

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI**

**Developing A Strategic Procurement Process for the Ghanaian Construction
Industry**

by

Bernard Cosmas-Gonzalves (BSc. Quantity Surveying and Construction Economics)

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MASTER OF SCIENCE

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DECLARATION

I hereby declare that this 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.

BERNARD COSMAS-GONZALVES (20397162)

Student's Name & ID

.....

Signature

.....

Date

Certified by:

PROF. JOSHUA AYARKWA

Supervisor(s) Name

.....

Signature

.....

Date

Certified by:

DR. THEOPHILUS ADJEI-KUMI

Head of Department Name

.....

Signature

.....

Date

ABSTRACT

A strategic procurement process is vital for the success of firms in terms of procuring goods, services and works. However, procurement in various organisations are entangled with challenges which cause delays in the entire procurement process. This quantitative study was conducted in some building and civil construction firms in the Accra metropolis in the Greater Accra region with an aim of developing a strategic procurement process for private entities in the Ghanaian construction industry. The study was conducted using survey questionnaires. The structured questionnaires were used to obtain data to ascertain the challenges associated with procurement processes and measures to improve procurement processes. A total number of sixty questionnaires were administered and fifty were retrieved representing a response rate of 83.33%. Relative Importance Index rankings was the main tool used for analysis. The findings of the research revealed that the main challenges encountered in the procurement processes were difficulties in long term strategic planning, long payment processes to suppliers, service providers cutting corners to limit losses, unnecessary delays and ad-hoc approaches to economic size projects. However, the main strategic measures to improve the procurement processes included ICT adoption, adoption of just-in-time procurement, effective records management, adequate controls to reduce corruption and high level of compliance with procurement regulations were also ascertained. Further studies have been recommended to improve procurement process practices in organisations such as effects of procurement processes on productivity.

Keywords: Challenges, Ghana, Measures, Procurement, Procurement processes,

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My heart felt gratitude is to the Almighty God who gave me the strength and knowledge to complete this research work.

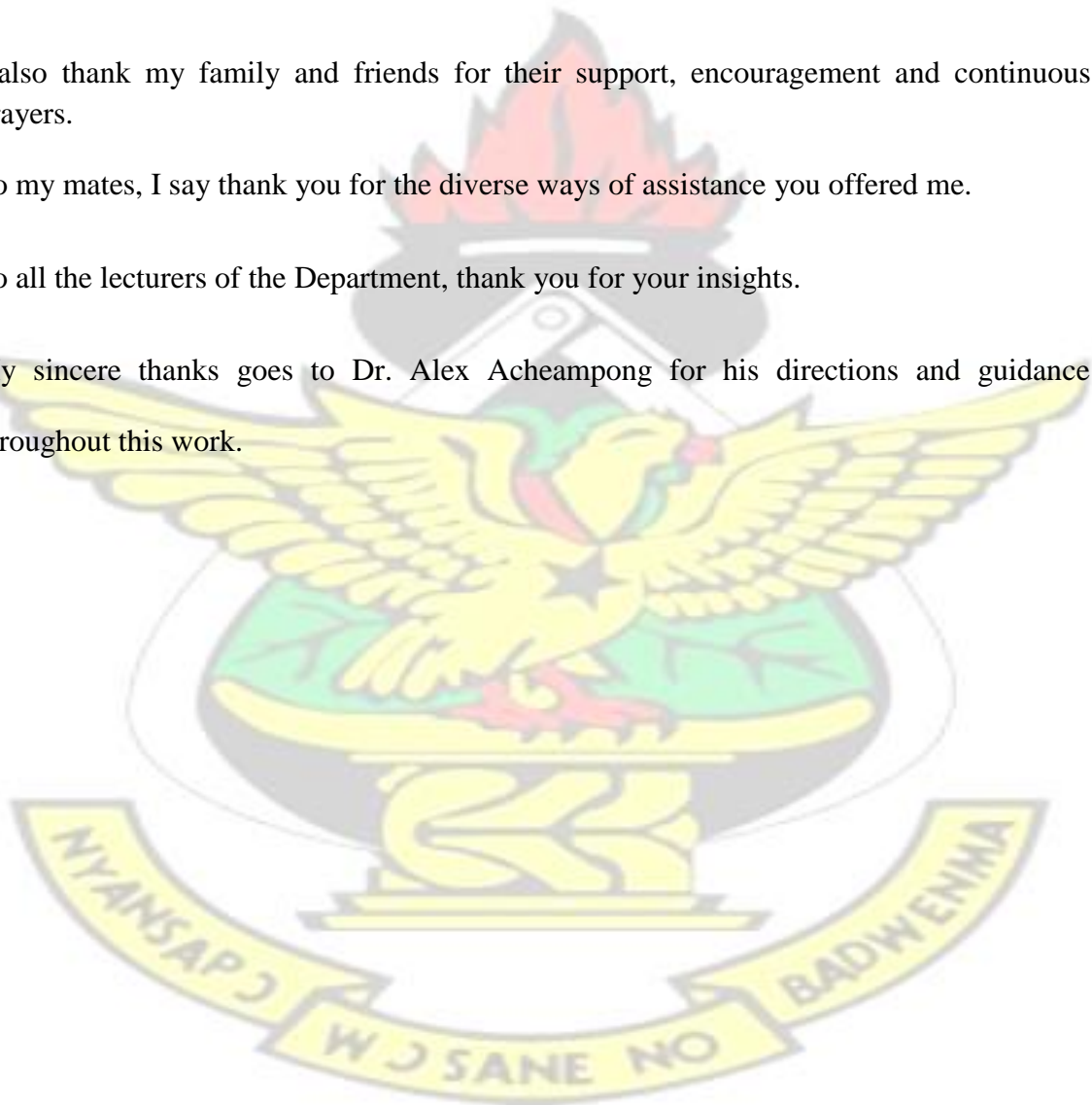
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DEDICATION

I devote this work to the Almighty God for his guidance, my family for their love and support and my friends for their help and encouragement.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

According to the Ministry of Finance (2001) the Public Procurement Act (Act 663) 2003, was enacted to complement public procurement processes in the public service, secure judicious, economic and efficient use of state resources, and furthermore, ensure that public procurement is fair, transparent and unbiased. The government of Ghana, in consultation with its development partners had identified the public procurement system as an area that required urgent attention in view of the widespread perception of corrupt practices and inefficiencies, and to build trust in the procurement system. However, about 50-70% of the national budget (after personal emoluments) is procurement related (World Bank, 2003). Hence, an efficient public procurement system could ensure value for money in government expenditure, which is vital to a country facing enormous developmental challenges.

Wittig (1999) highlighted that procurement systems and processes are the connections between human desires such as roads, hospitals, educational facilities, security needs among others; and private sector providers. At the national level government delivers goods and services to meet the varied needs of the citizens of that particular country. The desired resource to produce these needs are gained from either internal government organizations or from sources external to the government in the private sector (domestic or international suppliers). Government conventionally uses its budget process to decide on acquiring these needs through the procurement systems. Similarly, private entities also make similar decisions in their enterprise resource plan. Therefore, governments and other private entities are required to administer the highest professional standards in acquiring goods and services to meet the quality desired by the users. Furthermore, improvements in the

procurement systems and processes can present direct and valuable output on the overall economic stature of the firm and the country as a whole. The procurement systems and processes need to be appropriate for the goods, services or works being purchased and the market should be able to provide and make it affordable in terms of price. Hunja (2003) indicated that the practice of purchasing in both corporate and government procurement has diverted from localized operational activities to more consolidated and strategic approaches both in nature and practice. In contemporary organisational settings, conducting procurement in a strategic manner cannot be overemphasized (Pakkala, 2002). Procurement in both public and private organisations influences product development and is considered as a driving force for preferable product development.

1.2 PROBLEM STATEMENT

The success of any organisation depends on the strategic management of all its vital sections. Contemporary organisations should have its procurement function as one of its vital sections. Gian (2012) highlighted that budgetary implementations for major private and public firm's lies in the procurement of goods, services and works. The Procurement of goods, works and services for public sector is done in accordance to the public procurement Act (2003) Act 663, this serves as guidelines and manuals in achieving competition, promoting fairness and providing value for money. However, the private sector has no regulatory Act that ensures an effective procurement process. Smart and Harrison (2002) highlighted that most low income countries lagged behind because there are no policies in place to regulate procurement in terms of private sector developments. This has resulted in most private entities developing their own procurement systems and processes which constantly change depending on the personnel responsible for the procurement function. Furthermore, most of these personnel responsible for the procurement of goods and services are untrained. Procurement of works within the private

sector lacks clearly defined programs for tendering, non-availability of budget for tendering and absence of bid conferences before and after tendering. These hinders the effectiveness of the entire procurement processes and has exposed it as an area of concern. For this reason, the study aims at developing a strategic procurement process for private entities in the Ghanaian construction industry.

1.3 RESEARCH QUESTIONS

The following research questions were articulated to answer the research aim and objectives:

1. What are the various procurement processes in the Ghanaian construction industry?
2. What are the challenges encountered in the procurement processes?
3. What strategic measures can be adopted to improve the procurement processes in the Ghanaian construction industry?

1.4 AIM AND OBJECTIVES

1.4.1 Research Aim

The aim of the study is to develop a strategic procurement process for private entities in the Ghanaian construction industry.

1.4.2 Objectives

In the quest to realize the above stipulated aim and to answer the research questions, the following objectives are set:

1. To identify the various procurement processes in the Ghanaian construction industry;
2. To identify the challenges encountered in the procurement processes; and
3. To propose strategic measures to improve the procurement processes in the

Ghanaian construction industry.

1.5 SIGNIFICANCE OF STUDY

This study is of much significance to the construction industry as it will serve the need for considering adequate management of procurement of goods, services and works as an integral part of their practice. The findings of this study will enable construction firms to make changes to the management of procurement processes to give them the impetus to ensure adequate procurement of goods, services and works. This would help management of construction firms to improve the performance of their procurement function. Furthermore, the Government of Ghana will be the vital beneficiary of the findings of this study as it will bring about a major revolution leading to prudent procurement of goods, services and works. Finally, this research is of much significance in academia as it will serve as a major and critical contribution to knowledge and this will consequently spur others on to engage in detailed and advanced level research on procurement in the Ghanaian Construction Industry.

1.6 SCOPE OF STUDY

Geographically, the scope of this study was limited to building and civil engineering construction firms in the Accra Metropolis because of its proximity to the researcher and this made the retrieval of questionnaire easy. Ahadzie (2010) indicated that building and civil engineering construction firms in Ghana are more predominant in Accra and Kumasi metropolis; nevertheless, this study focused in the Accra Metropolis. The data set was obtained from a sample selection of procurement professionals in building and civil engineering construction firms operating in the Accra metropolis in the Greater Accra region.

1.7 METHODOLOGY

In order to conduct this research and meet the aim and objectives of the study and also considering the nature of the study, a two-stage approach which are; desk study and field investigation were considered. A critical review of relevant literature was conducted to discover the theoretical paradigms supporting the theme for the study. The leading primary data method that was employed is basically the conducting of questionnaires. The advantage of using this research style is that it can generate results which are an accurate representation of the sample (Kumar, 1999). The questionnaire was designed and selfadministered by the researcher to the various construction firms. The number of building and civil engineering construction firms shall be determined by using the register of registered building and civil engineering construction firms at the Registrar General's department at the Accra metropolis. The sample size was determined using purposive and snowball sampling technique in order to realize a sample size of the essential number of respondents since these two sampling techniques have the advantage of ascertaining main respondents in the target population (Kumar, 1999). Finally, the data collected would be analyzed using descriptive statistics and relative importance index rankings for the various phenomenon identified.

1.8 STRUCTURE OF REPORT

The study was broken up into five chapters detailed below. The opening chapter which is Chapter one embodies the Introduction (Background Information), Problem Statement, Objectives, Aim, Research Questions, Significance of Study, Methodology of Research and Scope of Study. The second chapter is concerned with the literature review related to the subject matter. Chapter three dealt with the scope of the research methodology used. Chapter four presented the empirical analysis of data and discussions from the field survey

that answers all the research objectives and questions. Finally, chapter five covered the summary of findings of the study, conclusion and recommendations for the study.

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CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter begins with critical review of literature on the procurement processes. It delves into various procurement processes, challenges associated in the procurement processes and also measures to improve the procurement processes in the construction industry.

2.2 THE CONSTRUCTION INDUSTRY

Construction is a term that covers a wide range of activities in building and civil engineering which includes both new works, repairs and maintenance (Hamilton, 2006). Oladapo (1974) continues to explain that the construction industry could be divided into two main branches, namely building and civil engineering. Building and civil engineering vary in many other respects. Hamilton (2006) says building project covers residential house, office complexes, ban house and other commercial units like market stalls. These projects vary in size ranging from single room accommodation to bungalows and to highrise buildings and Civil engineering works encompasses a wide range of different projects and constructed with different materials, *e.g.* roads, bridges, sewers, reservoirs, water towers just to mention a few. This affirms the argument by Fellini et al. (2007) that the construction industry mainly produces immobile products: production sites cannot be moved to other countries in order to lower costs; instead workers have to be mobile.

Also Strasser (1970) posits that the industry has several types of firms engaging in a variety of activities from heavy construction (such as work on highways and bridges) to special trade contractors (*e.g.*, plumbing work and carpentering). The construction work is seasonal, hazardous, and subject to an extensive amount of time lost because of bad weather and industrial strife (Strasser, 1970). Ashworth and Willis (1994) summarized the unique characteristics of the construction industry to include:

- The physical nature of the project.
- The product being normally manufactured on the client's premises (*i.e.* the construction site).
- Many of its projects are one off designs in the absence of a prototype model. ○ The traditional arrangement separates design from manufacture.
- Construction industry produces investment instead of consumer goods. ○ It is subject to wider swings of activities than most other industries. ○ Its activities are affected by the vagaries of the weather. ○ Its processes include a complex mixture of different materials, skills and trades.
- Typically, throughout the world, it includes a small number of relatively large construction firms and a very large number of small firms. ○ The smaller firms tend to concentrate on repair and maintenance.

All these analysis point to the fact that the construction industry is really a complex one and will definitely have serious management problems for the operatives of the industry.

These must be properly guided if organizational objectives must be achieved.

2.2.1 The Ghanaian Construction Industry

Ghana through seeking to be the gateway to West Africa and African fineness its construction industry has been growing steadily over the years (Chileshe and YirenkyiFianko, 2012). The construction industry in Ghana has over the years developed into two sectors: the formal sector: which adopts a variety of procurement routes (Anvuur and Kurnaraswamy, 2006) and the informal sector which is highly labour intensive. World Bank (2003) says that between 2000 and 2008 the government of Ghana identified construction as a priority sector for foreign and private investment as part of its vision to promote the private sector as the engine of growth and also minimize labour intensity.

According to Gyadu-Aseidu (2009) there are four main clients that are unique in the

Ghanaian Construction Industry: Government (being the major client), Real Estate Developers, Investors and Owner occupiers. There are also professionals such as the Architect, Quantity Surveyors, Engineers in this industry who are regulated by their professional institution, namely, Ghana Institution of Architects (GhIE), Ghana Institution of Surveyors (GhIS) for the QS and GE and (GhIE). Agbodjah (2008) highlighted that contractors in Ghana are grouped into eight categories (A, B, C, S, D, K, E and G) according to the type of works they undertake. These are: (i) Roads, Airports, and Related Structures (A); (ii) Bridges, Culverts and other Structures (B); (iii) Labor based road works (C); (iv) Steel bridges and structures: rehabilitation and maintenance (S); (v) General building works (D); (vi) General civil works (K); (vii) Electrical works (E); and (viii) Plumbing works (G). In each category, contractors are grouped into 4, 3, 2 and 1 financial classes in increasing order.

2.3 PROCUREMENT

Procurement in the early 1970s was regarded as a clerical, reactive and a cost centre within most institutions. However, the situation has evolved in contemporary times. Accenture (2007) highlighted that procurement has become a strategic, pro-active, value-adding, solution-providing business function, which aids the organisation with complex concerns like profitability, corporate growth and competitive advantage. A great range of forces that embodies globalisation, changing demographics, shifts in consumer demand, resource scarcity, environmental pressures, technology advances, governmental regulation and activism are currently reshaping the markets, industries and products (Carter et al., 2007). Carter et al. (2007) indicated that organisations are turning to their procurement function for aid during these trying times and the procurement function can represent between 50 to 75 percent of the overall expenditure of these organisation.

Wight (2000) defined procurement as the acquisition of goods and/or services at the best possible total cost of ownership, in the right quantity and quality, at the right time and in

the right place for the direct or indirect benefit of use to the organisation. Angeles and Nath (2007) highlighted that procurement normally represents one of the largest expense items in an organisation's cost structure. According to Kwakye (1997) procurement is the process whereby sector organisations acquire goods and services from third parties. Public procurement includes much that supports the work of government and ranges from routine items (e.g. stationery, temporary office staff, furniture or printed forms); to complex spend areas (e.g. construction, Private Finance Initiative projects, aircraft carriers or support to major change initiatives) (Kwakye, 1997). He added that, procurement also involves a growing spend where the private and third sectors provide key services directly to citizens in areas such as welfare-to-work, further education, social care and health. Such services may also be provided by the public sector directly and in some cases even this public provision can be handled through procurement mechanisms. A public body may bid for government work against private sector firms through a formal competitive process. Sound planning of procurement is crucial. Clients determine what goods and services are required to carry out the project, when they must be delivered, what standards are needed, the need for co-financing and which purchasing and contracting procedure is most suitable for each contract.

2.4 PROCUREMENT IN THE CONSTRUCTION INDUSTRY

Construction activities are organized essentially as a tripartite arrangement between the client, professional consultants and the contractor. The client after taking the decision to build informs the chief consultant who is usually the architect and the other consultants. These consultants provide professional advice to the government during the briefing stage. Consultants provide design, appoint the qualified contractor, supervise the execution and advice for payment and finally, conclude the project (Gyadu-Asiedu, 2009). This means after the initialization stage, the client's role is limited to expecting the finished product.

The consultants, led by their team leader (usually, the Architect, Quantity Surveyor or Civil Engineer depending on the project, or project manager where applicable) traditionally become not only the managers of the project but also assess the state of performance and satisfaction of the project to the client.

Walker (2007) described the procurement systems as the system which describes the total process of meeting a client's expectations for a project, starting at the point where this need is first expressed, inception to completion and sometimes after commissioning. Procurement system can also be described as the management system used by the client to secure the design and construction services required for the execution of the proposed project to the required cost and quality within the required time. In Ghana, the main procurement method used for public purchases in the country prior to and after the enactment of the Public Procurement Act, 2003 (Act 663) is the traditional method of procurement. The Act 663 applies to all purchasing financed in whole or in part from public funds (PPA, Section 14), though procurement with international obligations arising from grants or concessionary loan to the government are in accordance with the terms of the grant or loan (PPA, Section 86). It is anticipated that Act 663 would ensure transparency, probity and accountability in public construction procurement.

2.5 PROCUREMENT PROCESSES

The procurement process includes all the steps from the development of the need to the assessment and evaluation of the procured good, service and work. The procurement model developed by Weele (1997) is extensively accepted to describe the procurement process of goods, services and works. This model involves six phases for the procurement process which includes:

- Specification
- Selection

- Contracting
- Ordering
- Monitor
- After-care.

Heijboer (2003) highlighted that the front-end of the procurement model is extended including the preparation phase. The model focuses on the most significant phases on the final specifications of the product or service. These phases include the preparation phase, the specification phase, the selection phase, and the contracting phase. Heijboer (2003) further indicated that the strategic phases of the process include the preparation phase. The specification, selection, and contracting phase are the tactical phases of the purchasing process (Harink, 1999). Notwithstanding, the operational phases of the procurement process include last three phases which include ordering, monitoring, and after-care are (Harink, 1999). The extent to which the specifications of the final products are influenced declines in every step from the preparation phase onwards. Together with this declining effect also the influence on sustainability and innovation declines in every step from the preparation phase onwards.

2.5.1 Preparation Phase

Rolfstam (2009) highlighted that in the preparation phase the questions about what should be procured and how the goods, services or works will be procured are answered. Buyer supplier collaboration strongly impacts on what will be procured. Furthermore, a good understanding of the market and technical capabilities should provide the basis for adopting a particular tendering procedure. Within the tendering procedures, the use of criteria plays an important role. The choice of a specific tendering procedure also directly influences which criteria can be used. The criteria to be applied have a significant influence on the steerability of the sustainability and innovativeness of the products to be procured (Rolfstam, 2009).

2.5.2 Specification Phase

In the specification phase the requirements for both the tenderer and the tender are drawn up. In the specification phase the intentions of the preparation phase on what and how should be procured are formulated. The first is achieved by designing requirements for the product in such a way that it is guaranteed that the specifications of the final product will meet the requirements. The latter is done by selecting the most appropriate tendering procedure (Telgen, 2007). However, the selection and award criteria for the tender and the tenderer should be designed in the specification phase.

2.6 PROCUREMENT STRATEGY

Organisations must recognize the strategic context in which the procurement of goods, services and works must be undertaken. Each procurement activity, irrespective of size or scope, influences the environment in which the organisation operates. However, through the development of a strategic approach to procuring the desired outputs, an organisation can increase the possibilities of achieving best value for money expended.

Procurement and the role of suppliers can be seen as an important contributor to a supply chain strategy, there is argument over whether it can be perceived as a strategic activity in itself. Studies indicate that it is difficult for procurement to create competitive advantage, hence it is operational, not strategic in nature (Ramsay, 2001). Nevertheless, that the result of this discussion relates to the firm's overall direction: "If a firm adopts a cost focused approach to its competitive position it will be unlikely to consider supply as a strategic process, because its competitive priority is to reduce cost whereas if a firm sees itself as a differentiator in the market place, it is likely to take a more strategic view of supply; supply will be seen as a source of competitive advantage through inter-organisation collaboration" (Cousins, 2005). Therefore, procurement or supply policy relates to the company's market orientation. Nollet et al. (2005) developed a framework that relates procurement management to corporate strategy goals which shows a hierarchy where procurement

strategy is determined by overall corporate strategy, and its connection to other functional strategies which includes marketing.

Venkatesan (1992) advanced outsourcing as a strategic dimension of procurement through the work on 'make versus buy' where it was suggested that the decision to make in-house or to buy from external sources was procurement, not a manufacturing decision. Therefore, procurement managers must determine which, if any, internal resources should be developed, versus employing outside contractors. McIvor et al. (2004) developed a framework for strategic make or buy decisions, proposing the requirement of senior management involvement and input from a broad-based team including procurement and manufacturing. Other studies by Balakrishnan (1994) and Cádiz et al. (2000) also deliberated on the role of procurement in determining make versus buy decisions. The most significant issue relates to the fact that procurement functions are responsible for determining the use of external resources and outsourcing and establishes a strategic element of procurement management. However, globalisation of markets and competition has driven firms towards internationalizing their procurement activities. Harland et al. (1999) and Quintens et al. (2006) explained that most businesses have extended their procurement of goods and services from local, through international to truly worldwide supply. This discussion of local versus global sourcing is a significant element of procurement's strategic focus. Cousins (2005) argued that the decision to outsource and select local/global suppliers, and the relationships that support these suppliers are critical to future business success and represent a contribution in terms of strategy. These issues of outsourcing and global sourcing are key elements in the strategic dimension of procurement.

2.7 CHALLENGES ASSOCIATED WITH PROCUREMENT PROCESSES

According to Anvuur et al. (2006) the performance of construction has been poor and many reports have decried the public sector's lack of commercial edge in the exercise of its

procurement function. Crown (1998) as cited in Anvuur et al. (2006) affirms that contracts for securing goods take very lengthy periods to reach financial closure and are subject to unnecessary delays. Westring (1997) attributes the causes of the delays to extensive postaward negotiations, delays in the preparation of technical specifications, delays in evaluation of suppliers, an extensive system of controls, reviews and approvals. Poor procurement practices lead to insecurity of funding for procurement activities and create a constant range of delayed payments and payment arrears to suppliers (World Bank, 1996). Westring (1997) highlighted that many suppliers delivering goods and services to government establishments try to limit their losses by cutting corners or abandoning the work altogether which has negative consequences on project delivery as well as increasing contractor-client conflicts.

Anvuur et al (2006) opined that monitoring and control of procurement of materials presents numerous challenges and therefore involves a long-term strategic planning by both public and private sectors. Most procurement entities resort to making contractual payments before the due dates in order to prevent budget allocation lapse and advance mobilization funds provided to contractors which exceeds considerably the 15% allowable (Dansoh, 2004; Westring, 1997; World Bank, 1996). Uromi (2014) also identified challenges associated with procurement of goods, services and works in developing countries as lack of public awareness about the benefit of public procurement and its laws, regulations, guidelines, procedures and regulatory instruments. There is also a lack of awareness on public procurement markets, complaints review mechanisms among stakeholders.

Table 2.1: Problems of Procurement in Ghana

Authors	Problem	Causes
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Westring (1997)	Delays and cost overruns	Extensive post-award negotiations, delays in the preparation of technical specifications and drawings, delays in evaluation, an extensive system of controls, reviews and approvals and land ownership disputes.
Westring, (1997); World Bank (2003)	Poor Quality	Service providers cutting corners to limit losses or abandoning the work altogether.
Eyiah and Cook (2003); Westring (1997)	Delays	Long process of payment to contractors and suppliers, over centralized.
World Bank (1996)	Insecurity of funding for projects	Fiscal constraints and poor procurement practices resulting in delayed payments and arrears to contractors and consultants; accumulated interest on late payments and the frequent price changes due to extensive renegotiation; difficulties by contractors and consultants in processing claims
Dansoh (2004)	Contractual and procurement issues	Lack of respect for contract with neither party expecting contract to be binding; ad-hoc approaches to economic size projects; difficulties in long term strategic planning by contractors; poor monitoring and control of procurement

Source: Adopted from Anvuur et al. (2006)

2.8 SUPPLIER-MANAGEMENT RELATIONSHIP

Handy (1995) highlighted that the study of supplier-customer relationships has shifted from a focus on the organizational traits associated with relationships to a focus in which personal trust between the parties has been recognized as a significant ingredient. Trust occurs in cognitive and affect-based forms (McAllister, 1995). The earlier has its roots in reliable role performance, cultural-ethnic similarity, and professional credentials, while the

latter is a function of individual behavior and interaction frequency. Both forms enhance coordination by lowering administrative costs. Mohr and Spekman (1996) opined that Coordination is related to trust through boundary definition and reflects the set of tasks each party expects the other to perform. Young et al. (2003) indicated that trust has also emerged as an important component of supplier/manufacturer relational exchange norms, and firms are beginning to recognize the importance of trust and coordination in cooperative relationships (Pilling and Zhang 1992).

Suppliers and customers are less likely to use equity sharing agreements as these suppliers and customers gain more experience with each other through ongoing relationships (Gulati, 1995). Furthermore, greater familiarity between the parties produced trust, which replaced legal relationships. Coviello et al. (2002) opined that trust develops when tangible benefits appear to both parties from the business relationship. Interestingly, even as firms increase the length of their agreements, studies have concluded that many supplier/customer relationships are still characterized by a lack of trust. Stump and Heide (1996) concluded that opportunistic behavior by one party can lead to a lack of trust by the other party. Communication and the sharing of information are the basis for most aspects of supplier/customer relationships (Kapp and Barnett 1983). Pfeffer and Salancik (1978) highlighted that the exchange of information between the parties serves to “create” a necessary environment for the conduct of business relationships. Consequently, as boundary spanners exchange information, that information provides signals to the other party as to what the communicating boundary spanner considers important to his/her organization and the relationship.

However, Emerson (1962) and Ganesan (1994) indicated that dependence exists when one of the boundary spanners does not entirely control all of the conditions necessary for

achievement of a desired outcome performed by the other party. Pfeffer and Salancik (1978) also indicated that resource dependence theory specifies the conditions under which one unit is able to obtain compliance with its demands when dependence between the parties is present. Three critical factors that affect the degree of perceived dependence include the importance of the resource, the extent to which the group has discretion over the resource, and the extent to which there are limited alternatives. For example, dealers of agriculture equipment were less opportunistic when a dealer has to depend on a primary supplier, whereas suppliers with greater control over dealers' decisions exhibited greater opportunism (Provan and Skinner, 1989). Hence, as the dealer became more dependent on the supplier, dealers chose to minimize their opportunism in the supply market and limit their business with the supplier. Nevertheless, dealers that sense guaranteed business from a dependent supplier or customer will pursue opportunities for other business relationships at the expense of the existing relationship. Williamson (1979) explained that the influence of asset specificity on organizational relationships was originally described by transaction cost theorists. However, Ouchi (1980) indicated that the concept was later extended to help explain the formation of 'clans'.

2.9 MEASURES TO IMPROVE PROCUREMENT PROCESSES

Procurement systems are systems that are defined as offering a high level of transparency, accountability and value for money in the application of a procurement budget. These systems are critical to poverty reduction and enable effectiveness of the procurement process. Cox (2007) indicated that all parties in the procurement process must have a vested interest in promoting this critical pillar of good governance and should be conducted in the context of an open macro-economic framework that promotes open competition, the free functioning of markets and the allocation of resources based on comparative advantages. Many training institutions lose huge amounts of funds annually as result of implementation of ineffective procurement practices which are not in tandem with the public and disposal

regulations. Muindi (2014) established that low level of compliance with procurement regulations, lack of transparency and accountability of procurement funds lowers the level of effectiveness in procurement practices in training institutions. Major factors that determine the extent to which effective procurement practices are employed include; the level of compliance with procurement regulations, minimization of procurement expenditure, transparency and accountability of procurement funds and quality of procured goods and services (Velnampy, 2010).

Velnampy (2010) indicated that low level of compliance with procurement regulations and lack of high degree of transparency and accountability hinder execution of effective procurement practices. Wanjiru (2014) highlighted that poor record management practices affect procurement process efficiency in organizations to a great extent. The firms' adequate controls should be put in place by introduction of electronic data management software for managing records in liaison with these both internal and external stakeholders should be connected to the electronic data software for transparency and efficiency (Wanjiru, 2014). Kinyanjui (2013) disclosed that although there is a scanty application of the procurement tools, six sigma, continuous improvement, just in time procurement, and lean management have a positive correlation between the level of application and efficiency levels of procurement. Therefore, these tools play a significant role in improving efficiency in the procurement process. Ngugi and Mugo (2010) on internal factors affecting procurement process of supplies in organisations revealed that accountability, ICT adoption and ethics affected procurement process of supplies to a great extent. However, adequate controls should be put in place reducing opportunities for corruption (Ngugi and Mugo, 2010).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter details the procedures and strategies employed to achieve the research aim and objectives of this study. It outlines the research design, research strategy and methodology. It presents the study design, population, sample selection and size. The chapter also presents what data collection and data analysis strategies would be adopted for the study. Finally, it would present information on the ethical considerations that would be observed during the study.

3.2 RESEARCH DESIGN

Research design is a plan or a framework for guiding a study (Adams and Schvaneveldt, 1991). This deals with the organization, collecting and analyzing data; the structure that influences the technique for collection and analysis of data and provides the connection between empirical data as well as its conclusion in a logical sequence to the initial research question of the study (Baiden 2006; Bryman, 2004; Yin, 2003). The research design adopted was an exploratory design and utilized questionnaire survey. It was used in the quest to develop a strategic procurement process in the Ghanaian construction industry. It enabled the researcher to use smaller groups of people to make inferences about larger groups which was prohibitively expensive to study (Holton and Burnett, 1997). Questionnaire survey enhanced consistency of observations and improved replication due to its inherent standardized measurement and sampling techniques (Oppenheim, 2003).

3.3 RESEARCH STRATEGY AND APPROACH

Research strategy can be defined as the enquiry of research objectives (Naoum, 1998). The research strategy adopted for the study was the survey. Baiden (2006) indicated that, the

three main types of research methods are adequate for a survey; quantitative, qualitative, and triangulation. Nonetheless, the choice to adapt any particular method practically depends on the drive of the study, the type, as well as availability of information for the research (Naoum, 1998 *c.f* Baiden, 2006). Hence, this research adopted a quantitative method of enquiry. The quantitative method utilizes statistics in its analysis. The study used survey design with structured self-administered questionnaires. To gather data for the study, self-administered questionnaires were distributed to the procurement professionals in the various construction firms.

3.4 SOURCES OF DATA

According to Bernard *et al.*, (1986) data gathering is very crucial in research. This is because data contributes enormously to a better understanding of a theoretical background (Bernard, 2002). It then turns out to be imperative that selecting the method of obtaining data and from whom the data will be acquired be done with sound judgment, especially since no amount of analysis can make up for improperly collected data (Tongco, 2007; Bernard *et al.*, 1986). This aspect of the research methodology addresses data collection instruments, methods, and procedures. It provides exhaustive explanations to each of the methods that would be used in addressing the aim, objectives, and research questions. Data gathering is crucial in research, as the data contributes to a better understanding of a theoretical background (Bernard, 2002). In this study, both primary data and secondary information were employed. The approach for gathering data involves both literature review and field survey.

3.4.1 Primary Data

Bernard *et al.* (1986) concurs that primary data is a kind of data that is collected at first hand. In this study the main instrument that were be used in collecting the primary data is the use of questionnaires. Primary data for the introductory stage of the research was

collected from the management professionals responsible for procurement in the various building and civil engineering construction firms that were identified for the study in the Accra metropolis.

3.4.2 Secondary Information

This type of data collection is the one based on already existing data. Secondary information for this study are what were collected from literature (books, articles, magazines, etc.) internet, and databases. As part of this study, secondary information was collected from different books on the topic from libraries and on-line source and also secondary information from journals formed a substantial part of the literature review.

3.5 TARGET POPULATION

According to Mason *et al.* (1997) the population of a study is the collection of all possible individuals, objects or measurements of interest. It consists of all the individuals whom the measurement is being taken (Cooper *et al.*, 2001). The study population included management professionals involved in procurement in the various construction firms such as procurement officers, engineers and quantity surveyors.

3.6 SAMPLING TECHNIQUE AND SAMPLE SIZE

According to Strydom *et al.* (2005) sampling means taking any portion of a population or universe as representative of that population. It is generally stated that the larger the population, the smaller the percentage of that population the sample needs to be and vice versa (Naoum, 1998). If the population itself is relatively small, the sample should comprise a reasonably larger percentage of the population (Polit and Hungler, 1999). Large samples enable researchers to draw more representativeness and accurate conclusion and to make more accurate predictions than in smaller samples (Polit and Hungler, 1999).

Purposive sampling technique was used in this research based on the research design, purpose, and practical implication of the study. Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience (Lewis and Sheppard, 2006; Bernard, 2002; Tongco, 2007). Bernard (2002) described purposive sampling as a form of nonprobability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research. Furthermore, the study also employed snowball sampling technique to locate the respondents for the study. In the adoption of snowball technique, building and civil construction firms that were easy to locate gave leads to other construction firms with similar characteristic needed for the study. Utilizing purposive and snowball sampling techniques, ten (10) construction firms were contacted with sixty (60) administered questionnaires.

3.7 DATA ANALYSIS AND STATISTICAL TOOLS

Strydom *et al.* (2005) described data analysis as a means of finding answers by way of interpreting the data and results. To interpret is to explain and find meaning. It is difficult or impossible to explain raw data, one must first describe and analyze the data and then interpret the results of the analysis (Strydom *et al.*, 2005). Analysis means the categorization, ordering, manipulating and summarizing data to obtain answers to research questions. The purpose of analysis is to reduce data to a clear, understandable and interpretable form so that the relations of research problems can be studied, tested and also allow conclusions to be drawn. Interpretation takes the results for analysis, makes inferences pertinent to the research relations studied and draws conclusions about these relations. The completed questionnaires were edited to ensure completeness, consistency

and readability. Once the data had been checked, they were arranged in a format that would enable easy analysis.

A comprehensive assessment of available analytical and statistical tool greatly affects the choice of the analytical tool to be adopted. In choosing statistical tool, parametric and nonparametric statistical test would be considered. In choosing one of the two, much efficacy was placed basically on the level of measurements realized in the study and also the type of variables. Non-parametric statistical testing using descriptive statistics was used. Quantifiable data from the questionnaires were coded into the Statistical Package for Social Sciences (SPSS) software for analysis. For this study, SPSS Version 17 and Microsoft excel were used for the analysis. Furthermore, relative importance index ranking was also used to rank the identified variables using the formula:

$$\checkmark \text{ Relative Importance Index (RII)} = \frac{\sum W}{A \times N}, \text{ where;}$$

W = the cumulative sum of weight, ranging from 1 to 5,

A = the highest weight (i.e. 5 in the study)

N = the total number of respondents.

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CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

In this chapter, the data gathered from the study is thoroughly subjected to scientific analyses and interpretations. This chapter introduces the data analysis and discussion of results using Statistical Package for Social Sciences (SPSS). The discussions largely center on the objectives of the research. Descriptive statistics is used to analyze the background study of each objective and relative importance index (RII) is the main statistical technique used to analyze the variables identified and their relevance to the procurement processes. The first section deals with the profiles of the respondents and the influence such attributes have on the research. The other part also deals with the detailed analysis of the specific objectives of the study in relation to the challenges encountered in the procurement processes and the measures that could be adopted to the procurement processes. The researcher thoroughly discussed the empirical analysis of the various procurement

processes. A total of sixty (60) questionnaires were administered and fifty (50) were received representing a response rate of 83.33%.

4.2 DESCRIPTIVE ANALYSIS OF DATA (DEMOGRAPHIC)

4.2.1 Years of Experience

The intention of this question is to identify the level of experience of the respondents in the construction industry because how long respondents have been in the construction industry will affect the quality of responses that will be given. Figure 4.1 indicates the number of years of the respondents in the construction industry. Respondents were asked to indicate how long they have been in the construction industry. 12 respondents indicated they have existed in the construction industry between 2-3 years, 6 of the respondents have existed for less than 1 year and 6 respondents existed between 3-5 years whilst the majority of the respondents constituting 23 respondents indicated they have also existed in the construction industry for more than 5 years. However, the remaining 3 respondents indicated between 1-2 years. These results indicate that majority of the respondents have adequate knowledge in the industry and are fit to answer the questionnaire.

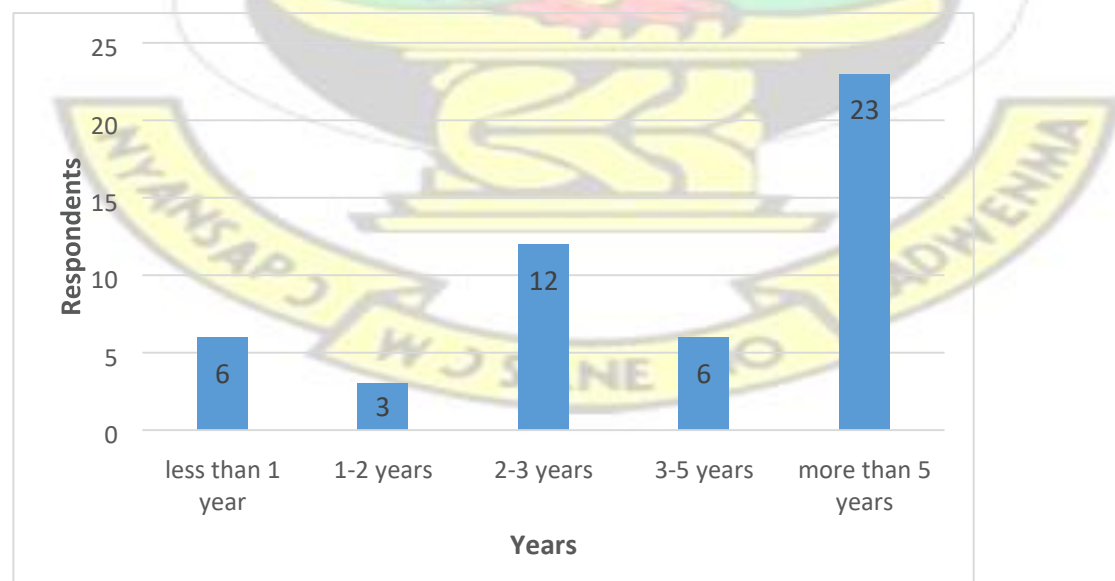


Figure 4.1: Years in the Construction Industry

Source: Survey data, 2016

4.2.2 Position in Firm

The intent of this question is to identify the various positions respondents occupy within the company. Figure 4.2 established the various positions respondents occupy within the company and it posits itself to the following interpretation; 54% of the respondents representing majority were Project Managers, 14% were Quantity Surveyors and 18% respondents were Engineers. However, the remaining 14% of the respondents indicated they were Contracts Managers.

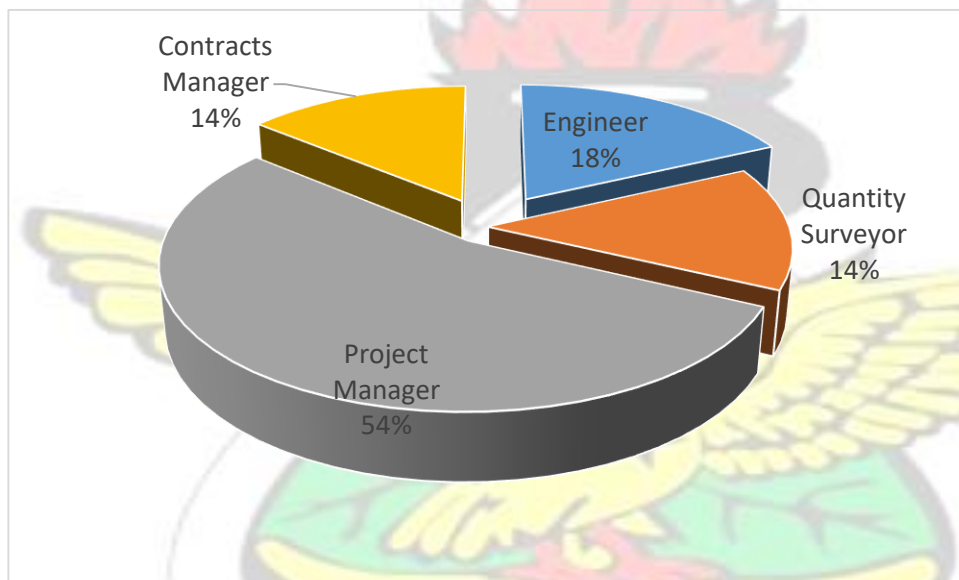


Figure 4.2: Position in Firm

Source: Survey data, 2016

4.2.3 Highest Qualification

The intention of this question is to identify the highest level of education of respondents because the highest level of education of the respondent will affect the quality of responses that will be given. Figure 4.3 indicates the highest level of education of the respondents. Respondents were asked to indicate their highest level of education. 18 respondents indicated they held MSc. certificates, whilst the majority of the respondents constituting 21

respondents indicated they also held HND certificates. However, the remaining 11 respondents were BSc. holders.

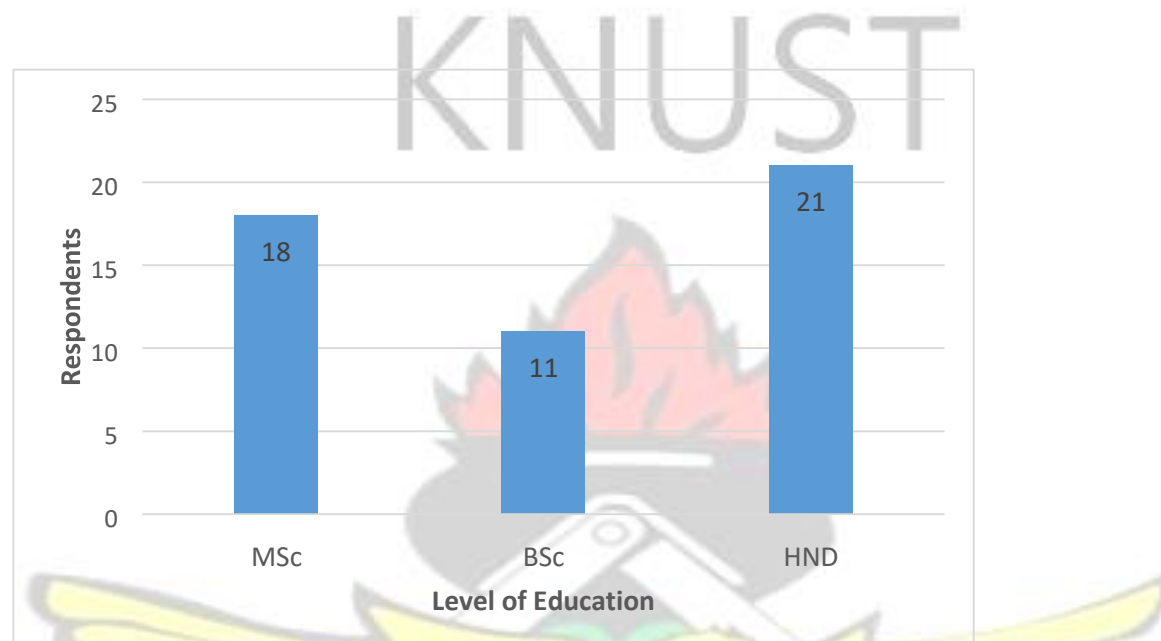


Figure 4.3: Educational levels of Respondents

Source: Survey data, 2015

4.2.4 Legal Status of Firm

The legal framework determines the control of the business, acquisition of capital, extent of risks, the distribution of profits and losses, legal formalities, taxation payment and where legal liabilities rest (Owusu-Manu and Badu, 2011). The government of Ghana works requires that firms are legally registered in order to conduct businesses. Respondents were asked to indicate the legal status of their firms. The results indicate that majority of respondents constituting 52% of respondents belong to private limited company, 12% of respondents belong to public limited company and 24% of respondents also belong to sole proprietorship. However, the remaining 12% of respondents belong to joint ventures (Fig.4.4).

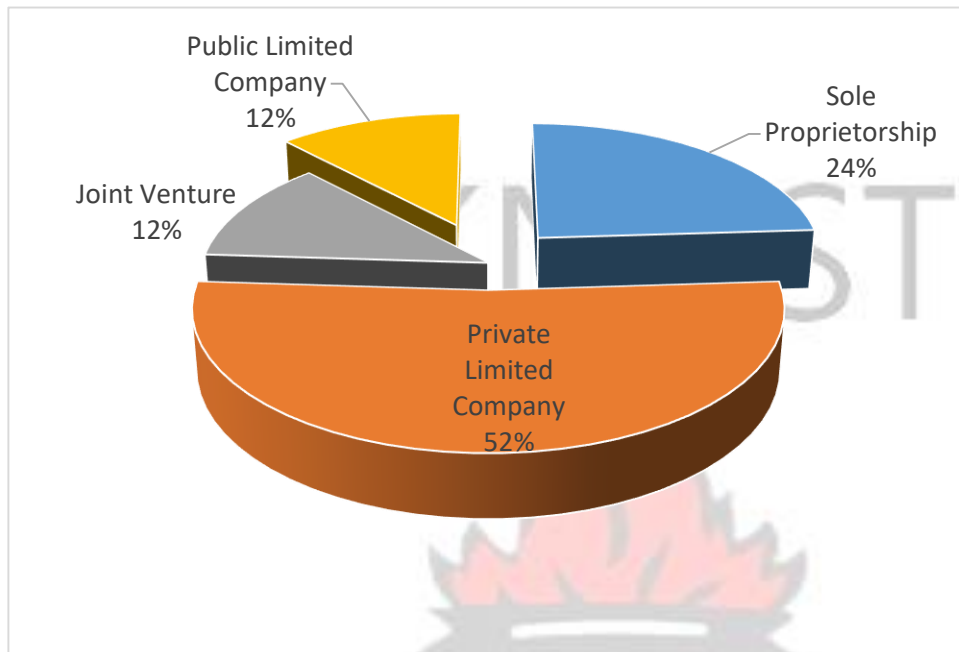


Figure 4.4: Legal status of Firm

Source: Survey data, 2015

4.2.5 Years of Existence of Firm

Respondents were asked to indicate the number of years their firms had been in existence. This was to determine how conversant respondents' firms had been with the construction industry. 18 of the respondents indicated their firms had existed for less than 5 years and 13 respondents indicated between 5-10 years whilst majority of the respondents constituting 19 indicated their firms had been in existence between 11-15 years. However, it is concluded that majority of the firms had existed for a substantial number of years in the construction industry (see figure 4.5).

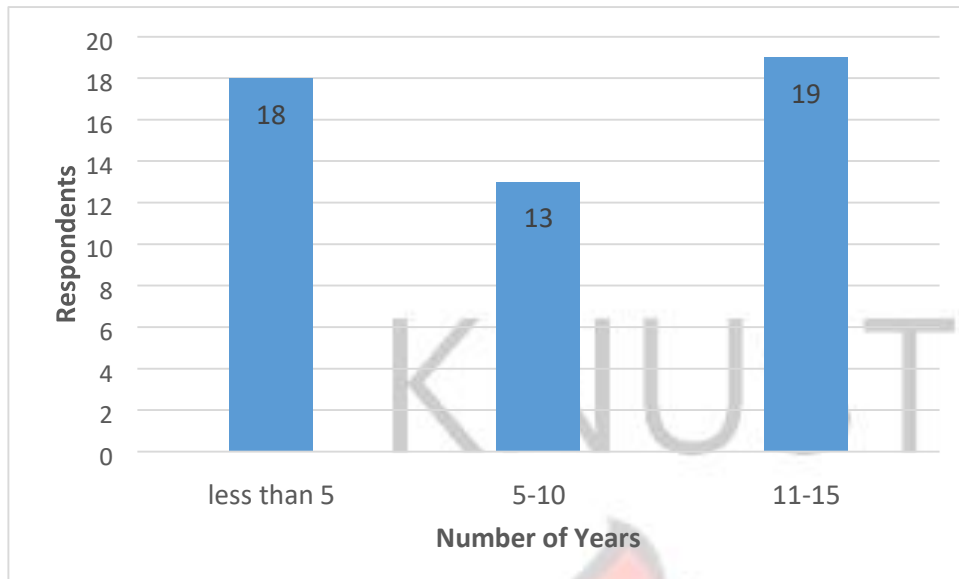


Figure 4.5: Years of existence of firm

Source: Survey data, 2015

4.3 CHALLENGES ENCOUNTERED IN THE PROCUREMENT PROCESSES

From Table 4.1, *difficulties in long term strategic planning* is the most ranked challenge encountered in the procurement process by respondents, evident with an RII of 0.86. This is closely followed by *long payment processes to suppliers* and ranked 2nd by respondents with RII of 0.84. This affirms Dansoh (2004) assertion that difficulties in long term strategic planning possess much problems to the entire procurement processes. *Service providers cutting corners to limit losses* is ranked 3rd by respondents with an RII. This buttresses World Bank (2003) argument that most service providers in the construction industry cut corners to limit their losses and this obstructs the entire procurement process. However, *unnecessary delays* is ranked 4th by respondents with an RII and mean values of 0.82. Anvuur et al. (2006) indicated that contracts for securing goods take very lengthy periods to reach financial closure and are subject to unnecessary delays. These delays are as a result of extensive post-award negotiations, delays in the preparation of technical specifications, delays in evaluation of suppliers, an extensive system of controls, reviews and approvals (Westring, 1997). *Ad-hoc approaches to economic size projects* is ranked 5th by respondents

with an RII of 0.81. However, *extensive system of controls, reviews and approvals* is ranked 6th with an RII of 0.80 whereas *lack of awareness on procurement markets* is also ranked 7th by respondents evident with an RII of 0.76. This is in confirmation to Dansoh (2004) argument that ad-hoc approaches to economic size projects and extensive system of controls and approval serve as challenges to the procurement process.

Furthermore, *delays in preparation of technical specifications* also ranked 8th with an RII of 0.76. *Issues of renegotiation* is ranked 9th with a RII of 0.75. *Lengthy contract periods* is the 10th ranked challenge encountered in the procurement processes by respondents with an RII of 0.74. These reveal that delays in technical specification preparations and lengthy contract periods interfere with the smooth running of the entire procurement process (Uromi, 2014). Measures such ICT adoption should therefore be utilized to facilitate the preparation of the technical specification.

Table 4.1: Challenges encountered in the procurement processes

CHALLENGES	RATING					Total	ΣW	RII	Rank
	1	2	3	4	5				
Difficulties in long term strategic planning	0	6	3	10	31	50	216	0.86	1st
Long payment processes to suppliers	0	0	6	29	15	50	209	0.84	2nd
Service providers cutting corners to limit losses	0	4	7	20	19	50	204	0.82	3rd
Unnecessary delays	0	6	6	16	22	50	204	0.82	4th
Ad-hoc approaches to economic size projects	0	6	0	29	15	50	203	0.81	5th
Extensive system of controls, reviews and approvals	0	4	12	15	19	50	199	0.80	6th
Lack of awareness on procurement markets	0	0	19	21	10	50	191	0.76	7th
Delays in preparation of technical specifications	0	4	9	31	6	50	189	0.76	8th
Issues of renegotiation	0	6	6	32	6	50	188	0.75	9th

Lengthy contract periods	0	6	17	13	14	50	185	0.74	10th
Lack of commercial edge in procurement exercises	4	6	18	15	7	50	185	0.74	11th
Difficulties in processing claims	0	6	12	25	7	50	183	0.73	12th
Frequent price changes	0	7	18	18	7	50	175	0.70	13th
Delays in evaluation of suppliers	0	10	25	3	12	50	167	0.67	14th
Expensive post-award negotiations	6	11	6	20	7	50	161	0.64	15th

4.4 MEASURE TO IMPROVE THE PROCUREMENT PROCESSES

From Table 4.2, *ICT adoption* is the most ranked measure to improve the procurement process, evident with an RII of 0.88. This confirms Ngugi and Mugo (2010) assertion that on internal factors affecting procurement process of supplies in organisations revealed that ICT adoption affected procurement process of supplies to a great extent. This is closely followed by *adoption of just-in-time procurement* with an RII of 0.88, which is also very high indicating that if procurement of goods and services are procured just as when they are needed, it could improve the entire procurement process. *Effective records management* is third ranked with an RII value of 0.86. Poor record management practices affect procurement process efficiency in organizations to a greater extent (Wanjiru, 2014). *Adequate controls to reduce corruption* is fourth ranked measure with an RII value of 0.80 whilst *high level of compliance with procurement regulations* is fifth ranked by respondents with an RII value of 0.79. These affirm Velnampy (2010)) argument that low level of compliance with procurement regulations and lack of high degree of transparency and accountability hinder execution of effective procurement practices.

However, *adequate transparency and accountability* is ranked 6th with a RII value of 0.79.

It is followed by *ensure quality of procured goods and services* with an RII value of 0.78.

However, *minimization of procurement expenditure* is the least ranked measure with an RII

value of 0.71 indicating that respondents do not recognize minimization of procurement expenditure as an important measure to improve the procurement process.

Table 4.2: Measures to improve the procurement processes

MEASURES	RATING					Total	ΣW	RII	Rank
	1	2	3	4	5				
ICT adoption	0	0	0	29	21	50	221	0.88	1st
Adoption of just-in-time procurement	0	0	5	20	25	50	220	0.88	2nd
Effective records management	0	0	7	22	21	50	214	0.86	3rd
Adequate controls to reduce corruption	0	6	0	33	11	50	199	0.80	4th
High level of compliance with procurement regulations	0	6	12	11	21	50	197	0.79	5th
Adequate transparency and accountability	0	6	6	16	22	50	197	0.79	6th
Ensure quality of procured goods and services	0	6	19	0	25	50	194	0.78	7th
Use of lean management	0	5	19	3	23	50	194	0.78	8th
Adequate awareness on procurement markets	0	0	18	22	10	50	192	0.76	9th
Minimization of procurement expenditure	0	6	22	11	11	50	177	0.71	10th

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS 5.1

INTRODUCTION

This dissertation which aims to develop a strategic procurement process for private entities in the Ghanaian construction industry is divided into five (5) independent but interrelated chapters. The main introduction to the research covered in Chapter One. The review of literature on the topic which covered background discussions and overview on procurement processes was captured in Chapter two. In Chapter three, the methodology adopted for the study including the research design and research strategy were discussed. The research process was in one main phase; survey questionnaires. Chapter four presented the empirical analysis and provided detailed discussions on the survey results. This chapter (Chapter five) summarizes the issues addressed throughout the study. It begins with a summary of how

the research objectives were achieved and concludes with recommendations for further research that can be conducted based on the conclusion of the study.

5.2 SUMMARY OF FINDINGS

This research was initiated with the aim of developing a strategic procurement process for the Ghanaian construction industry. In an attempt to accomplish the stated aim, three research objectives were set in Section 1.3. Objective 1 was achieved through existing literature whilst objectives 2 and 3 were achieved through the literature reviews and the survey questionnaires which were administered. Subsequently discussions on how the objectives were achieved follows:

5.2.1 To identify the various procurement processes in the Ghanaian construction industry

Through available literature, background knowledge on procurement processes was discovered. Furthermore, the procurement strategies were also ascertained. Literature also gave an overview of the supplier-management relationship and also highlighted on the challenges associated with procurement processes. Literature brought to light knowledge on the measures to improve procurement processes.

5.2.2 To identify the challenges encountered in the procurement processes

With the background knowledge on the challenges encountered in the procurement processes gained from literature, a questionnaire was designed to address the second objective, of which fifteen variables were identified which was then tested on a number of building and civil construction firms in the Accra metropolis in the Greater Accra region. The questions highlighted on challenges such as Lengthy contract periods, Lack of commercial edge in procurement exercises, Unnecessary delays, Expensive post-award

negotiations, Delays in preparation of technical specifications, Delays in preparation of technical specifications, Extensive system of controls, reviews and approvals, Lack of awareness on procurement markets, Long payment processes to suppliers, Service providers cutting corners to limit losses, Frequent price changes, Difficulties in processing claims, Ad-hoc approaches to economic size projects, Difficulties in long term strategic planning and Issues of renegotiation. It was realized that the variables (i.e. 15 challenges) could be measured using the same underlying effect. Relative Importance Index (RII) was used to rank the challenges and then subsequently discussed.

5.2.3 To propose strategic measures to improve the procurement processes in the Ghanaian construction industry

The background knowledge of the strategic measures to improve the procurement processes gained from literature helped to design a questionnaire to address the third objective, of which 10 variables were identified and then tested on a number of building and civil construction firms in the Accra metropolis in the Greater Accra region. The questions highlighted on measures such as High level of compliance with procurement regulations, Adequate transparency and accountability, Minimization of procurement expenditure, Ensure quality of procured goods and services, Effective records management, Adoption of just-in-time procurement, Use of lean management, Adequate controls to reduce corruption, ICT adoption and Adequate awareness on procurement markets. However, it was realized that the variables (i.e. 10 measures) could be measured using the same underlying effect. Relative Importance Index (RII) was used to rank the factors and then subsequently discussed.

5.3 CONCLUSION

Ensuring a prudent procurement process is very vital in the growth of every organisation and helps to increase the useful procurement within the organisation. However, research

has shown that procurement processes in organisations face numerous challenges which adversely affect its smooth implementation in organisations. Notwithstanding these challenges, various strategic measures could be adopted to improve procurement processes within organisations. Furthermore, prudent procurement processes within an organisation would provide a competitive advantage, ensure growth and increase the organization's productivity.

5.4 RECOMMENDATION

To assist in ensuring a prudent procurement process, the following recommendations were therefore made:

- Management should advocate for the adoption of information communication technology (ICT) in the procurement process.
- Management should ensure efficient use of just-in-time procurement of goods, services and works.
- There should be an adequate and efficient records management by firms to enhance the procurement process.

5.5 LIMITATIONS OF THE RESEARCH

The core limitations of this study which ought to be acknowledged have to do with the scope and research process. These deficits which provide the basis for further studies are as follows:

- The limitation of the survey to building and construction firms in the Accra metropolis alone may affect the generalizations of the findings.
- The possibility of sampling as well as measurement errors and their effects on the data collected and analysis undertaken and the conclusion drawn.

5.6 DIRECTION FOR FUTURE RESEARCH

The research results have recognized a few areas that need further research efforts. The following are therefore recommended for future research:

- Further research on the effects of procurement processes on productivity at the construction stage.
- Further research on drivers to the implementation of procurement processes in Ghana.

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APPENDIX

**KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI COLLEGE OF ART AND BUILT ENVIRONMENT Department of
Building Technology**

(MSc. Procurement Management)

Survey Questionnaire

DEVELOPING A STRATEGIC PROCUREMENT PROCESS FOR THE GHANAIAN CONSTRUCTION INDUSTRY

Dear Sir/Madam

This questionnaire forms part of an MSc. Research project which aims to **develop a strategic procurement process for the Ghanaian construction industry**. Procurement processes has become very relevant in the success of contemporary organisations and presents various dimensions for the sustainability of these organisations. The results of this study will identify the various challenges encountered in the procurement processes of construction firms and propose measures to improve upon these processes.

I would like to invite you to participate in the above project. Completion of the questionnaire is completely voluntary and returning the completed questionnaire will be considered as your consent to participate in the survey. The questionnaire will take you about 10 minutes to complete.

The data collected will be used purposely for this research and any solutions obtained will be shared for the entire construction industry.

I appreciate that you are already busy and that participating in this survey will be another task to add to your busy schedule, but by contributing you will be providing important information. **All data held are purely for academic purposes and would be treated as strictly confidential.**

In the event of questions or queries, please do not hesitate to contact me. Thank you for your time and valid contribution in advance.

Yours faithfully,

BERNARD COSMAS-GONZALVES

MSc. Researcher

Email: delaben77@gmail.com

Tel: 0244787952

SECTION A: RESPONDENT'S PROFILE

Please, kindly respond to the questions by ticking (✓) in the appropriate box(s) for each item.

1. Name.....(please ignore if you wish to remain anonymous)
2. Please state the number of years you have been in the firm/construction industry
 - Less than 1 year
 - 1 – 2 years

- 2 – 3 years
- 3 – 5 years
- More than 5 years

3. Please indicate your position in firm.

- Engineer
- Quantity Surveyor
- Project Manager
- Contracts Manager
- Other(please explain further)

4. Please indicate highest qualifications (please do not tick (✓) **more than two boxes**)

- PhD
- MSc
- BSc
- HND
- Professional qualification.....(please indicate)
- Other.....(please indicate)

5. Please indicate the legal status of your firm.

- Sole Proprietorship
- Private Limited Company
- Joint Venture
- Public Limited Company

6. How long (years) has the firm been in existence?

- Less than 5
- 5 – 10
- 11 – 15

SECTION B: CHALLENGES ENCOUNTERED IN THE PROCUREMENT PROCESSES

1. Below are potential challenges encountered in the procurement processes in construction firms. From your experience, express your opinion on your level of agreement to the following challenges. Use the scale: **1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree**

ITEM	CHALLENGES	1	2	3	4	5
1	Lengthy contract periods					
2	Lack of commercial edge in procurement exercises					

3	Unnecessary delays					
4	Expensive post-award negotiations					
5	Delays in preparation of technical specifications					
6	Delays in evaluation of suppliers					
7	Extensive system of controls, reviews and approvals					
8	Lack of awareness on procurement markets					
9	Long payment processes to suppliers					
10	Service providers cutting corners to limit losses					
11	Frequent price changes					
12	Difficulties in processing claims					
13	Ad-hoc approaches to economic size projects					
14	Difficulties in long term strategic planning					
15	Issues of renegotiation					

Please state below any relevant information which you deem necessary

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SECTION C: MEASURES TO IMPROVE THE PROCUREMENT PROCESSES IN CONSTRUCTION FIRMS

1. Please the following are have been identified as having influence on the procurement processes in construction firms. Please indicate your level of agreement to the following measures to improve the procurement processes in construction firms in Ghana. **Use the scale: 1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree**

ITEM	MEASURES	1	2	3	4	5
1	High level of compliance with procurement regulations					
2	Adequate transparency and accountability					
3	Minimization of procurement expenditure					
4	Ensure quality of procured goods and services					

5	Effective records management						
6	Adoption of just-in-time procurement						
7	Use of lean management						
8	Adequate controls to reduce corruption						
9	ICT adoption						
10	Adequate awareness on procurement markets						

KNUST

Please indicate your views on any critical matter which in your opinion, this questionnaire did not consider.

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Thank you.

