

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
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Exploring the Causal Relationship Between Procurement Quality Problems and Specifications A Study of Procurement Activities of Ministries, Departments and Agencies in the Greater Accra Region.

By

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MASTER OF SCIENCE

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DECLARATION

I hereby declare that, this thesis submission is my own work towards the 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 the text.

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ABSTRACT

Sound public procurement policies and practices are among the essential elements of good governance. Good practices reduce costs and produce timely results; poor practices lead to waste and delays and are often the cause for allegations of corruption and government inefficiency. Nearly a decade after the introduction of Public Procurement Act, there still exist some Quality problems. The study therefore sought to assess the casual relationship between procurement quality problems and specifications in public procurement in Ghana. The objectives are to establish the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process, to identify the procurement quality problems in public procurement planning in Ghana and to model the impact of specifications on procurement quality problems. Using a purposive sampling approach, questionnaires were given to professionals. The analyses used was the mean score ranking, one sample t-test and relative importance index. The results show that, respondents found two major factors that does not serve as a problem to the utilization of specification as these factors failed under the one sample t test. These factors were; selection criteria for consultants and the standard details and specification to minimize workload. Also, delaying completion of project, lack of satisfaction by the end user, failure of constructed project was the impact of specification on quality problems. The research therefore recommends that, several aspects of quality problems and specification can be looked at in case there is to be a research on relationship between quality problems and the use of specification in Public Procurement. It is also advised that the research can be done on a larger scale considering other professionals in procurement.

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DEDICATION

The work is dedicated to the Almighty God, my mother and my lovely wife,

Francisca Ansah

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CHAPTER ONE

GENERAL INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Sound public procurement policies and practices are among the essential elements of good governance. Good practices reduce costs and produce timely results; poor practices lead to waste and delays and are often the cause for allegations of corruption and government inefficiency (The World Bank Group, 2013). The public procurement unit aims at awarding to qualified contractors, suppliers, and service providers timely and cost-effective contracts in order to provide goods, works and services that will support both the national and local government as well as the public services operations making use of the spelt out principles and procedures stated in the public procurement rules (Lynch, 2012). Years ago, the legal structure that support the activities of procurement was very limited (Westing, 1997; World Bank, 1996). The Ghana Supply Commission was initially responsible for the procurement of all public goods. Their services were characterized by improper planning for required goods, lack of adequate database and problems in the timely acquisition of funds which resulted in late delivery. As a result of these developments, most public-sector institutions decided to conduct their own procurement activities. These activities were done in a way that will help achieve value for money.

The government of Ghana in view of these developments started a massive public-sector procurement and financial management in 1996. The objective of procurement reform proposal were to promote national development, enhance harmony with other local and internal laws, foster competition, efficiency, transparency and accountability, facilitate ease of procurement administration and ensure value for

money in a developing country like Ghana. (Ministry of Finance, 2001). They structured their procurement process such that, they will maximize procurement operational performance in order to achieve Value for Tax Payers Money. This brought about the Public Procurement Act, Act 663 of 2003 in a bid to streamline and harmonize procurement rules, regulations and practices in the public sector.

In Ghana, the national budget (after personal emoluments) accounts for 50-70%, a GDP of 14% and 24% making up for total imports. It was argued based on country procurement assessment report, (World Bank, 2003) indicated that the public procurement sector consumes the largest share of the public resources. Although Procurement has final responsibility for the competitiveness and suitability of specifications, Procurement cannot initiate or prepare all specifications. Procurement serves as the primary activity involved in developing specifications for items purchased under indefinite quantity term contracts and definite quantity scheduled purchases. The duty of Procurement to promote both product and price competition requires that specifications be as non-restrictive as practicable, consistent with satisfying legitimate needs. Procurement is responsible for final editing of specifications, and ensuring clarity of language with jargon or in-house terminology. The overall purpose of a specification is to provide a basis for obtaining a good, works and service that will satisfy a particular need at an economical cost and to invite maximum reasonable competition. To this end, specifications may not be unduly restrictive. By definition, a specification sets limits and thereby eliminates, or potentially eliminates, items that are outside the boundaries drawn. However, a specification should be written to encourage, not discourage, competition consistent with seeking overall economy for the purpose intended. The importance of public procurement calls for assessment of how these procurement Processes are conducted

in an effort to achieve the main objective of the reform. After the passage of the Act, Act 663, 2003, it was mandatory for public sector and all institutions to set up procurement department. This department will be responsible for implementing the Act (Act 663, 2003). There is evidence of disappointing results in many organization's attempt to implement quality management due mainly to obstacles in implementation (Yusoff et al, 2006). Obstacles in implementation arise from improper attitudes and perception of management and employees, inadequate resources and training as well as inappropriate environments for implementation. This research is to find out the Casual Relationship between Procurement Quality Problems and Specifications.

1.2 PROBLEM STATEMENT

Nearly a decade after the introduction of Public Procurement Act, there still exist some Quality problems. These among many include delays in proving pro forma invoice in payment, low capacity of procurement professionals, low interaction between procurement entities and Public Procurement Authority (PPA), deliberate controlling of competition, non-compliance with provisions of the law, splitting of contracts into smaller lots, lack of funds etc. (Ameyaw et al., 2012). These can result in long processes and affect the operational performance in terms of meeting internal customers (departments) need on time. This research is therefore assessing the causal relationship between quality problems and specifications of procurement to find out what is causing these Problems. These decisions have had costly consequences for any public entity, and the country at large.

1.3 AIM

The aim of this research is to assess the causal relationship between procurement quality problems and specifications in public procurement in Ghana.

1.4 OBJECTIVES

Having set up the above aim it would be achieved through the following objectives:

1. To determine the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process.
2. To assess the procurement quality problems in public procurement planning in Ghana.
3. To ascertain the impact of specifications on procurement quality problems.

1.5 RESEARCH QUESTIONS

At the end of this research, it is expected that these questions are answered by the researchers

1. What are the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process?
2. What are the procurement quality problems in the procurement processes?
3. To what extent does specifications impact on procurement quality problems?

1.6 SIGNIFICANCE OF THE STUDY

The significance of the study is to address the casual relationship between procurement quality problems and specifications in the public procurement process in Ghana. This research will also be useful as a source of reference for academic purpose for students, Lecturers and other researchers who may conduct future research into procurement processes and its operational performance.

To add to this, the internal and external customers of procurement will be familiar with procurement processes for effective collaboration in meeting material requirements of the institution. In conclusion, it will serve as a guide for policy makers in any future decision making and contribute to the body of knowledge.

1.7 RESEARCH METHODOLOGY

This research project was based on a combination of exploratory and descriptive study. It is an exploratory study because the goal of this research project is to identify causal relationship between procurement quality problems and specifications in public procurement process where there has been little research conducted in the area. Besides that, the researcher is uncertain of the perceptions of the respondents towards these problems.

Findings report from the early explorations was to provide new and valuable insights into the area of procurement quality problems and specifications relationship in public procurement. This research work also look at more sophisticated and theoretically relevant studies in the future.

The study was descriptive for the purpose of describing a group's behaviour to identify the procurement quality problems and specifications relationship in procurement in the Government Agencies. A survey will be used in this study for the purpose to elicit the industries 'perception regarding procurement quality problems and specifications relationship. Develop questionnaire from the literature and administer to professionals in procurement and key actors in public procurement management. Data gathered from the will be processed and analyzed using descriptive data analysis.

1.8 SCOPE OF STUDY

Geographically, this research is to be conducted in the Greater Accra Region. This region has been chosen because it houses the headquarters of the Public Procurement Authority (PPA) in the country. A huge amount of budgetary resources is allocated to this region and it is important to assess how this money is used through Procurement. Again, the area is selected mainly due to its higher level of procurement activities that take place in the region as well as proximity and easy accessibility of data to the study. The research is limited to the pre-contract stage which includes: The Planning stage, Tendering stage and award stage.

1.9 STRUCTURE OF THE REPORT

This research has been grouped into five chapters. The first chapter will provide the background information of the study which includes introduction, problem statement, research questions and objectives, and scope of the study. The literature on causal relationship between procurement quality problems and specifications in the public procurement process in Ghana at the pre-contract stage will be reviewed and discussed in chapter two. The chapter three captured the research design, sample technique and procedure, sources of data, data collection instruments and data analyses which form the methodology of this study. In chapter four, the whole analysis for the study was discussed and chapter five consists of the summary of the findings obtained as well as recommendation and conclusion to the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This mainly look at literature review on the subject. The chapter include broadly: the definition of some procurement, specification and quality terms as used in this research, some challenges associated with public procurement delivering and the impact of specification on procurement quality. This chapter also focuses on procurement in terms of its definition, importance of procurement, procurement rules and procedure, consequences and challenges of procurement, procurement cycle, and procurement system in Ghana. This chapter is ideally aimed to unearth all the variable in the subject to enable analysis and discussion of the situation in the study area.

2.2 OVERVIEW OF PROCUREMENT

Public procurement should recognize that a specification may form a part of a wider description of requirements hence the need to understand the element required to accurately define, represent and fully express the requirements of the requestor. It is important to provide an accurate statement of requirement to enable the potential suppliers provide exactly what is needed.

The effectiveness of the public procurement system serves as a major tool for the running of an economy. Where procurement is poorly done, it results in a high cost on both the government and the public. According to World Bank, 2000, the interruption in the approval of projects, higher cost, shoddy works, delays in the execution of works are the characteristics of poor procurement. It also has the tendency to high level of corruption. Poor procurement system at large does not

make way for competent firms either national or international to participate in tendering which goes to deny the country of obtaining the best goods, works and services at reasonable prices (World Bank, 2000). As this research looked at some challenges associated with procurement delivering as discussed below (World Bank, 2000).

2.2.1 The Definitions of Procurement

A set of sub processes or stages focused on achieving an output is defined as a process Lysons and Farrinyton 2006. The procurement cycle is a system that shows the activities procurement undertakes or performs in other to meet an operation. Wan Lu (2007) argued that in describing what a process is, then the features of a flow chart and blue print must be identified. Specification, selection of suppliers, awarding of contract, expediting and evaluation of the whole procurement process are some of the six stages identified as processes of procurement by Weele, 2010. Monezka et al., 2003 similarly presented the procurement cycle in stages but in five stages unlike that of Weele. The five stages of procurement identified by Monezka et al., 2003 will be different in regards to the form of procurement as well as the individual set up. This simple means that the nature of procurement will determine what stages to be selected to obtain the needs or requirements demanded. Emmett and Crocker (2008) have identified a ten stage procurement process which includes the identification of need to the payment of supply of need. This occurs as some organization combine some of the stages to reduce the lead time and other cost of administration. For instance, expediting and evaluation has been joined together as one stage by some organizations or corporate institutions. Due to this, there is no standard number of stages identified as a procurement process. Most of the writers has shown that the procurement activity to be undertaken will determine the stages to

select as not every stage is needed in a particular procurement activity. For instance, the selection and identification of source will be taken out if prequalification which sort to assess their capability has been undertaken initially. Currently an innovative way of procurement has been identified by Lyson, Gillingham (2003), and Weele (2010). This enables procurement to be conducted electronically hence the name e-procurement. They suggested that this will shorten the long chain of the old form of procurement process.

2.2.2 Goods-

These include a wide spectrum of materials or items needed for undertaking other activities or in the implementation of a project. In the construction industry, materials, equipment, office suppliers and other items for construction works can be identified as goods. Goods under telecommunication includes soft wares, office equipment, computers, furniture, among others (International Organization for Migration, 2013)

2.2.3 Works

These covers all infrastructure projects of buildings, roads and bridges that must be constructed, demolished, rehabilitated, or maintained. Projects like irrigation, flood control and drainage, water supply are all classified as works (International Organization for Migration, 2013)

2.2.4 Consulting Services

Items that are not covered under goods and works are termed as services and provided by technical and professional experts externally other than within. These experts provide services such as supervision, management, investment and feasibility

studies at initial phase of project, advising and reviewing of works and design provisions (International Organization for Migration, 2013)

2.2.5 Procurement Planning

The act of deciding what to purchase, when and where to purchase is termed as procurement planning. The procurement method is identified with the procurement aims to fulfill requirement determined during the process of procurement planning (Lynch, 2013)

2.2.6 Procurement Plan

The outcome of the procurement planning process is the procurement plan. Procurement plan can be developed for a particular project, or several other projects in entities both for the private or public sectors (Lynch, 2013)

2.2.7 Tender

A term used in procurement system to ascertain responses from potential suppliers.

2.3 BRIEF PROCUREMENT ACTIVITIES

2.3.1 Procurement Plan

Section 21(1)

- A procurement entity shall prepare a procurement plan to support its approved programme.

Section 21(2)

- The plan shall indicate:
 - a) Contract packages description or lot,
 - b) Estimated cost for each package,
 - c) The procurement method approval needed and

d) Processing steps and time.

Section 21(3)

- A procurement entity shall submit to its entity tender committee not later than one month to the end of the financial year the procurement plan for the following year for approval and shall post the procurement plan on the website of the Authority.

Section 21(4)

- After budget approval and at quarterly intervals after that, a procurement entity shall submit an update of the procurement plan to the entity tender committee and shall post the update of the procurement plan on the website of the Authority.

Section 21(6)

- The procurement entity shall not divide the procurement order into parts or lower the value of the procurement order to avoid the application of the procedures for public procurement in this ACT.

2.3.2 Qualification of Tenderers

Tenderers shall have the following: Professional and Technical Qualification and Competence, Financial ability - be solvent, Equipment and other physical facilities, Personnel to execute the work, Legal right to compete thus be registered, RG, IRS, VAT, SSNIT, not engaging Minors, etc. (PPA,2003).

2.3.3 Prequalification

The Procurement Entity identifies the qualified tenderers prior to tender submission or invitation to tender. (PPA, 2003).

2.3.4 Decision on Prequalification

Section 24

The decision to qualify a supplier or contractor who has submitted to prequalify would be based on only the criteria stated in the prequalification document. (PPA,2003).

2.3.5 Participation in Procurement Proceedings

Section 25

Participation shall be on competitive bases.

2.3.6 Form of Communication

Section 26

- Shall be in written form, Verbal communication must be confirmed in writing.

2.3.7 Documentary evidence in Procurement Proceedings

Section 27

The documentary evidences are required in procurement proceedings. All documents must be properly filed, Adverts IFTs, Evaluation Reports, Approvals, Contracts Notifications, Contract Forms, Delivery and Inspection, Documents etc. (PPA, 2003)

2.3.8 Records of Procurement Proceedings

Section 28

A Procurement Entity shall maintain records of procurement proceedings: Description of Goods, Works and Services. Names and Addresses suppliers, contractors and consultants that submitted tenders, quotations and proposals. Name and Address of the suppliers, contractors and consultants with whom the procurement contract is entered. Qualification information on the suppliers or contractors. The Prices of Tenders. Evaluation and Comparison of tenders. Statements of rejection of tenders and the grounds for the rejection. Etc. (PPA, 2003).

2.3.9 Rejection of Tenders, Proposals and Quotations

Section 29

PE may reject tenders, proposals and quotation at any time prior to acceptance of bids. The grounds for the rejection must be specified in the tender documents. E.g. Late submission of bids, Tenderers must be given the rejection notice.

2.3.10 Entry into Force of the Procurement Contract

Section 30

Issuing a Notification of Contract Award letter and signing the Contract Form. Public Procurement Act, Act 663, (2003).

2.3.11 Public Notice of Contract Awards

Section 31(1)

- A procurement entity shall promptly publish notice of procurement contract awards on the website of the Authority.

Section 31(2)

- The Regulations shall provide for any other manner of publication of the notice of contract awards.

2.3.12 Inducement from Supplier, Contractor and Consultant

Section 32. A PE shall reject a tender, quotation and proposal if the supplier or the contractor that submitted bid, gives or agreed to give directly or indirectly to any current or former officer employee of the PE: A gratuity in any form; Offer of employment; and any other thing of service or value as inducement. (PPA, 2003).

2.4 PROCUREMENT PLANNING

One of the most important steps in the public procurement cycle is procurement planning. It is expected of the procurement plan to provide all needed requirements under each procurement entity. Often times some items that are found to be below a specified threshold are not documented in the procurement plan, however, it is suggested that provision should be put in place such that all procurement activities of any procurement entity is documented in the procurement plan. After budget approval and at quarterly intervals after that, a procurement entity shall submit an update of the procurement plan to the entity tender committee and shall post the update of the procurement plan on the website of the Authority. This indicates that the procurement plan is not a rigid document but a flexible one. However, the act of constantly updating the procurement plan should be neglected. The act of updating does not give way for the importance of procurement planning to be down played as it is a major tool used to control procurement activities. This means that all actions of procurement taken by the entity of procurement should have an approved procurement plan as a guide. The focus of the procurement plan is over a large spectrum from the need to determine the support in stages of specifications and bid

documents, evaluation to point of ensuring the desired need has been met. It is important to note that once the procurement plan is prepared and approved, it should be allowed for a review only by means of an approved amendment. Only in instances with extreme cases should a particular procurement begin without being stated on the approved procurement plan (Lynch, 2012)

2.5 TYPES OF TENDERING

Category requirement or Procurement Type are means by which tender can be classified. However, there are several types of tender but the main categories of the tenders will be discussed below.

2.5.1 Open Tender

Open tender as a type of tender occurs when the general public is invited to compete in for a contract. This is often done through advertisement in the local newspapers. The practice of open tender is to ensure and promote transparency as it allows for the best priced contractor with adequate competence to be awarded (Tendersinfo, 2012)

2.5.2 Limited or Closed Tender/ Selective Tender

Limited or selective tender allows for only pre-qualified tenderers to be selected for competing for the award. Wide scope advertisement is not done for selected tendering. Often times the specific type of tenderer needed for the competition is indicated. For instance, the tender allows for only; D1K1 or D2K2 or D3K3 or D4K4 contractors to tender in for the contract.

2.5.3 Single Tender

Single tender occurs as a result of past experience (trust) the client may have had with a supplier or contractors or maybe where there is clearly not completion with a particular supplier or contractor making such contractor or supplier the only available

source to deal with. Items under single tender are often of proprietary nature. The client may only like to ascertain the current prices and other services to get updated (Tendersinfo, 2012)

2.5.4 International Competitive Bidding (ICB)

The type of tender also occurs when competing is not limited only to contractors or suppliers in the country but the global world as well. Tenderers from other countries who are eligible to compete are given equal chance to tender

2.5.5 National Competitive Bidding (NCB)

This form of tender limits the participation of international companies thereby allowing for the participation of only the indigenous companies (Tendersinfo, 2012)

2.5.6 Request for Proposal (RSP)

This type of tender allows the tenderers to submit only their technical proposal.

2.5.7 Request for Quotation (RFQ)

This is when an organization makes requests to several companies to get various price unit (quotation) of a particular product or service. This is done to see the competitive prices suppliers will be willing to give so the best priced commodity of the desired quality can be purchased.

2.5.8 Expression of Interest (EOI)

This is a document that shows the desire and willingness of a contractor or supplier towards a particular contract or project (Tendersinfo, 2012)

2.5.9 Single Envelope Bidding

This allows for the submission of both price and technical proposal in the same envelope. Tenderer with the lowest evaluation is awarded the contract (Tendersinfo, 2012)

2.5.10 Two-Envelope Bidding

Similar to the single envelope, but differ in that the proposals will each be put into separate envelopes and sealed; thus price proposal in an envelope and the technical proposal in another envelope. The two separate envelopes of the proposal are put into a big one sealed and submitted. During evaluation, the technical proposals are opened first after which the priced proposals are opened only for those who have qualified in the technical proposal.

2.5.11 Multiple Envelope Bidding

This form allows for the submitting of three different document. First EMD, Technical bid, and price bid all in separate envelopes. Unless otherwise stated, this documents can be submitted in separate envelope. The EMD and Prequalification envelopes are opened first. Then the technical bid of pre-qualified bidders is opened then the prices bid of the technically qualified bidders is opened at last (Tendersinfo, 2012)

2.6 PUBLIC PROCUREMENT CHALLENGES

-Internal factors

The public procurement entity as a body is often times faced with challenges that hinders the free flow of executing their responsibilities. Some of these factors that hinders the flow of duty could be either internal or external. However, it is important to note that the practitioners of public procurement have often times had a tough time as their desire to complete their procurement goals and aims are often influenced by several internal forces. Some of these forces include;

- The bureaucratic nature of the system. This occurs through several interactions that the body needs to undertake with various elements of the procurement system, its officials, actors, agencies among many others.
- The quality or professionalism of the staff in another challenge to the procurement system. As the poor ethics displayed by these staff workers results in the loss of huge resourced deficit of the state.

2.7 PUBLIC PROCUREMENT CHALLENGES

-External factors

The market, legal, political, organizational, and socio-economic environmental factors among others are the challenges the public procurement practitioners face in the execution of their duty. Thai, 2004.

2.7.1 Market Environment

The market stands as a major influence to the public procurement entity's quest to increase and improve competition as it serves as a determinant to meeting the objectives of the entity. It is through the market environment that one can ascertain if the entity can meet its goals, the time to which the needs may be met, the cost and quality of the goods, services and capital assets to be purchased. As a result of the difference in economic growth among countries globally, market conditions to vary. For instance, industrialized or developed countries may have a favorable market condition compared to developing countries (Thai, 2004). The United State is a typical example of captive market as the supply and services of certain goods are limited to only the government typically items like weapons. Through regional and international trade markets have now been globally recognized however, this tends to produce a greater challenge to public procurement practitioners. Aside challenges

with the policies of procurement, the procurement entity is faced with other challenges like communication, exchange rates and payments, regulations by customs, among many others. This implies that before making a foreign purchase, the procurement entity must have critically examined the sum total cost and its impact comparing it the domestic costs (National Institute of Governmental Purchasing, Inc, 1999, p.34). The procurement practitioners are often left on a tough decision making when faced with either the selection of domestic or foreign firms for transactions.

2.7.2 Legal Environment

The legal environment is a body that provides the platform for which all businesses can be carried out. It refers to a wide legal scope that manages all business activities from the manufacturing, finance, marketing among many others. It is important to note that most part of public or private contracts are governed under the same contract law. Such aspects of the contracts governed under the contract law include; contract requirements, disputes, or a breach in contracts. There is the need for detailed provisions to the government contracts especially in developing countries where the legal systems are not comprehensive (Thai, 2004)

2.7.3 Political Environment

Democracy allows for high level of participation in all aspects of the public procurement system from individuals, groups and organizations in both public and private sectors. (Thai, 2004).

Interest groups are involved in the system of public procurement by influencing the legislative bodies to make or review the laws or policies of procurement, its implementation, as well as the decisions concerning budget approval due to their

interest, objectives and beliefs. Often times the programs adopted by the government is a compromise of the various opinions of these interest groups, makers of policies and the management. However, in their effort to get their programs adopted in the democratic environment, there is instances of coalition among the makers of policy, bureaucrats and interest groups. This coalition has given rise to the concept of iron triangle, which is common concept in the field of procurement defense. The iron triangle shifts right after the authorization and appropriation stage of the procurement program to the stage of procurement. Companies specialized in defense compete against each other for these contracts as failure or success in winning large defense contracts has a great influence on the company. The procurement practitioners have choices irrespective of the political pressures they may face as well as sound economic decisions. Some of the challenges as they are faced with include, either to allow the relatively weak companies to stay in business competition or they should be taken out making way for competition for only the defense-specialized firms to compete for contracts. These challenges are commonly seen in developing countries where perfect competition is not practiced much. This leaves the large firms to stay and make their little profit margins or even contracts of losses. However, when these weak firms are driven out of business, they will profit from an imperfect competitive market (Thai, 2004).

2.7.4 Other Environmental Forces

Another external challenge faced by the procurement practitioners has to do with culture and technology. Inna cultural setting where the act of giving gifts is a common practice, it becomes difficult for one to tell the difference between gifts and bribe. Moreover, the advancement of technology has given way for the adoption of e-signature making the whole system at times unreliable.

2.8 CONCEPT OF QUALITY AND QUALITY MANAGEMENT

2.8.1 Concept of Quality

The concept of quality is a major topic to be recognized in the business world just like any other fields making it become a subject often talked about by the academia, researchers and practitioners. For any business to experience a tremendous growth, quality is often mentioned to be its hallmark. The desire for quality makes both the management and the employees put in effort to realize their goal. According to Dale, 2003, there is not definite definition to quality universally. To define quality several considerations are factored in to support and such includes, facts, perception of excellence or with a supporting literature (Dale, 2003; Dahlgaard et al., 2002) hence having a wide range of definitions. According to ISO for instance, quality is defined as the sum total of a product considering its features or characteristics and its ability to meet the exact need of the individual.

Palaneeswaran et al, 2005 defines it as a product that can effectively and efficiently meet the requirement or need of the purchaser. Edward Deming also sees quality as any product or services that provides satisfaction to the consumer (Deming, 2000). Another definitions states that any product with is the ability to be used for its intended purpose (Juran and Gryna, 1993). Crosby as well defines quality of a product as the meeting the standards (Crosby, 1980). Feigenhham also defined quality as the sum of the product and its services geared towards meeting the expectation of the consumer (Feigenhham, 1991).

Oakland (2000) also viewed that a product of quality must be reliable, available, have a delivery system, can be maintained and be cost effective. Garvin 1998, made a study on the definition of quality and suggested that quality should be classified into five distinct categories. These categories suggested includes; transcendent,

product-based, user-based, manufacturing based, and value based. Dahlgaard et al., 2002, Havey and Green 1993, also proposed a five model definitions of quality. These definition models are discrete and interrelated include; exceptional, perfection, fitness for purpose, value for money, and transformative.

2.8.2 Quality Management

All activities and functions of management, specifically leadership at top level management that ascertains the quality policy, objectives and responsibilities for all members of an organization is referred to as Quality Management. It includes all the efforts managers put in their activities in other to implement policy to meet quality. Some of these activities the managers perform include; quality planning, control, assurance and improvement (McCafer and Harris, 2001). Coordinating activities in other to direct and control organizations to meet quality is defined also as quality management (ISO 9000:2000). These activities often times takes the form of management and integrated further into the system. ISO quality management system and Total Quality Management (TQM) are the most common quality management system implemented in recent history.

Most companies in the construction industry across the world are faced with several challenges such as instability, low productivity, and poor quality among many others although they constitute a greater share to the economy of the country (Metri, 2005). But in other to minimize or eliminate these challenges and provide a higher quality services and product, Total Quality Management approach can be employed as it serves as a major effective tool. The TQM as an effective tool, is designed with the management and control processes focused on the overall organization and employees in providing products and services that satisfies the consumer (Talha, 2004).

2.8.9 Total Quality Management

TQM is an effective management tool that helps managers to practice quality production of goods and services. Some benefits derived for employing TQM as a management approach include; continuous improvement, satisfaction to customers, minimizing work load on staff, allowing to absolute participation of staff when problem arises, long-rank thinking and creates a platform of interaction with other suppliers and consumers (Ross, 1993). These benefits among many others has stirred up the believe of many that has suggested that TQM can be used in various sectors of the economy (Walton, 1986). However there have been critics risen up against TQM which is associated to it cost factor during implementation. Cost of retaining, time consuming, increased paper work and exerts excessive pressure on staff to commitment. It is also believed that, TQM is process oriented other than result oriented making it difficult for small firms, service firms or nonprofit organization (Naj. 1993; Fuchsberg, 1992a; 1993b; Schaffer and Thomson, 1992)

2.8.10 Historic Evolution of Total Quality Management

It is known and believed across the world that the practice of total quality management started long ago gradually and took place in four stages namely; quality inspection, control, assurance and Total Quality Management (Dahlgaard et al, 2002). The first stage of development which is quality control (inspection) started with craftsmen dated in the 1910s. During that period, the craftsmen were solely responsible to manufacture and control the quality of products. The craftsmen ultimate aim was to build quality into their product as quality was in their hands (Dahlgaard et al, 2002). However, an industrial revolution which resulted in large scale productions of goods and services developed in factories resulted in the creation of factory system. This caused the craftsmen to be put into groups and

monitored to ensure quality of work. Thus allowing for the finished products to be inspected of its quality before selling (Juran, 1991). The craftsmen and supervisors has therefore being identified as the main determinants of the quality of the product. The main principles employed at this stage was mainly uniformity and inspection as it was believed to be the core for quality (Feigenbaum, 1991). The role of professionals on quality was to inspect, sort, count and grade products (Garvin, 1998). Where the simple based form of inspection is undertaken, a product is picked examined, measured, tested and compared with the standard requirement to ensure there is conformity of the product however, this practice is only done indoors (Dale, 2003).

2.8.11 Perspectives on TQM

To Leo and Teo, total quality management is journey rather than a destination. As a result of this, several researches have been undertaken by researchers and scholars on total quality management as well as its implementation which has resulted in different frameworks provided based on the understanding and objectives of these different researchers (Zhang, 2000). However, these studies on TQM for examples, Black and Porter, 1996; Powell, 1995; Saraph et al., 1989; Flynn et al., 1994; Yosuf and Aspinwall, 1999 obtained their ideas from quality leaders such as Deming (2000), Juran (Juran and Gryna, 1993), Crosby (1980), and Ishikawa (1985).

Their works served as a backbone to which the concept of TQM and has guided the further studies into this management style made causing a tremendous development since its initial contribution. However, it is important to note that the concepts carried out by earlier researchers has been reviewed. The importance of the Deming approach towards TQM is that improves and promotes effective facilitation of management functions which results to a continual improvement in the process,

product and services which leads to satisfaction of the consumer (Zhang, 2000). Whereas Ishikawa's approach delves much into the services after sales of product and culture of the organizations towards quality. Similarly, he suggested in other to implement TQM successfully, there must be focus on key areas such as customers, suppliers, improvements, management of staff, and quality. To ensure and improve quality, he developed the seven QC tools.

2.8.12 ISO Quality Management System

ISO 9000 Series

A set of standards that defines requirements and guidelines for quality management systems is referred to as ISO 9000 Series (ISO, 2000a, b). The first ever standard was issued in 1987 by the International Organization for Standardization in Geneva, Switzerland. There was however, a revision undertaken in 1994 and 2000. The standards is universally application as it can be used in various diverse areas from one organization big or small, for services or product, in business enterprises, or in government administrative sectors. According to Marquardt, 1999, this series provided the foundation upon which there is an assurance on the provision of quality product and services which is generally achieved by applying simultaneously the product standards and quality management system. The standards has an international recognition which guarantees that product and services are delivered to meet the quality requirement or satisfaction of the customer.

The aim of ISO is to improve organization and finance performance with a focus on the quality of management, process control, and an assurance technique in other to meet all planned outcomes and avoid the non-conformance and unsatisfactory delivery of products and services. This has made the ISO 9000 standards used

worldwide in both industry and service organizations (Marquardt, 1999). In the later part of 2002, over 560,000 conformity to ISO 9000 standards were issued to 159 countries which showed an increase of about 10 percent comparing to that of 2001 (ISO, 2002). Over 13,000 companies in the Netherlands have obtained the certificate of ISO 9000 to ensure conformity. But the health sector is however yet to accept as it is subject to series of debate. Currently, the significance of ISO 9000 standards in the health sector was listed (Carson, 2004). It is however reported, that a small number of health care organization in Dutch has made used of ISO 9000 standards (Sluijs and Wagner, 2000). The ISO quality management system is applicable to all businesses, firms and organizations (Sroufe and Curkovic, 2008; Kartha, 2004). As it serves and has served as a guidelines to many organizations (Conca et al, 2003; Zhang, 2000; Kartha, 2004; Escanciano et al., 2001; Hiyassat, 2000). The early version of ISO 9000 encountered several challenges, however the current revisions has addressed them and has made working with it become less difficult.

2.9 BENEFITS OF QUALITY MANAGEMENT

There are several various potential benefits offered by Quality Management techniques. Report from studies has it that the application of this management technique has yielded in other industries and can be as well benefit the construction industry (Chindo, and Adogbo, 2011). The application of quality management technique has benefited several companies and organizations. Some of these benefits include an improvement in the long-term relationships of companies, product and processes, created a unifying spirit of employees, job satisfaction for employees, increased in income, customer focused among many others (Low and Peh, 1996; Low and Teo., 2004; Khan, 2003; Chindo and Adogbo, 2011). This is created a

competitive edge in these firms as against intense global competition as there is a continual improvement in every facet of the firm ((Cheng and Liu, 2007).

2.10 OBSTACLES TO IMPLEMENTING QUALITY MANAGEMENT

Evidence has it that many organizations are faced with several obstacles in the implementation of quality management (Yussof et al., 2006). Exhibiting improper attitudes and poor perception of both management and employees, inadequate resources and training accompanied by an inappropriate environment are obstacles that limit the implementation of Quality Management.

Bubshait and Al-Atiq (1999) listed about eight major obstacles that the contracting firms are faced with in the implementation of Quality Management. These obstacles identified include: High initial cost, conservativeness at different levels in the organization, poor output of staff as a result of demands to learn the new system and its application besides their assigned responsibilities, interference in management, limited number of qualified personnel, poor communication due to the cultural background among others.

In actually sense, there is no firm that can completely implement TQM as it a continuous and gradual improvement process and as such never ending. The implementation of it is basically the responsibility of higher management officials when viewed as a top management priority or tool.

Hassin et al., (2007) suggested that the major key factors to consider among many others in the implementation of TQM is by training and education. Several other literatures has it that the implementation of TQM requires a complete or a total cultural and behavioral change from both management and employee (Mahmood and Mohammed, 2008).

2.11 SPECIFICATIONS DEFINITIONS AND INSTRUCTIONS

Specification in the procurement context can be defined as the statement of need of an individual. It defines clearly what the customer is willing and able to purchase and what specifically the suppliers is expected to supply. Depending on the type of need, specification can be single or complex. Procurement is only successful when the specification provided is true and accurate of the customers' needs. Specification will form part of a contract and not only serve as a means of identifying goods and services required.

To Digman, and Inouye, (1986) specification involves defining the finishing looks, meeting standard regulations, obtaining the best manufacturer among others, and to the extent of particularizing the performance of product. All these activities will allow for decisions to be made based on information received from various relevant sources. Qian, (1999) identified that the components from sources cannot be predetermined as several kinds of people implemented them and used at relatively different times, with different tools and techniques. Procurement comprises all undertakings that includes acquiring materials and services as well as the managing of their inflow into an organization geared towards the consumer.

The aim of specification is to provide the grounds for which goods or service that will satisfy the need of a consumer at a reasonable cost and as well as increasing maximum competition among suppliers can be obtained. The definition of specification spells out clearly the boundaries of requirement of customers thereby eliminating unwanted items. It is however, important that the writing of specification should not discourage competitors but rather encourage. The characteristics of a good specification are; the ability to identify minimum requirements of needs, allow for a competition, document procedures to be used to test for compliance with

specifications, and be able to acquire need at the lowest possible cost. Ramsey, and Fernández, (1997).

2.12 DEVELOPING SPECIFICATION

Procurement cannot initiate or prepare all specifications although it has the final responsibility for the competitiveness and suitability of specifications. Procurement becomes the basic activity in developing specifications for items bought under specific or unspecific quantity required. In other to meet the aim of promoting competition in procurement, specification thus has be non-restrictive such that it becomes practicable and consistent with satisfying desired needs of customers. It is the responsibility of procurement to allow for final editing of specifications, and as well ensure there is clarity of language being either jargons or any in-house term across. Cosentino, et al., (2003). There are several ways by which specifications can be prepared. A typical example of a specification is one that requires that a product or service is made unique whereas other groups go for ready-made or off-the-shelf items which readily regularly available in the market. Such items are typical examples of equipment, materials and other supplies. Examples of particular type of specification include the brand-name, brand-name-or-equal; design; performance specification and the Qualified Product List (QPL). Runde, (2007).

2.12.1 Brand-name Specifications

This is the most restrictive type of specification as it limits bidding to only a single product. This type of specification would not be used until the product has the ability to be used for its intended use and as such has a minimum of ten suppliers competing. The type of specification has been widely accepted although the effects are noticed Raju, (1977)

2.12.3 Brand-name-or-equal specifications

This type of specification on the other hand references the names of the brands, their model numbers, and other features that identifies a particular product of a manufacturer able to supply the desired item. Products that are similar or equivalent to the specified ones are considered with that final decision residing in the hands of the Officer of Procurement. This type of specification although legitimate has a limited place in public purchasing.

a. in instances where this type of specification is the only means of attempting to meet requirement, it should be limited and justified before used. Where it is used clarity of performance, quality and other required characteristics should be defined before invitation to bid. Bidders should be made known the criteria's that will be used for consideration and consideration of their responsiveness.

b. another way is to make a list at least two different brand that could meet the satisfaction of clients. However, there must be adequate basis to ascertain that these product are similar of which there will be sound evaluation criteria. The criteria for qualifying for the bid document should be made available to suppliers. Brucks, Zeithaml, and Naylor, (2000).

2.3 QUALIFIED PRODUCT LIST (QPL).

This is a type of specification that uses the name of the manufacturers, their brand names and model numbers, but done in a formal or systematic process. Before soliciting for competition, certain tests other than criteria for comparing, examining, and approving of product is considered on a QPL. The criteria and the methods for establishing and maintaining a QPL differ from one product to another. Whereas some may require that a test of the products be done by a committee, others may

require a simple laboratory test of brands. According to Fighters,(2010), Departments that shows interest in QPL should outline the tested products and considered equal, stating the method of testing used to define the QPL and indicate the procedures that suppliers must take to add to the QPL their product.

2.4 DESIGN SPECIFICATIONS

Design specifications is a type of specification that makes a complete use of dimensions and other physical requirements to define its products to be purchased. The term design here means how the product must be put together per specification. It is the oldest form of specification, as it has been used for the construction of buildings, highways, and other public works in the past years. Where design specifications is to be used, there must be a submission of all necessary complete and accurate feature like drawings, dimensions, and definitions terms among others. As well as a full description of materials considering the thickness, size, color, etc.Aashto, (1998.)

2.5 PERFORMANCE SPECIFICATIONS

The performance specification is a type of specification that is more concerned with how a product must be produced, how it perform and at what cost. Functional and performance are two terms used interchangeably often times to set out the specifications that is concerned with dimensions, materials and configurations and the other concerned with what is and must be produced. The Performance specification is noted to be results oriented with its regards to functions and cost. Unlike the design approach, the performance specification gives the bidder an opportunity on how to meet the purpose. This type of specification also allows the description of the characteristics and capability that are important for the potential

use. Belter, et al., (2013). Testing methods, required results among others must be completely explained by departments using this type of specification.

2.5.1 Setting the evaluation criteria

Due to the expenditure of public money, it is important that all transactions are undertaken in an accountable and transparent manner. Part of this process involves setting evaluation criteria to ensure that all offers are evaluated on the same conditions. Generally, this means determining what your worksite requires from prospective suppliers, and how important each of those requirements is. The criteria that will be used for evaluating needs to be developed as the specification is being written. The criteria and their relative importance will be affected by the specification and in turn affect the decision on the selection of the solution offered by suppliers. Often, the criteria for evaluation may tackle issues as: Compliance with DECD terms and conditions; The advantages of the goods and services being offered; The ability of the supplier to meet the requirements, including technical and management competence, financial viability, risk and insurance requirements, relevant skills, experience and availability of key personnel; Whole of life costs; and An assessment of the risks or constraints associated with the offer. It is useful to seek offers from suppliers via a template for their completion, or in a structured format, as this ensures that the information provided by each supplier is complete and in a consistent format, making the evaluation process simpler. For acquisitions made via a public tender process, this would be included in the tender response schedule. As per the quotation and tender requirements defined in the DECD Procurement Governance Policy, worksites may be required to undertake this process for simple acquisitions, whereas for more complex or higher value purchases, the Procurement Unit should be involved and will provide assistance to worksites in setting the

criteria as part of the procurement process. For straightforward acquisitions that do not require the involvement of the Procurement Unit, a simple evaluation plan template has been created that worksites may wish to utilise as part of their procurement process.

2.5.2 Mandatory and desirable requirements

A specification may be contained within a wider requirements description, such as a bid document. The requirements description usually describes what is needed by the organization rather than how it is to be provided. The intent of a good specification is to enable suppliers and service providers to compare their products and services against stated requirements that are presented on an equal basis. Alves, & Finkelstein, (2002, July). It will also allow the buying organization to competitively evaluate solicitation responses and determine functional equivalency, if appropriate. Davis,(1993).

2.5.3 Vetting the specification

Specification must most importantly be vetted by an external official to ensure: that it is easy to read and comprehend, vivid and simple; and consistent with specifications for the same or similar goods and services.

2.5.4 Approval of the specification

The specification should be endorsed by the worksite delegate after vetting has been completed to confirm: the validity of requirement; true and accurate definition of product specification; and to ascertain that the specification is free from a conflict of interest..

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter seek to identify the study area, the target population, the sampling techniques employed, the data collection procedures and sources, the constraints and scope or limitation of the study. The chapter concludes with a review of the research objectives.

3.2 RESEARCH AREA

This research study seek to assess some problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process, procurement quality problems in the procurement processes and the extent to which specifications impact on procurement quality problems.

Studies have revealed that 65-70% of the National Budget of Ghana is expended through Public Procurement and a bulk of this national Budget is accounted for by the Procurement Activities of the Ministries, Departments and Agencies (MDAs). In response to this, the need to avoid quality problems and to ensure precise and concise specifications for works, goods and service procurement to achieve value for money. This study focuses on works, goods and services of Procurement Activities of the Ministries, Public Department and Agencies in Greater Accra Region of Ghana.

3.3 RESEARCH POPULATION

A population was defined as any set of people or events from which the sample is selected and to which the study results will be generalized. The Population of this research study encompasses all the Entity Tender Committee Members, Tender Evaluation Panels and Procurement Officers of some of the Ministries, Departments

and Agencies in the Greater Accra Region of Ghana. Owing to the fact that Public Procurement Activities in the Ministries, Departments and Agencies usually require the involvement of the Consultants and sometimes the officers of the Public Procurement Board, this research population extends to include the activities of the various consultants involved in the procurement activities and some officials of the Public Procurement Board.

3.4 RESEARCH SAMPLE AND TECHNIQUES

Owing to the constraints of resources and the impracticability of testing every entity in a population, various experts have suggested ways of selecting smaller units within the population whose attributes are representative of the population such that when tested, conclusions can be drawn on the entire population.

Due to the large numbers of procurement officers in the Ministries, Departments and Consultants involved in works, goods and service procurement and the inadequacy of time, the above group of respondents were used for the study. In all the questionnaires distributed to various respondents were 57.

3.5 DATA COLLECTION

In order to enhance the credibility of this research finding, both Primary and Secondary Data collection methods was employed. The primary data was obtained directly from respondents through the administration of questionnaires to the targeted respondents. The primary data provided reliable and accurate firsthand information relevant to the issues necessary for the research. The secondary information was obtained from the library, internet, journal articles, newspapers and research reports. The idea of secondary data was to gather necessary information to guide the conduct of the research project in order to confirm or reject the primary data.

3.6 DATA COLLECTION INSTRUMENT

Questionnaire was the main data collection instrument used for the study. The questionnaire was suitable because it was assumed that the procurement officials and consultants are literate and for that matter they would be able to respond to the questions unaided. Questionnaire facilitated the collection of data which ensured the best matching of concepts with reality; it provided the same responses from a given set of respondents and helped reduce inconvenience caused by unfavorable interview times and busy schedules. According to Saunders et al., (2007), questionnaire was used for explanatory research which enable the study to examine and explain relationships between variables, in particular cause-and-effect relationships. The researcher personally administered the questionnaire to the respondents. The questionnaire consisted of both open and closed ended questions, based on the objectives of the research.

3.7 DATA ANALYSIS AND PRESENTATION

This segment deals with the methods of analysis of the data. Quantitative method was used to analyse the data. Computer data analyses software such as the use of descriptive statistics under Statistical Package for Social Sciences (SPSS) 23 version and other relevant software such as Microsoft Excel was the main tools employed to analyse the data in order to help interpret results. The justification for the choices of these programmes was that, these techniques facilitated word processing and data analysis very easy and accurate pictorial presentations (Safo, 2011). Other questions that were open-ended were analysed by listing all the important responses given by the respondents. The responses were considered based on the relevance to the study. The analysis used was the mean score ranking, one sample t test and the relative

importance index. This gave the general idea of the study with respect to the impact of specification on procurement quality problem on causes and effects of delays.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

This chapter explains the analytical techniques and the tools that were used and discussions on the results collected from respondents. The collected data from the respondents and further screened to ensure they are clear from errors and are consistent to answer by the respondents. The aim of the researcher was to achieve three objectives to this study, and a questionnaire was designed with relevant questions put down to be rated by the respondents. Three analytical tools were used for the analysis of the collected data which are the; one sample t test, mean score and relative importance index. The results are discussed below.

4.2 DEMOGRAPHIC DATA OF RESPONDENT

In other to produce a reliable and credible data the demographic data of the respondents needed to be captured. Various questions were drafted by the researcher to obtain such data from the respondents. Examples of questions on the about the respondents included the level of education of the respondents, their degree of experience in working, and their occupational background. Owing to that, the options were made in an objective manner so they could tick the one which applied to them. The descriptive statistics (using frequencies and percentages) was used to analyse the data. The results of the analysed data is presented in the table below.

Table 4.1: Demographic Data of Respondent

		Frequency	Percent
Practitioners Title	Procurement Officer in ministries	17	27.9
	Procurement Officer in departments	13	21.3
	Consultants	16	26.2
	Officials at PPA Board	11	18.0
Level of Education	Professional diploma	17	27.9
	Bachelor's degree	20	32.8
	Master degree	14	23.0
	Doctorate degree	6	9.8
Industrial Experience	Less than 10yrs	3	4.9
	10-19yrs	13	21.3
	20-29yrs	24	39.3
	30-39yrs	14	23.0
	Above 40yrs	3	4.9
Total		57	100.0

Source: Field Survey (2018)

The table above describes the demographic data of the various respondents of the study. In order to ascertain their specific role in terms of their profession, a question was designed to capture that. The outcome from respondents indicated that indicated 17 respondents are working as procurement officers in the ministries making a percentage of 27.9 where procurement officers in department, consultancy, and officers at PPA board recorded 13, 16, and 11 respectively with each of them making a percentage of 21.3, 26.2, and 18.0. With respect to their education, the result indicated also that the respondents are all have a professional's recognition as the results showed that 17 of the respondents had a professional diploma certificate which represents 27.9 percent. Those with bachelor's degree were 20 also representing 32 percent which happened to be the highest. Respondents with masters/postgraduate degree certificate were 14 making up a percentage of 23.0 where the lowest recorded was those with the doctorate degree which were 6 making 9.8 percent of the sample. The researcher proceeded to find out the experience of the respondents who answer the questionnaire. It was revealed that, 3 respondents had an

experience below 10years with a percentage of 4.9, 13 representing 21.3 percent had 10-19 years' experience, 24 of them representing in a percentage of 39.3 had 20-29 years' experience, those with 30-39 years' experience were 14 with a percentage of 23.0 and finally, 3 respondents had above 40 years of experience with a percentage of 4.9. This outcomes provided the researcher the assurance of a reliable and credible data to work with.

4.3 PROBLEMS IN THE UTILISATION OF SPECIFICATIONS

The research questionnaire was distributed with the aim of achieving the first object which is to establish the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process. A Likert scale rating 1 to 5 was used with 1= least, 2= lower, 3= high, 4= higher, 5= highest. The one sample t-test and mean score ranking techniques were used to analyse the collected data after it has been inputted into SPSS. The problems are ranked in the table below and discussed further. The results are shown below.

Table 4.2: Problems in the utilization of specifications

Problems	Mean	Std. Deviation	t	df	Sig. (2-tailed)	Rank
Difficulties in sharing needed information	4.140	1.008	8.54	56	0.000	1
Poor specification drafting to maximize competition	4.088	1.169	7.02	56	0.000	2
Technical factors not taking into account during tender evaluation	3.912	1.090	6.32	56	0.000	3
Poor Cost Planning by Consultants	3.895	1.175	5.75	56	0.000	4
Unbalanced resource allocation	3.860	1.125	5.77	56	0.000	5
Negligence by consultants	3.790	1.176	5.07	56	0.000	6
Lack of constructability review of design	3.772	1.225	4.76	56	0.000	7
Lack of effective communication between procurement team	3.737	0.897	6.20	56	0.000	8

Insufficient clarity of specification	3.719	1.278	4.25	56	0.000	9
Lack of monitoring by technical staff against updated standards	3.667	1.123	4.48	56	0.000	10
Lack of expert to prepare satisfactory specification	3.649	0.991	4.95	56	0.000	11
Use of junior staff for major works	3.632	1.096	4.35	56	0.000	12
Decisions made are based on cost only and not on value engineering	3.597	1.193	3.77	56	0.000	13
Poor precision of specification	3.404	1.132	2.69	56	0.009	14
Lack of commitment to quality improvement by procurement professionals	3.368	1.219	2.28	56	0.026	15
Selection criteria for consultants	3.281	1.130	1.88	56	0.066	16
Reuse of standard details and specifications to minimize workload	3.263	1.173	1.69	56	0.096	17
**Significant						

Source: Field survey (2018)

From the above table, difficulties in sharing needed information obtained a mean value of 4.140 with a value of 1.008 as its standard deviation ranking first. Poor specification drafting to maximize competition obtained a mean value of 4.088 with a value of 1.169 as its standard deviation ranking second. Technical factors not taken into account during tender evaluation was ranked third with a mean value of 3.912 with a value of 1.090 as its standard deviation ranking third. Poor cost planning by consultants had a mean value of 3.895 with a standard deviation of 1.175 ranking fourth. Unbalanced resource allocation also obtained a mean value of 3.860 with a standard deviation of 1.125 ranking fifth, negligence by consultant obtained a mean value of 3.790 with a standard deviation of 1.176 ranking sixth, lack of constructability review of design was ranked seventh as it obtained a mean value of 3.772 and a standard deviation of 1.225, Lack of effective communication between procurement team with 3.737 and 0.897 as mean value and standard deviation

respectively was ranked eighth, insufficient clarity of specification was ranked ninth as it also obtain a mean of 3.719 and a deviation of 1.278 , Lack of monitoring by technical staff against updated standards obtained 3.,667 as a mean value and 1.123 as standard deviation make it tenth to be ranked, Lack of expert to prepare satisfactory specification was ranked eleventh as it obtained mean of 3.649 and a deviation of 0.991, Use of junior staff for major works with a mean of 3.632 and a deviation of 1.096 ranked twelfth, thirteenth to be ranked was decisions made are based on cost only and not on value engineering as it obtained as mean and standard deviation of 3.597 and 1.193 respectively, poor precision of specification, lack of commitment to quality improvement by procurement professionals, Selection criteria for consultants, reuse of standard details and specifications to minimize workload were also ranked fourteenth, fifteenth, sixteenth and seventeenth as they obtained mean values and deviations of 3.404, 1.132; 3.368, 1.219; 3.281,1.30; and 3.263, 1.173 respectively.

To be able to realise the aim of the study, there needed to be a further analysis into the research. The one sample t test was again used to identify the significance of the statements made professionals. Using a test value of three and a ninety-five percent significance level, the value of $p < 0.05$ was deemed to be significant with the values of $p > 0.05$ were deemed as not significant. From the table it can be confirmed that it was two variables failed the significant test.

4.4 PROCUREMENT QUALITY PROBLEMS AT THE PLANNING STAGE

The second objective was to identify the procurement quality problems in public procurement planning in Ghana. A Likert scale rating was used to obtain information from respondents on the procurement quality problems at the planning stage. After data was collected, it was subjected to mean score ranking and one sample t test to

rank the problems and confirm their significance. Likert scale ranging from 1 to 5 was used. The results are discussed below.

Table 4.3: Procurement quality problems at the planning stage

Quality Problems	Mean	Std. Deviation	t	df	Sig. (2-tailed)	Rank
Lack of experience by consultants	4.211	0.901	10.14	56	0.000	1
Poor procurement planning	4.175	1.002	8.86	56	0.000	2
Limited participation of end users at the briefing stage	4.123	1.151	7.37	56	0.000	3
Reduction of consultant fees	4.000	0.982	7.69	56	0.000	4
Design Changes by client	3.895	0.838	8.06	56	0.000	5
Eagerness of consultant to move onto next phase	3.860	0.972	6.68	56	0.000	6
Unrealistic client demands from the project cost	3.754	1.184	4.81	56	0.000	7
Failure to have design reviews	3.491	1.054	3.52	56	0.001	8
Poor scope definition	3.456	1.196	2.88	56	0.006	9
Failure of client to check designs at appropriate times	3.316	1.167	2.04	56	0.046	10
Inadequate consultants at the initial design stage	3.316	1.167	2.04	56	0.046	11
Delay in payment of consultants	3.298	1.164	1.93	56	0.058	12
Poor cost planning by Consultants	3.053	1.187	0.34	56	0.739	13
Complex details and selection of new materials which have not been tested	3.035	1.034	0.26	56	0.799	14
Unrealistic client demands on time schedule	2.877	1.310	-0.71	56	0.482	15
Poor specification detailing	2.877	1.310	-0.71	56	0.482	16
Poor Knowledge in the physical properties of materials by consultants	2.702	1.309	-1.72	56	0.091	17
Missing input information by client	2.579	1.224	-2.60	56	0.012	18

**Significant

Source: Field survey (2018)

From the above table, lack of experience by consultants obtained a mean value of 4.211 with a value of 0.901 as its standard deviation ranking first. Poor procurement planning obtained a mean value of 4.175 with a value of 1.002 as its standard deviation ranking second. Limited participation of end users at the briefing stage was ranked third with a mean value of 4.123 with a value of 1.151 as its standard deviation. Reduction of consultant fees had a mean value of 4.000 with a standard deviation of 0.982 ranking fourth. Design Changes by client obtained a mean value of 3.895 with a standard deviation of 0.838 ranking fifth, Eagerness of consultant to move onto next phase obtained a mean value of 3.790 with a standard deviation of 1.176 ranking sixth, Unrealistic client demands from the project cost was ranked seventh as it obtained a mean value of 3.754 and a standard deviation of 1.184, Failure to have design reviews with 3.491 and 1.054 as mean value and standard deviation respectively was ranked eighth, Poor scope definition was ranked ninth as it also obtain a mean of 3.456 and a deviation of 1.196, failure of client to check designs at appropriate times obtained 3.316 as a mean value and 1.167 as standard deviation make it tenth to be ranked, Inadequate consultants at the initial design stage was also ranked eleventh as it obtained mean of 3.316 and a deviation of 1.167, Delay in payment of consultants with a mean of 3.298 and a deviation of 1.164 was ranked twelfth, thirteenth to be ranked was poor cost planning by Consultants as it obtained as mean and standard deviation of 3.053 and 1.187 respectively, Complex details and selection of new materials which have not been tested was ranked fourteenth as it also has a mean and deviation of 3.035 and 1.034. Unrealistic client demands on time schedule, Poor specification detailing, Poor Knowledge in the physical properties of materials by consultants, Missing input information by client were also ranked fifteenth, sixteenth and seventeenth and eighteenth as they obtained

mean values and deviations of 2.877,1.310; 2.877,1.310, 2.702,1.309; 2.579, 1.224 respectively.

4.5 IMPACT OF SPECIFICATION ON QUALITY PROBLEMS

The last objective was to model the impact of specifications on procurement quality problems. Several factors were revealed in literature which were put to the test. Using a range of one to five on a Likert scale, the respondents shared their opinion on these identified impacts. To rank these effects, relative importance index was used to analysed the data. The discussion of the results is shown below.

Table 4.4: Impact of specification on quality problems

No	Quality Problems	(ΣW)	Mean	RII= $\Sigma W/(5*N)$	Rank
1	Delay in completion of project	252	4.421	0.884	1
2	Lack of satisfaction by the end user	251	4.404	0.881	2
3	Failure of constructed project	246	4.316	0.863	3
4	Loss of financial resources in carrying out reworks	241	4.228	0.846	4
5	Loss of Productivity during Construction stage	230	4.035	0.807	5
6	Delays in payment to contractors	226	3.965	0.793	6
7	Increased Project cost	219	3.842	0.768	7
8	Increased Reworks during and after design stage	218	3.825	0.765	8
9	Project abandonment	216	3.789	0.758	9
10	Contract disputes	208	3.649	0.730	10
11	Increased variance	202	3.544	0.709	11
12	Payment claims problems	186	3.263	0.653	12

Source: Field survey (2018)

According to the table above, the first ranked impact of specification on quality problems is delay in completion of project as it has a mean value of 4.421 and an RII value of 0.884. The second ranked was lack of satisfaction by the end user mean value of 4.404 and an RII value of 0.881. The third ranked was failure of constructed

project mean value of 4.316 and an RII value of 0.863. The fourth ranked was loss of financial resources in carrying out reworks with a mean value of 4.228 and an RII value of 0.846. Loss of Productivity during Construction stage was fifth to be ranked as it has a mean value of 4.035 and an RII value of 0.807. With a mean value of 3.925 and an RII of 0.793 delays in payment to contractors was ranked sixth. Increased Project cost, Increased Reworks during and after design stage, Project abandonment, Contract disputes, Increased variance and payment claims problems were ranked seventh, eighth, ninth, tenth, eleventh, twelfth, as with mean score and RII of 3.842, 0.768; 3.825, 0.765; 3.789, 0.758; 3.649, 0.730; 3.544, 0.709 and 3.263, 0.653 respectively.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This chapter will present a conclusion showing the major findings together with possible recommendations to aid further research in practice and academia. The chapter will propose recommendations based on the outcome of the study. The recommendations from the studies are then stated with a look at the limitations that came with it. The final discussion is in the recommendation for further research.

5.2 SUMMARY OF THE STUDY OBJECTIVES

The study aimed at assessing the casual relationship between procurement quality problems and specifications in public procurement in Ghana. The objectives laid down to help realize the aim of the study includes; to establish the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process, to identify the procurement quality problems in public procurement planning in Ghana and to model the impact of specifications on procurement quality problems.

The findings are discussed below;

5.2.1 The first objective

To establish the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process

Literature was reviewed to collect existing literature on cultural characteristics on construction projects. A questionnaire was developed in a form of Likert scale rating from one to five. The analysis undertaken using one sample t test and mean score ranking. From the analysis, it was realised that the difficulty in sharing needed information, poor specification drafting to maximize competition, technical factors not taken into

account during tender evaluation were highly ranked by respondents to be the problems associated with the utilization of specification. The outcome of the objective was the realization that, respondents found two major factors that does not serve as a problem to the utilization of specification as these factors failed under the one sample t test. This factors were; selection criteria for consultants and the standard details and specification to minimize workload.

5.2.2 The second objective

To identify the procurement quality problems in public procurement planning in Ghana.

To achieve the objective stated above, existing literatures on the topic were reviewed. Questionnaires were developed to enable the researchers solicit information from respondents. After the sorting of these data, mean score ranking and one sample t test was conducted on them. It revealed that, lack of experience, poor procurement planning, limited participation of end users at the briefing stage are the highest ranked procurement quality problems at the planning stage. Although being ranked at the bottom of the table, missing input information is as well as procurement quality problem at the planning stage.

5.2.3 The third objective

To model the impact of specifications on procurement quality problems.

RII was used in analysing the data obtained for this objective. Likert scale questionnaire ranging from one to five, with the help of respondent's data was collected. The results showed that, delaying completion of project, lack of satisfaction by the end user, failure of constructed project was the impact of specification on quality problems. The last two ranked were comprising values to the

impact of specification on quality problems and as such does not make them unimportant.

5.3 CONCLUSION

Sound public procurement policies and practices are among the essential elements of good governance. Good practices reduce costs and produce timely results; poor practices lead to waste and delays and are often the cause for allegations of corruption and government inefficiency. Nearly a decade after the introduction of Public Procurement Act, there still exist some Quality problems. The study therefore sought to assess the causal relationship between procurement quality problems and specifications in public procurement in Ghana. The objectives are to establish the problems faced by Public Procurement Authority's (PPA) in the utilization of specifications in the procurement process, to identify the procurement quality problems in public procurement planning in Ghana and to model the impact of specifications on procurement quality problems. Using a purposive sampling approach, questionnaires were given to professionals. The results shows that, respondents found two major factors that did not serve as a problem to the utilization of specification as these factors failed under the one sample t test. These factors were; selection criteria for consultants and the standard details and specification to minimize workload. Also, delaying completion of project, lack of satisfaction by the end user, failure of constructed project was the impact of specification on quality problems.

5.4 RECOMMENDATION

Quality management begins with top management commitment (Zhang, 2000; Concao et al., 2004; Sila and Ebrahimpour, 2002; Seraph et al 1987), however, an appreciable percentage of firms top management are not committed to quality management program

implementation, use of specification and improvement. This can be achieved only if top management in public procurement develop quality manual and see to its implementation, set objectives and provides requisite training for all of the employees in public procurement. Successful implementation of TQM in procurement can be achieved through developing effective quality management system, persistence, and positive hands on leadership. Accomplishment in quality performance and the use of specification requires that top management should be dedicated to that ambition. In other words, those in top management must provide the initiative, direction commitment, resources for successful quality assurance practices and must support the quality programme and good specification writing in the organization if such a programme is to be successful. Finally, It is believed that attention to the eleven factors identified will minimize difficulties related to the implementation of Total quality management and the use of good specification will enhance best performance in public procurement.

5.5 LIMITATION

The limitation to this research is the fact that, not many procurement officers were reached and also not every part of the country could also be reached. There was also difficulty in reaching the Public Procurement Board officials and the fact that not many wanted to answer these questionnaires.

5.6 RECOMMENDATION TO FUTURE RESEARCH

Several aspects of quality problems and specification can be looked at in case there is to be a research on relationship between quality problems and the use of specification in Public Procurement. It is also advised that the research can be done on a larger scale considering other professionals in procurement.

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APPENDIX

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI

COLLEGE OF ART AND BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION TECHNOLOGY AND

MANAGEMENT

NAME: BENJAMIN KWEKU ANSAH

CAUSAL RELATIONSHIP BETWEEN PROCUREMENT QUALITY

PROBLEMS AND SPECIFICATION

This research is part of a Master's Thesis being conducted in the Department of Construction Technology and Management, Kwame Nkrumah University of Science and Technology, Kumasi. The study is based on a selected sample in the Greater Accra Region, so your participation is important. The outcome of this study will enhance knowledge on the relationship between specification and quality problems in Public procurement. Participation in this study is voluntary, and all who participate will remain anonymous. Your name is not needed. All information offered will be treated confidentially, and the results will be presented in such a way that no individuals may be recognized.

Thank you.

(bkansah@gmail.com)

Section A: RESPONDENT INFORMATION

1. Please which of the following title do you belong as a practitioner?
 - a) Procurement Officers in the Ministries ()
 - b) Procurement Officers in the Department. ()

c) Consultants. () d) Officials in Public Procurement of the Board.()

2. Level of Education

a) Professional Diploma b) Bachelor’s Degree c) Master Degree d) Doctorate Degree

3. Industrial Experience

a) Less than10yrs b) 10-19yrs c) 20-29yrs d) 30-39 e) Above 40yrs

From your experience, please tick appropriately the severity and frequency factors affecting quality at the design stage using the likert scale listed below:

1 = Least 2 =Lower 3= High 4=Higher 5 =Highest

	PROBLEMS IN THE UTILISATION OF SPECIFICATIONS	SCALE				
		1	2	3	4	5
1	Lack of commitment to quality improvement by procurement professionals					
2	Poor Cost Planning by Consultants					
3	Lack of monitoring by technical staff against updated standards					
4	Lack of constructability review of design					
5	Poor precision of specification					
6	Poor specification drafting to maximize competition					
7	Decisions made are based on cost only and not on value engineering					
8	Use of junior staff for major works					
9	Negligence by consultants					
10	Insufficient clarity of specification					
11	Reuse of standard details and specifications to minimize workload					

12	Unbalanced resource allocation					
13	Lack of expert to prepare satisfactory specification					
14	Technical factors not taking into account during tender evaluation					
15	Lack of effective communication between procurement team					
16	Difficulties in sharing needed information					
17	Selection criteria for consultants					

From your experience, please tick appropriately the severity and frequency factors affecting quality at the design stage using the likert scale listed below:

1 = Least 2 =Lower 3= High 4=Higher 5 =Highest

PROCUMENT QUALITY PROBLEMS AT THE PLANING STAGE		SCALE				
		1	2	3	4	5
1	Unrealistic client demands on time schedule					
2	Failure of client to check designs at appropriate times					
3	Poor scope definition					
4	Missing input information by client					
5	Delay in payment of consultants					
6	Unrealistic client demands from the project cost					
7	Limited participation of end users at the briefing stage					
8	Design Changes by client					
9	Reduction of consultant fees					
10	Eagerness of consultant to move onto next phase					
11	Poor procurement planning					
12	Poor Knowledge in the physical properties of materials by consultants					

13	Lack of experience by consultants					
14	Failure to have design reviews					
15	Poor cost planning by Consultants					
16	Complex details and selection of new materials which have not been tested					
17	Poor specification detailing					
18	Inadequate consultants at the initial design stage					

From your experience, please tick appropriately the severity and frequency factors affecting quality at the design stage using the likert scale listed below:

1 = Least 2 =Lower 3= High 4=Higher 5 =Highest

IMPACT OF SPECIFICATION ON QUALITY PROBLEMS		SCALE				
		1	2	3	4	5
1	Increased Project cost					
2	Increased Reworks during and after design stage					
3	Loss of Productivity during Construction stage					
4	Loss of financial resources in carrying out reworks					
5	Increased variance					
6	Lack of satisfaction by the end user					
7	Failure of constructed project					
8	Delay in completion of project					
9	Delays in payment to contractors					
10	Project abandonment					
11	Payment claims problems					
12	Contract disputes					

THANK YOU