**Table 3.1 Targeted Telecommunication Companies**

<b>TARGETED TELECOMMUNICATION COMPANIES</b>	<b>NUMBER</b>	<b>RESPONSES</b>
<i>MTN</i>	6	6
<i>VODAFONE</i>	5	5
<i>AIRTEL</i>	3	3
<i>TIGO</i>	4	4
<i>GLO</i>	2	2
<b>TOTAL</b>	<b>20</b>	<b>20</b>

Source: Field work, 2016

### **3.5 RESEARCH INSTRUMENT**

A research instrument dubbed “Procurement Methods Questionnaire” was used for the study. The questionnaire was intended by the investigator by referring connected works on the topic and their tools were disapprovingly scrutinized. Materials from these tools and the personal knowledge of the researcher were used to develop a questionnaire for the study. The questionnaire had three sections, one, soliciting background information of respondents as well as the frequency of usage of various procurement methods and the other soliciting information about the challenges encountered in using the various procurement methods. The questions relating to the procurement methods telecommunication companies use were founded on a five-point Likert scale (1 indicating, do not use at all, 5, very often) while the questions relating to the challenges encountered in using the various procurement methods were based on a five-point Likert scale (1 strongly disagree, and 5, strongly disagree).

### **3.6 RELIABILITY AND VALIDITY**

According to Neuman (2007), “reliability which refers to consistency and validity that also point to how well researcher's idea about reality fits with actual reality, forms an essential part of a research and that the nonexistence of rationality follows when there is a deprived acceptable among the concepts such as instruments (e.g. questionnaire) that the researcher practices to describe, theories or analyze the real world and what really happens in the real world”.

To ensure validity, the questionnaire was pretested. Pretesting is a trial administration of an instrument in order to identify its usability and weaknesses (Polit and Hungler, 1995). The questionnaire was pretested to some procurement experts who were not part of the main sample for the main study. However, for the reliability of this research, the instrument was subjected to rigorous criticism by specialist in the areas procurement as well as peer review conducted by other researchers. There were preliminary interactions and discussions with selected experts in procurement practice and theory to test the relevance of the sections outlined in the questionnaire. These were done in a more objective way to avoid biases and unbalanced judgments. Also a careful cursory of previously designed questionnaires that directly and indirectly relate to the procurement methods used in the telecommunication industry in Ghana subject were reviewed for consistency.

### **3.7 DATA COLLECTION PROCEDURE**

The researcher acquired a preliminary letter from the Kwame Nkrumah University of Science And Technology to the selected telecommunication companies for the study. The researcher administered the questionnaire to the participants through hand delivery. Some days was provided to give some ample time for respondents to complete the questionnaire. The respondents then had sufficient time to put across their proposals above

a stress-free state and demanding time. This process was expected to spring excellence answers for analysis. However, the entire management and gathering of the questionnaire acquired a period of three weeks.

### **3.8 DATA ANALYSIS TECHNIQUE**

The information from the directed questionnaire was prepared complete information coding, entry cleaning, and transformation. To identify how often the various procurement methods are used by the telecommunication companies in Ghana as well as the challenges that are encountered in the adoption of procurement approaches, vigorous analyses were done on the variables under study. A one-way ANOVA was adapted to exam the study hypotheses. Descriptive statistics which included frequencies, percentages, and measures of location (mean) and measures of dispersion (Standard deviation) were engaged in the analysis of the data. A p-value of (0.05) was adopted as the verge for statistical significance. The SPSS program (SPSS® 22.0, 2012; Spss Inc., Wacker Drive, Chicago, USA) was used for all the analyses.

### **3.9 RESEARCH ETHICS**

Ethical clearance was obtained from the selected telecommunication companies and a suitable date was planned for the management of the study tool. Informed consent explaining the purpose of the study, potential risks and discomforts, the confidentiality and anonymity, and the rights of the participants were sought and gotten from each participant at the time of the study.

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS AND DISCUSSIONS**

#### **4.1 INTRODUCTION**

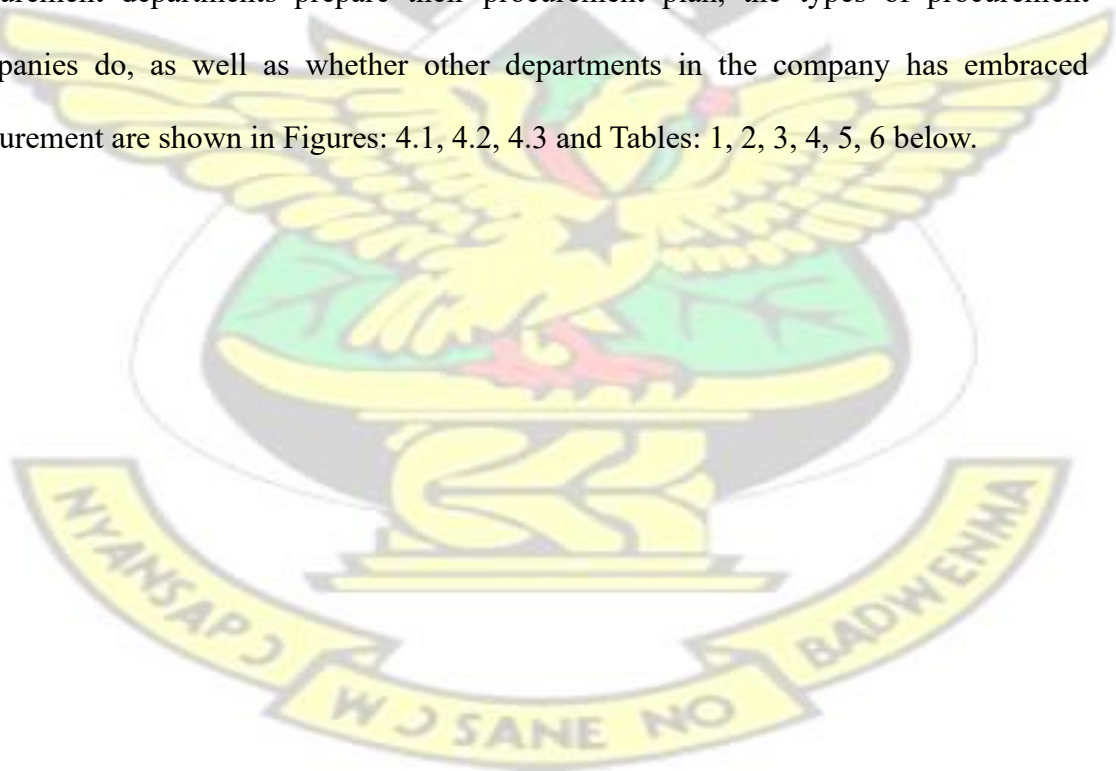
The study was aimed at identifying how often the various procurement methods are used by the telecommunication companies in Ghana and the study also identified the challenges that encountered in the use of procurement methods. This chapter presents the data demonstration, analysis, and argument of findings of the study. The analysis and discussions of the study is presented according to the research questions of the study.

#### **4.2 BACKGROUND INFORMATION OF RESPONDENTS AND TELECOMMUNICATION COMPANIES**

This section shows the contextual information of the telecommunication company and the respondents of the study. The related information of the telecommunication company and the respondents comprised of a description of the occupational status of respondent, the kinds of projects telecommunication companies engage in, source of funding of telecommunications companies, criterion used in selecting contractors or suppliers for projects and operation, considering of local preferences in the selection of contractors, the kinds of contractors normally engaged for the award of contracts, the co-operate social responsibilities that supports the Ghanaian public, the time frame procurement departments prepare their procurement plan, the types of procurement companies do, as well as whether other departments in the company has embraced procurement. A total of 20 questionnaires were distributed and administered to 5 telecommunication companies.



The questionnaires administered had an outstanding retrieval rate. That is, 20 questionnaires were retrieved and used for data analysis. Thus the entire number of questionnaires recovered and cast-off for the study yielded a questionnaire answer rate of 100%, which was excellent for the study. This suggests that most of the procurement departments in the telecommunication companies were cooperative and responsive to the questionnaire administration and collection. Thus the distribution the occupational status of respondent, the kinds of projects telecommunication companies engage in, source of funding of telecommunications companies, criterion used in selecting contractors or suppliers for projects and operation, considering of local preferences in the selection of contractors, the kinds of contractors normally engaged for the award of contracts, the cooperate social responsibilities that supports the Ghanaian public, the time frame procurement departments prepare their procurement plan, the types of procurement companies do, as well as whether other departments in the company has embraced procurement are shown in Figures: 4.1, 4.2, 4.3 and Tables: 1, 2, 3, 4, 5, 6 below.



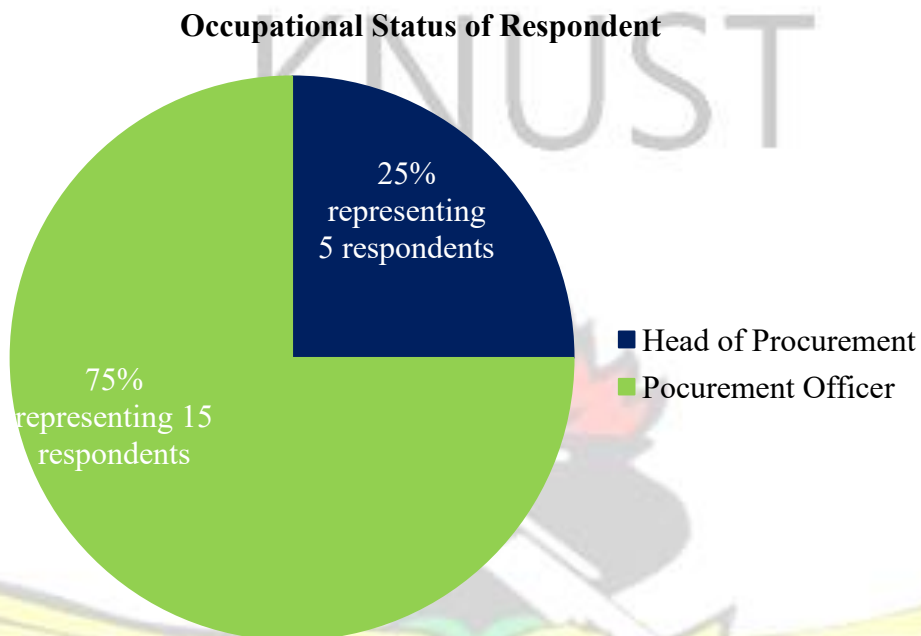


Figure 4.1 Occupational Status of Respondent

Source: Researchers Fieldwork 2015

Figure 4.1 shows the distribution of the occupational status of respondents working at the procurement departments of their respective telecommunication companies. The fallouts presented that majority of the respondents representing 75% were procurement officers while 25% were heads of their procurement department. This implies that majority of procurement personnel working at the procurement departments in the telecommunication companies in Ghana are procurement officers.

**Table 4.1. Kinds of Projects Telecommunication Companies Engage in**

<b>Projects</b>	<b>Response</b>		<b>% of Cases</b>
	<b>N</b>	<b>%</b>	
Mast Erections	20	44.4%	100.0%
Collocation Projects	20	44.4%	100.0%
School Projects	2	4.4%	10.0%
Hospitals	3	6.7%	15.0%
Total	45	100.0%	225.0%

Source: Researcher's Fieldwork 2015

Table 4.1 shows the distribution of the kinds of projects telecommunication companies engage in. The findings revealed that majority of telecommunication companies engage in mast erections and collocation projects. This was evident as (100%) of the respondents agreed. Fifteen percent of the respondents opined that one main project they engage in is the construction of hospitals although 10% mentioned that they engage in school projects.

**Table 4.2. Source of Funding of Telecommunications Companies in Ghana**

<b>Funds</b>	<b>Response</b>		<b>% of Cases</b>
	<b>N</b>	<b>%</b>	
Internally Generated Fund	20	47.6%	100.0%
Investor Funding	20	47.6%	100.0%
Donor Agencies	2	4.8%	10.0%
Total	42	100.0%	210.0%

Source: Researcher's Fieldwork 2015

Table 4.2 shows the distribution of source of funding of telecommunication companies in Ghana. All (100%) of telecommunications companies get their source of funds through internally generated funds as well as investor funding. However about ten percent of telecommunications companies get their source of fund through donor agencies. This

implies that majority of telecommunication companies in Ghana get their source of funds through internally generated funds and investor funding.

**Table 4.3. Criterion Used in Selecting Contractors or Suppliers for Projects and Operations**

Criteria	Response		% of Cases
	N	%	
SSNIT Contribution	20	33.3%	100.0%
VAT Contribution	20	33.3%	100.0%
Internal Revenue	20	33.3%	100.0%
Total	60	100.0%	300.0%

Source: Researcher's Fieldwork 2015

Table 4.3 shows the distribution of the criterion used in selecting contractors or suppliers for projects and operations. The telecommunication companies unanimously agreed that the criterion used in selecting contractors or suppliers for projects and operations include SSNIT contribution (100%), VAT contribution (100%) and internal revenue (100%). This implies that all telecommunication companies in Ghana use SSNIT contribution, VAT contribution and internal revenue as the criterion used in selecting contractors or suppliers for projects and operations.

**Table 4.4. Kinds of Contractors Normally Engaged for the Award of Contracts**

Kinds of Contracts	Response		% of Cases
	N	%	
Local Contractors Only	3	14.3%	15.8%
Foreign Contractors Only	2	9.5%	10.5%
Both Local and Foreign Contractors	16	76.2%	84.2%
Total	60	100.0%	110.5%

Source: Researcher's Fieldwork 2015

Table 4.4 shows the distribution of kinds of contractors normally engaged for the award of contracts. More than eighty percent (84.2%) of the respondents admitted that their companies engage both local and foreign contractors for the award of contracts. However



about sixteen percent (15.8%) mentioned that they only engage local contractors for the award of contracts contrary to about eleven percent (10.5%) who only engage foreign contractors.

#### **Considering of Local Preferences in the Selection of Contractors for Works**

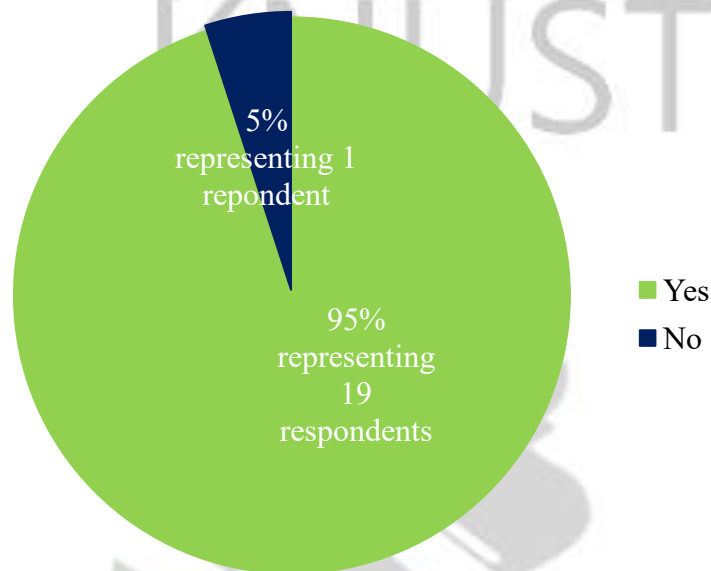


Figure 4.2 Considering of Local Preferences in the Selection of Contractors

Source: Researcher's Fieldwork 2015

The respondents were asked to indicate whether their company considers local preferences in the selection of contractors for works. Figure 4.2 shows the distribution of the considering of local preferences in the selection of contractors. Majority (95%) of the respondents indicated that their company does not consider local preferences in the selection of contractors for works contrary to 5% who indicated that their company does consider local preferences in the selection of contractors for works. This implies that most of the telecommunication companies in Ghana consider local preferences in the selection of contractors for works.

**Table 4.5. Co-operate Social Responsibilities that Supports the Ghanaian Public**

Social Responsibilities	Response		% of Cases
	N	%	
Building of Schools	17	32.1%	85.0%
Building of Hospitals	3	5.7%	15.0%
Supporting Intelligent but Needy Students	19	35.8%	95.0%
Road Construction	14	26.4%	70.0%
Total	53	100.0%	265.0%

Source: Researcher's Fieldwork 2015

Table 4.5 shows the distribution of co-operate social responsibilities telecommunication companies do to support the Ghanaian public. Majority (95%) of telecommunication companies support intelligent but needy students as their co-operate social responsibility to support the public. However others build schools (85%), hospitals (15%) as well as construct roads (70%). This implies that most of the telecommunication companies in Ghana support intelligent but needy students as their co-operate social responsibility to support the public.

**Table 4.6. Types of Procurement Companies do**

Types	Response		% of Cases
	N	%	
Goods	14	30.4%	70.0%
Works	14	30.4%	70.0%
Services	11	23.9%	55.0%
All	7	15.2%	35.0%
Total	46	100.0%	230.0%

Table 4.6 shows the types of procurement companies do. From the analysis most companies do goods and works. This was evident as 70% of the respondents agreed. The respondents representing 55% opined that they do services while 35% mentioned that they

do all (goods, works and services). This implies that majority of telecommunication companies do both goods and services procurement.

#### Time Frame Procurement Department Prepare their Procurement Plan

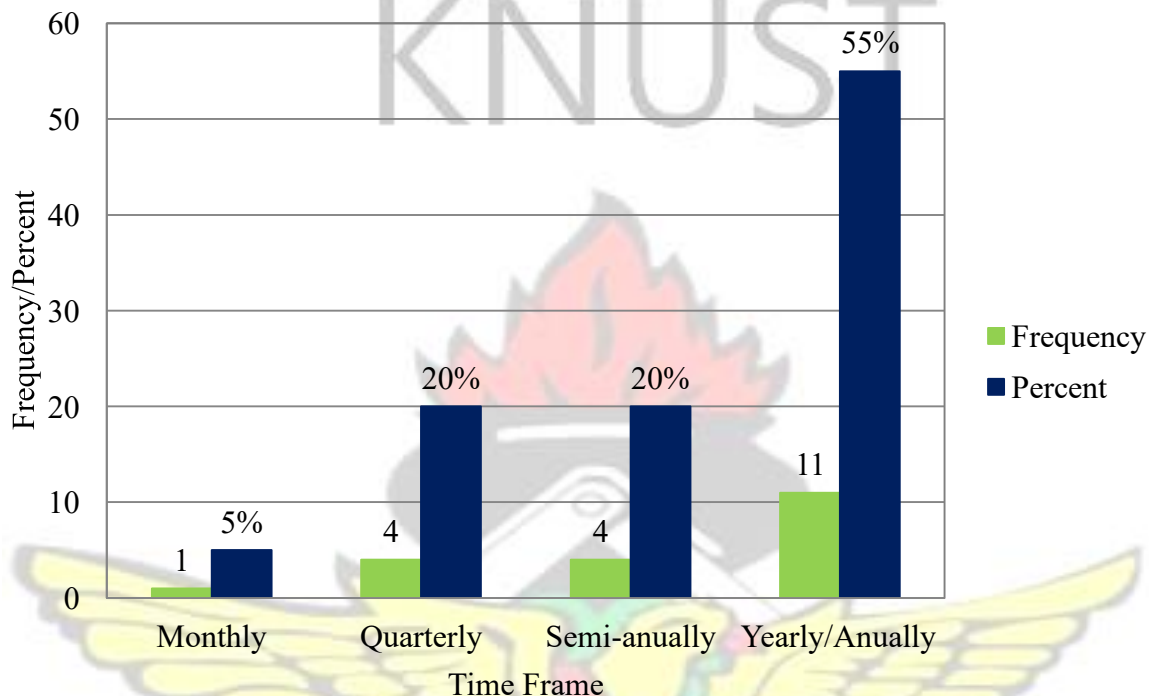


Figure 4.3 Time Frame Procurement Department Prepare their Procurement Plan

Source: Researcher's Fieldwork 2015

Figure 4.3 shows the time frame procurement departments prepare their procurement plan. Fifty-five percent of the respondents stated that they organize their procurement plan annually; twenty percent reported that they prepare their procurement plan either quarterly or semi-annually. However, five percent of the respondent reported that they prepare their procurement plan monthly. This implies that most procurement department prepares their procurement plan yearly.

#### Have Other Departments in your Institution Embraced Procurement?

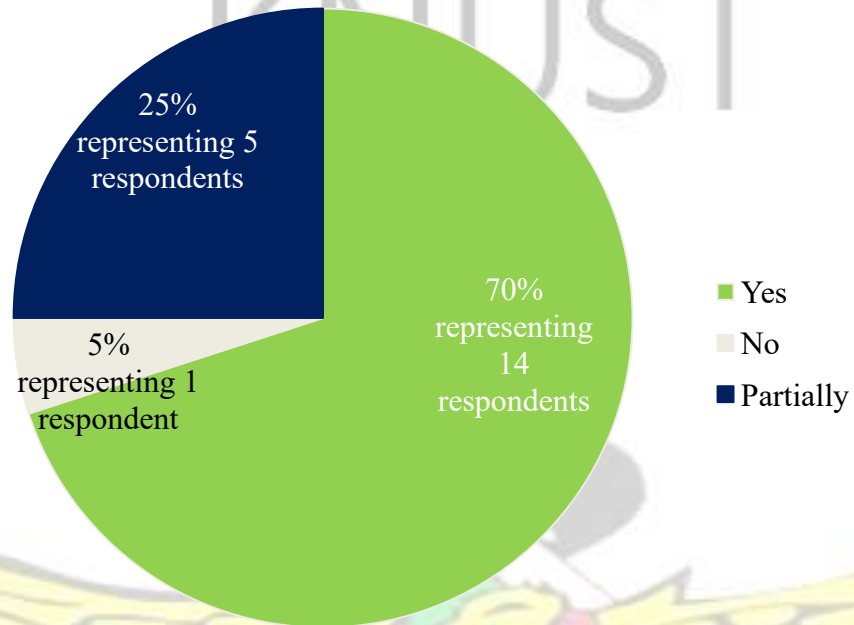


Figure 4.4 Other Departments in Institution Embraced Procurement

Source: Researcher's Fieldwork 2015

Figure 4.4 shows the distribution of whether other departments in the company have embraced procurement. The respondent indicated that indeed other departments in their company have embraced procurement partially. This was evident as 70% of the respondents agreed. Twenty-five percent of the respondents also mentioned that other departments in their company have embraced procurement completely although five percent indicated that other departments in their company have not embraced procurement. This implies that other departments in telecommunication companies in Ghana have embraced procurement partially.



## 4.2 PUBLIC PROCUREMENT ACT, 2003 (ACT 663)

The Public Procurement Act, 2003 (Act 663) is an act to offer for public procurement, launch the Public Procurement Board, brand managerial and official preparations for obtaining, specify bidding processes and deliver for drives linked with these. World Bank (2003), “the Public Procurement Act (PPA) inaugurates the five rudimentary supports of public procurement”, viz.:

- i. Complete, see-through authorized and official structure; ii. Clear and standardized procurement procedures and standard tender documents; iii. Self-governing switch scheme; iv. Capable procurement team; and
- v. Anti-corruption actions.

The Act is decided in units and parts which communicate to diverse matters. It has ninety-nine units and is alienated into nine parts. Part I, Section I of the of the Public Procurement Act, recognized the Public Procurement Board, with a body to modernize and accords public procurement procedures to protected sensible, financial and wellorganized use of public reserves and safeguard that public procurement will be approved in a reasonable, see-through and non-discriminatory way. The Board has numerous purposes, the main ones being the preparation of rules and procedures, teaching and capability building; expansion of indigenous businesses; checking and assessment and safeguarding that public procurement is mainstreamed into public monetary managing structure.

Part II, Section II, of the Act tells to Procurement constructions and delivers for managerial and recognized preparations for procurement. The scope of request of the Act includes the procurement of works, goods and services supported in entire or in part from public

reserves if cabinet chooses else. It also comprises the tasks of a procurement object and creates the Tender committees and guarantees agreement with Tender Review Boards which offers parallel supports for commendations for reward of agreement by tender boards. Part III, Section III pacts with procurement instructions. It influences out the requirement of bidders and prequalification records. It also specifies other subjects like best of procurement records, refusal of tenders, offers and quotes and problems connecting to the admission into force of procurement agreement. Part IV, Section IV contracts with approaches of procurement such as modest tendering by two-stage tendering, restricted tendering or single source tendering and demand for quote and designates the process for each technique. Part V, Section V is on tendering measures. This section is alienated into three sub-parts specifically; invitation of tenders and application to prequalify, submission of tenders and finally, assessment and contrast of tenders and subjects connected to these. Part VI, Section VI contracts with approaches and processes to procure advisors. It spells out the gratified of demand for offers for consultancy services, standards for the assessment of applications, explanation and alterations, collection process for advisors. Part VII, Section VII comprises the analysis procedures for any supplier, contractor or consultant Part VIII, Section VIII relays to removal of stores, plant and equipment. It designates the specialist to position and the removal processes. Part IX, Section IX comprises various supplies such as code of conduct, examination by the Board, statutory audits, and offences relating to procurement between others. Thus the respondents were asked to identify whether their company's procurement processes are in relative to the Public Procurement Act, 2003 (Act 663). The results of the analysis are shown in Figure 4.4 below.

#### **Procurement Processes Relation to the Public Procurement Act, 2003 (Act 663)**

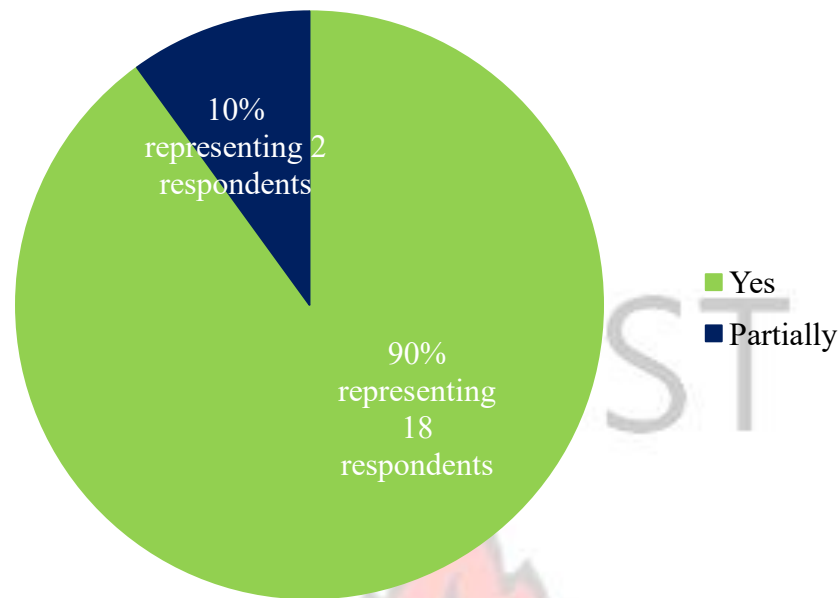


Figure 4.5 Procurement Processes Relation to the Public Procurement Act, 2003 (Act 663)

Source: Researcher's Fieldwork 2015

Figure 4.5 shows whether telecommunication companies' procurement procedures relation to the Public Procurement Act, 2003 (Act 663). Ninety percent of the participant mentioned that their companies' procurement procedures relation to the Public Procurement Act, 2003 (Act 663) partially while 10% mentioned that their companies' procurement practices relation to the Public Procurement Act, 2003 (Act 663) completely. This implies that most procurement processes of telecomm

**Research Question One: How often are the various procurement methods used by the telecommunication companies in Ghana?**

To identify how often the various procurement methods are used by the telecommunication companies in Ghana, it was suggested that telecommunication companies use the traditional, design and construct as well as the management procurement methods. Thus how often

telecommunication companies use the traditional, design and construct as well as the management procurement methods are shown in Table 7, 8 and 9 respectively.

### 4.3 TRADITIONAL METHODS OF PROCUREMENT

Turner (1990) advocated that, “traditional procurement is expended when a programme permits adequate time; advisor strategy is warranted; an employer desires to appoint designers and contractors distinctly; price confidence is required before hand the start of building; product excellence is prerequisite; and a steadiness of possibility is to be positioned among the employer and builder”. The main *advantages* of using a traditional approach to procurement are: responsibility due to a modest assortment; modest evenhandedness as all tendering workers bid on the same basis; design lead and the client is able to have a straight impact which can enable a high level of functionality and advance the excellence in the complete design; price confidence at the award of the contract; variations (changes) to the agreement are comparatively easy to position and accomplish; and a tried and test technique of procurement which the market is very acquainted with. Therefore, procurement methods relating to the traditional procurement technique system were constructed. Thus the participants were asked to indicate how often they use these methods on a scale of 1 to 5 (1 for do not use at all and 5 for very often). To determine the traditional procurement methods used by the telecommunication industry in Ghana, it was suggested that telecommunications companies use: bill of firm quantities, approximate bill quantities, schedule of rates, single or sole sourcing, twostage tendering, request for quotation, drawing and specification, restricted tendering, open tendering and cost reimbursement. Thus the respondents were asked to indicate the traditional procurement methods they often use. The outcomes of the study are shown in Table 7 below.

**Table 4.7. Mean Score Rankings of the Usage of Traditional Procurement Methods among Telecommunication Companies**



No. Traditional Procurement				Rankings
Methods	N	Mean	Std. Deviation	
1. Request for Quotation	20	4.50	.888	<i>1<sup>st</sup></i>
2. Restricted Tendering	20	4.30	.923	<i>2<sup>nd</sup></i>
3. Schedule of Rate	20	4.30	.978	<i>3<sup>rd</sup></i>
4. Bill of firm Quantities	20	4.20	1.005*	<i>4<sup>th</sup></i>
5. Approximate Bill Quantities	20	4.20	1.005*	<i>5<sup>th</sup></i>
6. Cost reimbursement	20	3.70	.571	<i>6<sup>th</sup></i>
7. Continuity Contract	20	3.35	.745	<i>7<sup>th</sup></i>
8. Single or Sole Sourcing	20	3.30	1.128*	<i>8<sup>th</sup></i>
9. Drawing and Specification	20	3.10	1.372*	<i>9<sup>th</sup></i>
10. Open Tendering	20	2.65	.875	<i>10<sup>th</sup></i>

Note: \*shows high inconsistency in its agreement

Source: Researcher's Fieldwork 2015

Table 4.7 shows the distribution of the usage of traditional procurement methods among telecommunication companies in Ghana. Majority representing 60% of the respondents indicated that as part of following the traditional methods of procurement they use bill of quantities very often although 40% mentioned that they only use it quite often. Sixty-five percent of the respondents also opined that they use schedule rate as part of following the traditional methods of procurement while 35% mentioned that they use it quite often. Meanwhile 75% of the respondents agreed that they use single or sole sourcing as part of following the traditional methods of procurement often (quite often, 45%; often, 5%; very often, 25%) contrary to 25% who mentioned that they do not use it often. Majority (100%) of the participants indicated that they often (often, 10%; quite often, 30%; very often, 60%) use restricted tendering as part of following the traditional methods of procurement.

However the respondents indicated that they do not use open tendering often. This was evident as 60% of the respondents agreed although 40% agreed that they use it often (quite often, 15%; very often, 25%). Although 20% of the respondents reported that they do not use drawing and specification at all, 80% reported that they use drawing and specification oftenly (quite often, 55%; very often, 25%). All (100%) of the respondents overwhelmingly agreed that they use request of quotation often (quite often, 25%; very often, 75%) as part of following the traditional methods of procurement. On the other hand, most (95%) of the respondents reported that they use cost reimbursement oftenly (quite often, 20%; very often, 75%) contrary to 5% who reported that they do not use cost reimbursement oftenly. The findings also showed that 45% of the telecommunication companies do not use two-stage tendering at all, 25% use two-stage tendering not often, 5% use two-stage tendering quite often while 25% use two-stage tendering often.

#### **4.4 DESIGN AND CONSTRUCT PROCUREMENT METHOD**

According to Gordon (1994) in design and construct agreements, in philosophy, “there is typically a distinct fact of accountability”. The client consequently has the benefit of only one firm to contract with – and one firm to liability if effects go mistaken. In exercise, the client’s necessities are thorough to the degree that the builder’s design influence, and responsibility, is reduced. The client deficiencies completed the thorough design; though, this might be satisfactory where wide-ranging lines of the arrangement are acceptable and the feature moderately less significant. Building effort can be under way primary as an unlimited contract of comprehensive design can continue in similar.

But, it is largely the contractor who assistances from this operative flexibility.

Accountability for implementation on period respites solely with the builder. There should be no possibility of claims for the claims that evidence from the client is late. This responsibility

on the contractor to be liable for the movement of their essential info is one of the best-looking skins of design and construct. There is superior confidence of cost, even to the degree that, if mandatory, accountability for examining site and subsoil circumstances can be made completely the contractor's. Any variations in the client's necessities can disturb the agreement amount, nevertheless, and are possible to show costly. It is always sensible to ask for info about who the builder proposes by means as a designer. Satisfactory professional insurance must always be a condition. The client must be directed to employ advisors to deliver information on the groundwork of the necessities; it is imperative that passable period is permissible for this to be done sufficiently. The supplies might comprise exact items or provisional amounts, but usually it is judicious to recommend performance standards, so that a high mark of dependence is located on the builder. In the lack of any specifications to the opposing, the contractor's design responsibilities are complete. Though, they are typically compact in normal procedures of agreement to those the specialist's responsibility of expending sensible ability and attention. It is problematic to assess competitive tenders convincingly. Bidders must be well-versed of the principles to be adopted, and whether price is probable to be the prime deliberation. Advantages can rise from designers and estimators taking to work carefully composed. "The builder's consciousness of present market circumstances and distribution periods can ensure that an agreement runs smoothly, economically and expeditiously" (Gordon, 1994). Therefore, procurement methods relating to the design and construct procurement method system were developed. Thus the participants were asked to indicate how often they use these methods on a scale of 1 to 5 (1 for do not use at all and 5 for very often). To determine the design and construct procurement methods used by the telecommunication industry in Ghana, it was suggested that telecommunications companies use: design and build, turnkey, package deal, develop and construct and build own operate transfer. Thus the respondents were asked to indicate the design

and construct procurement methods they often use. The results of the study are shown in Table 8 below.

**Table 4.8. Usage of Design and Construct Procurement Methods among Telecommunication Companies.**

Design & Construct Procurement Method	Not Used at All		Not Often		Quite Often		Often		Very Often	
	N	%	N	%	N	%	N	%	N	%
1. Design and Build	4	20.0	13	65.0	-	-	3	15.0	-	-
2. Turnkey	-	-	11	55.0	-	-	9	45.0	-	-
3. Package Deal	-	-	16	80.0	-	-	4	20.0	-	-
4. Develop and Construct	14	70.0	5	25.0	-	-	1	5.0	-	-
5. Build Own Operate Transfer	20	100.0	-	-	-	-	-	-	-	-

Source: Researcher's Fieldwork 2015

Tables 4.8 show the distribution of usage of design and construct procurement methods among telecommunication companies. All (100%) of the respondent mentioned that they do not use build own operate transfer as part of following the design and construct procurement methods at all. Meanwhile 70% of the respondents mentioned that they do not use develop and construct at all although 25% mentioned that they use it but not often unlike 5% who mentioned that they use it often. However, eighty percent of the participants mentioned that they use package deal but not often contrary to 20% who indicated that they use it often. Also 55% of the respondents opined that they use turnkey as part of the part of following the design and construct procurement methods but not often. Additionally, although 15% of the respondents opined they use design and build often, 20% opined that they do not use it at all unlike 65% who mentioned that they use design and build method but not often.



#### 4.4 MANAGEMENT PROCUREMENT METHOD

Management procurement means are greatest suitable to huge, compound, fast stirring schemes where early conclusion is needed. “This practice of procurement is contingent upon a high degree of sureness and faith. There is no firm agreement price before the work starts on site, and the choice to go fast typically has to be taken on the foundation of an estimate” (Chan, 1996). The management builder is the agent of the client, and must then put their welfares first through the project. It is again to employ the management contractor at initial phase, so that their information and knowledge are obtainable to the design team through the preconstruction period. Much of the thorough design work can be left to continue in similar with the site actions for about work parcels, therefore dropping the time needed before the project starts on-site. The client has a substantial amount of suppleness on design substances. The design can be familiar as building profits, without forgoing cost switch. This would not be possible with traditional means. The management worker can choice experts and order resources with extended lead-in times for distribution in good time short of any of the doubts and difficulties which join customary proposal measures (Chan, 1996). The project continues on the foundation of an agreement cost plan, but a liberated quantity surveyor is necessary for active cost switch. A modest tendering component is reserved for all works agreements, which typically explanation for greatest of the complete prime cost. Tenders for works packages will usually be on a lump amount foundation (Chan, 1996). Therefore, procurement methods relating to the management procurement method system were developed. Thus the participants were asked to indicate how often they use these methods on a scale of 1 to 5 (1 for do not use at all and 5 for very often). To determine the management procurement methods used by the telecommunication industry in Ghana, it was suggested that telecommunications companies use: design build manage, continuity

contract, negotiated contract, serial contract, management contract, construction management contract, joint contract and partnership. Thus the respondents were asked to indicate the management procurement methods they often use. The results of the study are shown in Table 8 below. Table 9 shows the distribution of the usage of management procurement methods among telecommunication companies in Ghana. All (100%) of the respondents mentioned that they use continuity as part of following the management procurement method often (quite often, 80%; often, 5%; very often, 15%). Meanwhile 75% of the respondents opined that they do not use design build manage at all although 20% mentioned that they use it oftenly unlike 5% who mentioned that they do not use often. However 70% of the respondents indicated that they use negotiated contract method oftenly (quite often, 20%; often, 45%; very often, 5%) although 30% indicated that they do not use often.

**Table 4.9. Usage of Management Procurement Methods by Telecommunication Companies**

Management Procurement Method	Not Used at All		Not Often		Quite Often		Often		Very Often	
	N	%	N	%	N	%	N	%	N	%
1. Design Build Manage	15	75.0	1	5.0	-	-	4	20.0	-	-
2. Continuity Contract	-	-	-	-	16	80.0	1	5.0	3	15.0
3. Negotiated Contract	-	-	6	30.0	4	20.0	9	45.0	1	5.0
4. Serial Contract	4	20.0	1	5.0	4	20.0	11	55.0	-	-
5. Management Contract	12	60.0	-	-	6	30.0	8	10.0	-	-
6. Construction Management Contract	19	95.0	-	-	-	-	1	5.0	-	-
7. Joint Contract	13	65.0	3	15.0	-	-	4	20.0	-	-
8. Partnership	14	70.0	2	10.0	-	-	3	15.0	1	5.0

Source: Researcher's Fieldwork 2015

Although 40% of the respondents opined that they use management contract oftenly (quite often, 30%; very often, 10%) part of following the management procurement method, 60%

of the respondents indicated that they do not use it at all. More than nine out of ten (95%) of the respondents mentioned that they do not use construction management contract method at all unlike 5% who said they use construction management contract method often. Seventy-five percent of the participants reported that they use serial contract method oftenly (quite often, 20%; often, 55%) while 5% use it not often contrary to 20% who do not use it all. Also sixty-five percent of the respondents indicated that they do not use joint contract method at all although 15% indicated that they use it but not often while 20% use it often. Additionally, seven out of ten (70%) of the respondents mentioned that they do not use partnership method at all although 10% mentioned that they use it but not often while 20% use it oftenly (quite often, 15%; very often, 5%).

#### **4.6 TRADITIONAL PROCUREMENT METHODS DIFFERENCES**

To find out whether the difference between the telecommunication in Ghana and the traditional methods of procurement they use. However it was suggested that telecommunications companies use: bill of firm quantities, approximate bill quantities, schedule of rates, single or sole sourcing, two-stage tendering, request for quotation, drawing and specification, restricted tendering, open tendering and cost reimbursement. Thus the respondents were asked to indicate the traditional procurement methods they often use. The results of the study are shown in Table 10 below. Table 10 shows the distribution of the differences in the usage of traditional procurement methods among telecommunication companies in Ghana. The findings showed that majority of telecommunication companies' oftenly use bill of firm quantities ( $M = 4.2, SD = 1.01$ ) and approximate bill quantities ( $M = 4.2, SD = 1.01$ ).

**Table 4.10. Differences in the Usage of Traditional Procurement Methods among Telecommunication Companies**

Traditional Procurement Method	Glo Ghana		MTN Ghana		Airtel Ghana		Vodafone Ghana		Tigo Ghana		Total		Test Value	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	<i>F</i>	<i>p</i>
Bill of Firm Quantities	5.0	.00	3.0	.00	4.5	1.00	4.5	1.00	4.0	1.15	4.2	1.01	3.450	.034*
Approximate Bill Quantities	5.0	.00	4.0	1.15	4.0	1.15	4.0	1.15	4.0	1.15	4.2	1.01	.750	.573
Schedule of Rates	3.0	.00	3.5	1.00	5.0	.00	5.0	.00	5.0	.00	4.3	.99	19.000	.000*
Single or Sole Sourcing	2.0	.00	4.5	1.00	3.0	.82	3.5	1.00	3.5	1.00	3.3	1.13	4.500	.014*
Two-Stage Tendering	2.0	.00	4.0	.00	2.5	1.29	1.0	.00	1.0	.00	2.1	1.25	18.600	.000*
Request for Quotation	5.0	.00	5.0	.00	5.0	.00	4.5	1.00	3.0	.00	4.5	.89	15.000	.000*
Drawing and Specification	1.0	.00	3.0	.00	3.0	.00	3.5	1.00	5.0	.00	3.1	1.37	41.000	.000*
Restricted Tendering	5.0	.00	3.5	1.00	4.3	.96	5.0	.00	3.8	.96	4.3	.92	3.397	.036*
Open Tendering	2.0	.00	3.5	1.00	3.0	.82	2.3	.50	2.5	1.00	2.7	.88	2.486	.088
Cost Reimbursement	4.0	.00	3.0	.00	3.5	1.00	4.0	.00	4.0	.00	3.7	.57	4.000	.021*
Total	34.0	.00	37.0	1.15	37.8	.96	37.3	1.50	35.8	1.26	36.4	1.69	7.459	.002*

M= Mean, SD= Standard Deviation

\*( $p \leq 0.05$ )

Source: Researcher's Fieldwork 2015



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However Glo Ghana ( $M = 5.0, SD = .00$ ) often use bill of firm quantities methods than MTN Ghana ( $M = 3.0, SD = .00$ ), Airtel Ghana ( $M = 4.5, SD = 1.00$ ), Vodafone Ghana ( $M = 4.5, SD = 1.00$ ) and Tigo Ghana ( $M = 4.0, SD = 1.15$ ) just as Glo Ghana ( $M = 5.0, SD = .00$ ) often use approximate bill quantities than MTN Ghana ( $M = 4.0, SD = 1.15$ ), Airtel Ghana ( $M = 4.0, SD = 1.15$ ), Vodafone Ghana ( $M = 4.0, SD = 1.15$ ) and Tigo Ghana ( $M = 4.0, SD = 1.15$ ). Also the findings revealed that the telecommunication companies use request of quotation very oftenly ( $M = 4.5, SD = .89$ ). However Glo Ghana ( $M = 5.0, SD = .00$ ), MTN Ghana ( $M = 5.0, SD = .00$ ) and Airtel Ghana ( $M = 5.0, SD = .00$ ) very oftenly use request of quotation than Vodafone ( $M = 4.5, SD = 1.00$ ) and Tigo Ghana ( $M = 3.0, SD = .00$ ). On the other hand, the respondents admitted that they use schedule of rates ( $M = 4.3, SD = .99$ ) as well as restricted tendering ( $M = 4.3, SD = .92$ ) frequently. However Airtel ( $M = 5.0, SD = .00$ ), Vodafone ( $M = 5.0, SD = .00$ ) and Tigo Ghana ( $M = 5.0, SD = .00$ ) than Glo ( $M = 3.0, SD = .00$ ) and MTN Ghana ( $M = 3.5, SD = .00$ ) use schedule of rate frequently just as Glo ( $M = 5.0, SD = .00$ ) and Vodafone Ghana ( $M = 5.0, SD = .00$ ) than MTN ( $M = 3.5, SD = .00$ ), Airtel ( $M = 4.3, SD = .96$ ) and Tigo Ghana ( $M = 3.8, SD = .96$ ) use restricted tendering frequently. Glo ( $M = 4.0, SD = .00$ ), Vodafone ( $M = 4.0, SD = .00$ ) and Tigo Ghana ( $M = 4.0, SD = .00$ ) than MTN ( $M = 3.0, SD = .00$ ) and Airtel Ghana ( $M = 3.5, SD = 1.00$ ) mentioned that they use cost reimbursement method ( $M = 3.7, SD = .57$ ) often. Although MTN ( $M = 4.5, SD = 1.00$ ), Airtel ( $M = 3.0, SD = .82$ ), Vodafone ( $M = 3.5, SD = 1.00$ ) and Tigo Ghana

( $M = 3.5, SD = 1.00$ ) admitted that they use single or sole sourcing ( $M = 3.3, SD = 1.13$ ) often, Glo Ghana ( $M = 2.0, SD = .00$ ) indicated that they do not use it often. Tigo Ghana ( $M = 5.0, SD = .00$ ) than MTN ( $M = 3.0, SD = .00$ ), Airtel ( $M = 3.0, SD = .00$ ) and Vodafone Ghana ( $M = 3.5, SD = 1.00$ ) opined that they use drawing and specification ( $M = 3.1, SD = 1.37$ ) very frequently although Glo Ghana ( $M = 1.0, SD = .00$ ) admitted that they do not use it at all. The respondents agreed that they do use open tendering ( $M = 2.7, SD = .88$ ). However Glo ( $M = 2.0, SD = .00$ ) and Vodafone Ghana ( $M = 2.3, SD = .50$ ) agreed that they do use open tendering but not often compared to MTN ( $M = 3.5, SD = 1.00$ ), Airtel ( $M = 3.0, SD = .82$ ) and Tigo Ghana ( $M = 2.5, SD = 1.00$ ) who use it. Also although, MTN ( $M = 4.0, SD = .00$ ) and Airtel ( $M = 2.5, SD = 1.29$ ) used two-stage tendering ( $M = 2.1, SD = 1.25$ ) often, Vodafone and Tigo Ghana ( $M = 1.0, SD = .00$ ) do not use it at all unlike Glo Ghana ( $M = 2.0, SD = .00$ ) who uses it not often. Consequently, the respondents admitted that they use the traditional procurement method ( $M = 36.4, SD = 1.69$ ) often. However Airtel Ghana ( $M = 37.8, SD = .96$ ) used the method more frequently than MTN ( $M = 37.0, SD = 1.15$ ), Vodafone ( $M = 37.3, SD = 1.50$ ), Tigo ( $M = 35.8, SD = 1.26$ ) and Glo Ghana ( $M = 34.0, SD = .00$ ).

#### 4.7 DESIGN AND CONSTRUCT PROCUREMENT METHODS

To identify whether there is a difference between the telecommunication companies in Ghana and the design and construct procurement methods they use. However, it was suggested that telecommunications companies use plan and construct, turnkey, package deal, develop

and build and build own operate transfer. Thus the respondents were requested to designate the design and construct procurement methods they often use. The results of the study are shown in Table 11 above. Tables 11 show the distribution of the differences in the usage of design and construct procurement methods among telecommunication companies in Ghana. The findings revealed that neither do any of the telecommunication companies in Ghana use build own operate transfer ( $M = 1.0, SD = .00$ ). The respondents also admitted that they do not use develop and construct ( $M = 1.4, SD = .75$ ) at all.





**Table 4.11. Differences in the Usage of Design and Construct Procurement Methods among Telecommunication Companies**

D&C Procurement Method	Glo Ghana		MTN Ghana		Airtel Ghana		Vodafone Ghana		Tigo Ghana		Total		Test Value	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	<i>F</i>	<i>p</i>
Design and Build	1.0	.00	2.5	1.0	2.5	1.0	2.0	.00	2.5	1.00	2.1	.91	2.833	.062
Turnkey	2.0	.00	2.5	1.0	3.0	1.15	4.0	.00	3.0	1.15	2.9	1.02	3.000	.053
Package Deal	2.0	.00	2.5	1.0	2.5	1.0	2.0	.00	3.0	1.15	2.4	.82	1.050	.415
Develop and Construct	1.0	.00	2.5	1.0	1.5	.58	1.0	.00	1.0	.00	1.4	.75	6.375	.003*
Build Own Operate Transfer	1.0	.00	1.0	.00	1.0	.00	1.0	.00	1.0	.00	1.0	.00	-	-
Total	7.0	.00	11.0	2.31	10.5	2.38	10.0	.00	10.5	1.00	9.8	2.02	4.292	.016

M= Mean, SD= Standard Deviation

\*( $p \leq 0.05$ )

Source: Researcher's Fieldwork 2015

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However although MTN Ghana( $M = 2.5, SD = 1.00$ ) mentioned that they use develop and construct frequently, Glo( $M = 1.0, SD = .00$ ), Airtel( $M = 1.5, SD = .58$ ) , Vodafone ( $M = 1.0, SD = .00$ ) and Tigo Ghana( $M = 1.0, SD = .00$ ) opined that they do not use it at all. MTN( $M = 2.5, SD = 1.00$ ), Airtel( $M = 2.5, SD = 1.00$ ) and Tigo Ghana ( $M = 3.0, SD = 1.15$ ) mentioned that they use package deal method( $M = 2.4, SD = .82$ ) quite frequently contrary to Glo and Vodafone Ghana( $M = 2.0, SD = .00$ ) who said they use but not often. Also MTN( $M = 2.5, SD = 1.00$ ), Airtel( $M = 3.0, SD = 1.15$ ) , Vodafone( $M = 4.0, SD = .00$ ) and Tigo Ghana( $M = 3.0, SD = 1.15$ ) than Glo Ghana ( $M = 2.0, SD = .00$ ) opined that they use turnkey( $M = 2.9, SD = 1.02$ ) quite often. Although Glo Ghana ( $M = 1.0, SD = .00$ ) mentioned that they do not use design and build( $M = 2.1, SD = .91$ ) at all, MTN, Tigo, Airtel Ghana( $M = 2.5, SD = 1.00$ ) and Vodafone Ghana( $M = 2.0, SD = .00$ ) mentioned that they use it quite often. Consequently, the respondents admitted that they do not use the design and construct procurement method ( $M = 9.8, SD = 2.02$ ) oftenly.

#### **4.8 MANAGEMENT PROCUREMENT METHODS DIFFERENCES**

This question was asked to determine the management procurement methods used by the telecommunication industry in Ghana, it was suggested that telecommunications companies use: design build manage, continuity contract, negotiated contract, serial contract, management contract, construction management contract, joint contract and partnership. Thus the respondents were requested to designate the management procurement methods they often use. The results of the study are shown in Table 12 below.

Table 12 show the distribution of the differences in the management procurement method among telecommunication companies in Ghana. The findings showed that telecommunication companies use continuity contract( $M = 3.4, SD = .75$ ) oftenly. However, Tigo Ghana( $M = 4.0, SD = 1.15$ ) than MTN( $M = 3.5, SD = 1.00$ ), Airtel ( $M = 3.3, SD = .50$ ), Vodafone( $M = 3.0, SD = .00$ ) and Glo Ghana( $M = 3.0, SD = .00$ ) use continuity contract frequently. Additionally the findings revealed that Glo Ghana ( $M = 4.0, SD = .00$ ) use negotiated contract( $M = 3.3, SD = .97$ ) most frequently than MTN( $M = 3.5, SD = .100$ ), Airtel( $M = 2.8, SD = .96$ ), Vodafone( $M = 3.5, SD = .100$ ) and Tigo Ghana( $M = 2.5, SD = 1.00$ ) just as MTN Ghana( $M = 4.0, SD = .00$ ) used serial contract( $M = 3.1, SD = 1.21$ ) most frequently than Tigo( $M = 3.8, SD = .50$ ), Airtel ( $M = 3.5, SD = .58$ ), Vodafone( $M = 3.3, SD = .96$ ) and Glo Ghana( $M = 1.0, SD = .00$ ) .





**Table 4.12. Differences in the Usage of Management Procurement Methods among Telecommunication Companies**

	Glo Ghana		MTN Ghana		Airtel Ghana		Vodafone Ghana		Tigo Ghana		Total		Test Value	
<b>Management Procurement Method</b>	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	<i>F</i>	<i>p</i>
Design Build Manage	1.0	.00	4.0	.00	1.0	.00	1.25	.50	1.0	.00	1.7	1.28	139.000	.000*
Continuity Contract	3.0	.00	3.5	1.00	3.3	.50	3.0	.00	4.0	1.15	3.4	.75	1.355	.296
Negotiated Contract	4.0	.00	3.5	1.00	2.8	.96	3.5	1.00	2.5	1.00	3.3	.97	1.915	.160
Serial Contract	1.0	.00	4.0	.00	3.5	.58	3.3	.96	3.8	.50	3.1	1.21	19.417	.000*
Management Contract	1.0	.00	1.0	.00	1.8	1.00	3.3	.50	2.5	1.00	1.9	1.17	5.464	.006*
Construction Management Contract	1.0	.00	1.0	.00	1.0	.00	1.8	1.50	1.0	.00	1.2	.67	1.000	.438
Joint Contract	1.0	.00	1.0	.00	2.8	1.50	2.3	1.20	1.8	1.50	1.8	1.21	1.952	.154
Partnership	1.0	.00	1.0	.00	2.8	2.06	2.3	1.26	1.8	1.00	1.8	1.33	1.469	.261
Total	13.0	.00	19.0	1.15	18.8	2.22	20.5	3.11	18.3	2.06	17.9	3.18	8.138	.001*

M= Mean, SD= Standard Deviation

\*( $p \leq 0.05$ )

Source: Researcher's Fieldwork 2015

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Also the respondents showed agreement that they use management contract ( $M = 1.9, SD = 1.17$ ) quite frequently. However, Vodafone ( $M = 3.3, SD = .96$ ) and Tigo Ghana ( $M = 2.5, SD = 1.00$ ) showed agreement to the statement than Glo ( $M = 1.0, SD = .00$ ), MTN ( $M = 1.0, SD = .00$ ) and Airtel Ghana ( $M = 1.8, SD = .00$ ) who showed disagreement. Meanwhile the respondents rated favourably that they use joint contract ( $M = 1.8, SD = 1.21$ ) and partnership ( $M = 1.3, SD = 1.33$ ) quite often. However Airtel ( $M = 2.8, SD = 1.58$ ) and Vodafone Ghana ( $M = 2.8, SD = 1.20$ ) than Tigo ( $M = 1.8, SD = 1.50$ ), Glo ( $M = 1.0, SD = .00$ ) and MTN Ghana ( $M = 1.0, SD = .00$ ) opined that they use joint contract oftenly just as Airtel ( $M = 2.8, SD = 2.06$ ) and Vodafone Ghana ( $M = 2.3, SD = 1.26$ ) than Tigo ( $M = 1.8, SD = 1.00$ ), Glo ( $M = 1.0, SD = .00$ ) and MTN Ghana ( $M = 1.0, SD = .00$ ) expressed that they use partnership frequently. Glo ( $M = 1.0, SD = .00$ ), Airtel ( $M = 1.0, SD = .00$ ), Tigo ( $M = 1.0, SD = .00$ ) and Vodafone Ghana ( $M = 1.0, SD = .00$ ) indicated that they do not use design build manage ( $M = 1.7, SD = 1.28$ ) at all as compared to MTN Ghana ( $M = 4.0, SD = .00$ ) who used design build manage most frequently. Overwhelmingly, the respondents opined that they do not use construction management contract ( $M = 1.2, SD = .67$ ). Consequently the respondents indicated that they do not use management procurement methods ( $M = 17.9, SD = 3.18$ ) oftenly. However Vodafone Ghana ( $M = 20.5, SD = 3.11$ ) indicated that they use management procurement methods quite often as compared to Glo ( $M = 13.0, SD = .00$ ), MTN ( $M = 19.0, SD = 1.15$ ), Airtel ( $M = 18.8, SD = 2.22$ ) and Tigo Ghana ( $M = 18.3, SD = 2.06$ ).

#### 4.9 CHALLENGES IN PROCUREMENT

Thai (2001) “stated that each country has its own financial, societal, ethnic and political setting, and each country’s public procurement practitioners face dissimilar types of trials or the same types of difficulties but at diverse stages from their complements in other countries”. Thai (2001) consequently recognized the subsequent “six common trials in public procurement”:

- i. The absolute greatness of procurement expenses has a countless influence on the economy and desires to be healthy accomplished.
- ii. Public procurement has been used as an imperative tool for attaining economic, social and other purposes.
- iii. Due to explanations counting better inspection of taxpayers and challenging sellers, public procurement has been apparent as an area of waste and exploitation.
- iv. As many countries have enthused to a local and/or global economy, public procurement practitioners face a task of how to comply with their government’s procurement procedures and social and economic procurement objectives without sacrilegious local and/or global trade arrangements.
- v. In industrialized as well as emerging countries, ignoring their financial, social, and political setting, a complete procurement structure has talented two groups of necessities: management necessities and policy necessities. The procurement management requirements normally include quality, timeliness, cost (more than just the price), minimizing business, financial and technical risks, exploiting struggle, and maintaining integrity. The procurement strategy suppliers usually contain economic objectives environment defense or green procurement



(promoting the use of recycled goods), social goals (assisting minority and woman-owned business concerns), and a worldwide trade contract. It is very problematic for policy makers and public procurement practitioners to make a best choice, as there are always trade-offs between these objectives.

- vi. Facing the challenges above and others, including rapid developments in technology (which have led to new procurement methods), public procurement cannot be perceived as mere a „clerical routine“, as procurement practitioners are and would be involved in strategic procurement planning (Thai, 2001).

Thus the respondents were asked to identify the difficulties that are encountered in the use of procurement methods on a five-point Likert scale (1 indicating, strongly disagree, 5 indicating strongly agree). The result is shown in Table 13 below.

**Research Question two: What are the challenges that are encountered in the use of procurement methods?**

To determine the challenges that is encountered in the use of procurement methods, it was suggested that telecommunication companies as part of following procurement methods encounter delays decision making in the use of traditional methods of procurement, corruption on the part of tenders, incompetent companies and certainly not enough funding to execute all the required procurement methods to complete a project. The result is shown in Table 13 below. Table 13 shows the distribution of the challenges encountered in the use of procurement methods. All (100%) of the respondents agreed (agree, 25%; strongly agree, 75%) that certainly there are not enough funds to execute all the required procurement methods needed to complete a project. However the respondents admitted that corruption on the part of tenderers pose a challenge in some of the procurement methods used. This was evident as eighty percent of the respondents agreed (agree, 50%; strongly agree, 30%) although twenty percent disagreed (disagree,

5%; strongly disagree, 15%). Meanwhile seventy-five percent of the respondents agreed (agree, 35%; strongly agree, 40%) most companies are incompetent and therefore make the application of certain procurement methods delay contrary to twenty-five percent who disagreed (disagree, 15%; strongly disagree, 10%).

**Table 4.13. Challenges Encountered in the use of Procurement Methods**

Challenges	SD		D		I		A		SA	
	N	%	N	%	N	%	N	%	N	%
1. Delays in decision making has been a major challenge in the use of traditional procurement methods	1	5.0	5	25.0	-	-	9	45.0	5	25.0
2. Corruption on the part of tenderers pose a challenge in some of the procurement methods used	3	15.0	1	5.0	-	-	10	50.0	6	30.0
3. Most companies are incompetent and therefore makes the application of certain procurement methods delay	2	10.0	3	15.0	-	-	7	35.0	8	40.0
4. There are certainly not enough funds to execute all the required procurement methods needed to complete a project	-	-	-	-	-	-	5	25.0	15	75.0

Source: Researcher's Fieldwork 2015

On the contrary, although 30% of the respondents disagreed that delays in decision making has been a major challenge in the use of traditional procurement methods majority agreed (agree, 45%; strongly agree, 25%) that delays in decision making has been a major challenge in the use of traditional procurement methods.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATION**

#### **5.1 INTRODUCTION**

The aim of the study is to ascertain the various procurement methods used by the telecommunication companies in Ghana and to accomplish this aim, a number of objectives which were being guided by research questions set. In this chapter, the research questions and objectives are revisited to bring into light the extent to which the aim of the study has been achieved throughout the various phases of the study. The chapter also presents recommendations of the researcher based on the findings of the study and the states of difficulties that were encountered throughout of the study.

#### **5.2 RESEARCH QUESTIONS**

In order to accomplish the above objectives the resulting study questions will be asked:

1. What are the various procurement methods employed by the telecommunication companies in Ghana?
2. What are the challenges encountered in the use of procurement methods within Telecommunication companies in Ghana

##### **5.2.1 To identify the various procurement methods employed by the telecommunication companies in Ghana.**

Majority representing 100% of the respondents indicated that as part of following the traditional methods of procurement uses bill of quantities often. Sixty-five percent of the respondents also opined that they use schedule rate as part of following the traditional methods of procurement. Meanwhile 75% of the respondents agreed that they use single or sole sourcing as part of following the traditional methods of procurement often contrary

to 25% who mentioned that they do not use it often. Majority (100%) of the participants indicated that they often use restricted tendering as part of following the traditional methods of procurement. However the respondents indicated that they do not use open tendering often. This was evident as 60% of the respondents agreed. Eighty percent reported that they use drawing and specification oftenly. All (100%) of the respondents overwhelmingly agreed that they use request of quotation often as part of following the traditional methods of procurement. On the other hand, most (95%) of the respondents reported that they use cost reimbursement oftenly. The findings also showed that 45% of the telecommunication companies do not use two-stage tendering at all.

All (100%) of the respondent mentioned that they do not use build own operate transfer as part of following the design and construct procurement methods at all. Meanwhile 70% of the respondents mentioned that they do not use develop and construct at all. However, eighty percent of the participants mentioned that they use package deal but not often contrary to. Also 55% of the respondents opined that they use turnkey as part of the part of following the design and construct procurement methods but not often.

Additionally, although 15% of the respondents opined they use design and build often, 20% opined that they do not use it at all unlike 65% who mentioned that they use design and build method but not often.

All (100%) of the respondents mentioned that they use continuity contract as part of following the management procurement method often. Meanwhile 75% of the respondents opined that they do not use design build manage at all. However 70% of the respondents indicated that they use negotiated contract method oftenly. Although 40% of the respondents opined that they use management contract oftenly part of following the management procurement method, 60% of the respondents indicated that they do not use



it at all. More than nine out of ten (95%) of the respondents mentioned that they do not use construction management contract method at all. Seventy-five percent of the participants reported that they use serial contract method oftenly. Also sixty-five percent of the respondents indicated that they do not use joint contract method at all. Additionally, seven out of ten (70%) of the respondents mentioned that they do not use partnership method at all.

### **5.2.2 To identify the challenges that encountered in the use of procurement methods.**

All (100%) of the respondents agreed that certainly there are not enough funds to execute all the required procurement methods needed to complete a project. However the respondents admitted that corruption on the part of tenderers pose a challenge in some of the procurement methods used. This was evident as eighty percent of the respondents agreed although twenty percent disagreed. Meanwhile seventy-five percent of the respondents agreed most companies are incompetent and therefore make the application of certain procurement methods delay contrary to twenty-five percent who disagreed. On the contrary, although 30% of the respondents disagreed that delays in decision making has been a major challenge in the use of traditional procurement methods majority agreed that delays in decision making has been a major challenge in the use of traditional procurement methods.

## **5.3 SUMMARY OF FINDINGS**

The findings revealed that all (100%) telecommunication companies erect masts and engage in collocation projects as part of the projects they engage in. Majority (100%) of telecommunication companies get their funds from internally generated funds and investor

funding. Also majority of telecommunication companies in the selection of contractors or suppliers for projects and operations use SSNIT contribution, internal revenue and VAT contribution. However 84.2% of the respondents indicated that they normally engage both local and foreign contractors for the awards of contracts just as 95% indicated that they consider local preferences in the selection of contractors. Majority of the respondents opined that as part of their social responsibility they build schools (85%), support needy but intelligent (95%) students and construct road (70%). The findings also showed that most (70%) of the telecom companies do goods and services procurement while 55% use a year to prepare their procurement plan.

## **5.4 CONCLUSION**

Majority of telecommunication companies erect masts and engage in collocation projects as part of the projects they engage in. Telecommunication companies get their funds from internally generated funds and investor funding. Telecommunication companies in the selection of contractors or suppliers for projects and operations use SSNIT contribution, internal revenue and VAT contribution and normally engage both local and foreign contractors for the awards of contracts just as they consider local preferences in the selection of contractors. Majority of the social responsibility of telecom companies include building schools, supporting needy but intelligent students and constructing roads. Most telecom companies do goods and services procurement and use a year to prepare their procurement plan.

### **5.4.1 What are the various procurement methods employed by the telecommunication companies in Ghana.**

As part of following the traditional methods of procurement the many telecom companies use bill of quantities often schedule rate, single or sole sourcing, request of quotation,

drawing and specification, restricted tendering and cost reimbursement oftenly. However some telecom companies do not use open tendering often. Some of the telecommunication companies do not use two-stage tendering at all.

All telecom companies do not use build own operate transfer as part of following the design and construct procurement methods at all. Other telecoms companies do not use develop and construct too at all. However, some telecommunication companies use turnkey as well as design and build as part of following the design and construct procurement methods.

Telecom companies use continuity contract, negotiated contract and serial contract as part of following the management procurement method often. However majority of telecom companies do not use design build manage, management contract, construction management contract, joint contract as well as partnership at all.

#### **5.4.2 What are the challenges that are encountered in the use of procurement methods?**

One major challenge of telecommunications companies is that certainly there are not enough funds to execute all the required procurement methods needed to complete a project. Corruption on the part of tenderers poses a challenge in some of the procurement methods used as well as incompetent companies make the application of certain procurement methods delay. Also delays in decision making have been a major challenge in the use of traditional procurement methods for telecommunication companies.

## 5.5 RECOMMENDATIONS

The following recommendations were made based on the preliminary findings of the study:

1. The findings showed that a number of telecommunication companies do not use management procurement method; it therefore suggested that procurement trainings, workshops and seminars should be organized for the various procurement departments so as to sensitize them of the benefits that comes with the usage of management procurement methods.
2. Design and construct procurement methods have been found out to be one of the methods for overcoming some of the problems inherent in traditional procurement methods. Thus telecommunication companies should adhere to their design and construct procurement method to reap high benefits.
3. There is need for adoption of professional procurement practices. As a matter of fact putting purchasing in the rightful hands leads to the well management of critical resources within the organization. If organizations in all sectors were to adopt professionally the Purchasing practices, this would result in a positive impact on the profitability of the company. The adoption of professional Purchasing practices would minimize if not eliminate some of the challenges encountered in the use of procurement methods.
4. There is necessity for training of procurement officers. Training would safeguard a purchasing practitioner to be someone who can make complete and reliable choices which can add value to the business.
5. Finally, more studies can be replicated procurement methods to include a wider scope.



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## APPENDIX 1

### KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY MSc. PROCUREMENT MANAGEMENT PROCUREMENT METHODS QUESTIONNAIRE

Good Morning/Afternoon. My name is Christopher Memphis Amissah Quainoo, I am conducting a research on the **Procurement Methods Used by the Telecommunication Industry in Ghana**. I am a student at the KNUST. You have been selected as one of the respondents to the questionnaire of the study. As a result I would be very glad if you could spend about 10 minutes of your time to complete the questionnaire. The information provided will be used only for academic research purposes. No one will disclose any information you will provide or try to sell anything as a result of your participation in this study.

#### DEMOGRAPHIC INFORMATION

PLEASE KINDLY PROVIDE SOME BACKGROUND INFORMATION ABOUT YOURSELF AND COMPANY BY TICKING THE APPROPRIATE BOX OR WRITING IN THE SPACE PROVIDED.



1. What kind of project does your telecommunication company engage in?(PLEASE TICK WHERE APPLICABLE)

- A. Mast Erections ☐
- B. Collocation Projects ☐
- C. School Projects ☐
- D. Hospitals

2. What is the source of funding for your company?(PLEASE TICK WHERE APPLICABLE)

- A. Internally Generated fund
  - B. Investor Funding ☐
  - C. Donna Agencies ☐
  - D. Specify if other
- .....
- ...

3. What are the criterion used in selecting contractors or suppliers for your projects and operations? (PLEASE TICK WHERE APPLICABLE)

- A. SSNIT Contribution
- B. VAT Contribution
- C. Internal Revenue ☐

4. In the selection of contractors for works, does your company consider local preferences?

- A. Yes
- B. No
- C. Specify if any .....

5. What type of contractors do you normally engage for the award of contracts?(PLEASE TICK WHERE APPLICABLE)

- A. Local Contractors only ☐
  - B. Foreign Contractors only ☐
  - C. Both local and Foreign Contractors. ☐
  - D. Specify if any
- .....
- .....

6. As part of the co-operate social responsibilities, what does your company do to support the Ghanaian public (PLEASE TICK WHERE APPLICABLE).

- A. Building of schools ☐
  - B. Building of hospitals ☐
  - C. Supporting intelligent but needy children ☐
  - D. Road construction ☐
  - E. Specify if other
- .....
- .....

7. What is the time frame does your procurement department prepare their procurement plan?

- A. Monthly ☐  
B. Quarterly ☐  
C. 6 months ☐  
D. Yearly ☐  
E. Specify if other

.....  
.....  
..

8. What type of procurement does your company do? Procurement of (PLEASE TICK WHERE APPLICABLE)

- A. Goods ☐  
B. Works ☐  
C. Services ☐  
D. All ☐

9. Does other departments in your institution embraced procurement?

- A. Yes ☐  
B. No ☐  
C. Partially ☐

10. Does your company relate its procurement processes to the Public Procurement Act, 2003 (Act 663). A. Yes

- B. No  
C. Partially

11. Occupational Status of Respondents.....

## PROCUREMENT METHODS

THIS SECTION CONSISTS OF THE VARIOUS PROCUREMENT METHODS USED BY YOUR COMPANY. FOR EACH SECTION, PLEASE INDICATE HOW OFTEN OR NOT YOU USE THESE METHODS

1= Not used at All, 2= Not Often, 3= Quite Often, 4= Often, 5= Very Often (PLEASE TICK THE ONE APPROPRIATE ON EACH LINE)

S/N	PROCUREMENT METHODS	FREQUENCY OF USE				
	Traditional Procurement Methods	1	2	3	4	5
1.	Bill of Firm Quantities					
2.	Approximate Bill Quantities					
3.	Schedule of Rates					
4.	Single or Sole Sourcing					
5.	Two-Stage Tendering					
6.	Request for Quotation					
7.	Drawing and Specification					
8.	Restricted Tendering					
9.	Open Tendering					
10.	Cost Reimbursement					
<b>Design and Construct Procurement Methods</b>						
11.	Design and Build					
12.	Turnkey					
13.	Package Deal					
14.	Develop and Construct					
15.	Build Own Operate Transfer					
<b>Management Procurement Methods</b>						
16.	Design Build Manage					
17.	Continuity Contract					
18.	Negotiated Contract					
19.	Serial Contract					
20.	Management Contract					
21.	Construction Management Contract					
22.	Joint Contract					
23.	Partnership					

## CHALLENGES ENCOUNTED IN THE USE OF PROCUREMENT METHODS

THIS SECTION CONSISTS OF THE CHALLENGES ENCOUNTED IN THE USED OF PROCUREMENT METHODS. FOR EACH SECTION, PLEASE INDICATE YOUR EXTENT OF AGREE OR DISAGREE WITH THE FOLLOWING PROCUREMENT CHALLENGES.

1= Strongly Disagree, 2= Disagree, 3= Neither Disagree or Agree, 4= Agree, 5= Strongly Agree

S/N	CHALLENGES ENCOUNTED IN THE USE OF PROCUREMENT METHODS	FREQUENCY OF OCCURANCE				
		1	2	3	4	5
1	Delays in decision making has been a major challenge in the use of traditional procurement methods					
2	Corruption on the part on the part tenderers pose challenges in some of the procurement methods used					
3	Most companies are incompetent and therefore makes the application of certain procurement methods delay					
4	There are certainly not enough funds to execute all the required procurement methods needed to complete a project					