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Exploring the Factors That Influence Decision Making in Tendering for Government of Ghana Project – A Case Study of the Adentan and Ga East Municipal Assembly

By

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DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which substantial extent has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

The Government of Ghana remains the largest investor in the construction sector in Ghana, delivering much needed infrastructure projects under its development agenda. Construction companies are partners in this process as they bid for these projects to deliver them. Since the government will continue to procure the services of consultants and contractor to execute projects, construction companies will always be required as partners in this process. Construction companies do not only bid for any government project simply because it has been advertised, but also there is a decision-making process that is undertaken. Thus, this study was undertaken to evaluate the factors that influence the decision-making process of construction firms regarding the decision to bid for governmental projects. The objectives were to identify the decision-making processes used and the factors that influenced the decisions. The study made use of quantitative strategy using the census sampling method was used. One hundred and twenty-five (125) questionnaire were administered to construction firms registered with the Adentan and Ga East Municipal Assembly. The questionnaires were analysed using descriptive statistics and mean score indexing. The study revealed that construction companies do not impulsively bid for any government project nor rely on intuition to make the decision, but rather have to depend on experience, past data from previous projects and organise pretender meetings to evaluate the factors of projects they wished to bid for. With regards to the factors that influence the decision to bid for a project, the study revealed that the most significant included the client identity and financial standing, level of competition, project complexity and technological requirements. It was recommended that construction companies must invest in their capacity so they can increase their chances of winning governmental projects

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DEDICATION

This study is dedicated to God, my husband, children and the whole Tsaku & Dzanku families.

LIST OF ABBREVIATIONS

AdMA – Adentan Municipal Assembly

ANN – Artificial Neural Network Model

CPM – Cost Per Metre

FaRM – Fair and Reasonable Mark-up Pricing Model

GDP – Gross Domestic Product

ICT – International Competitive Tendering

MAP – Minimum Acceptable Price

MMDA – Metropolitan, Municipal, District Assembly

MWRWH – Ministry of Water Resources, Works and Housing

NCT – National Competitive Tendering

PPA – Public Procurement Authority

RRR – Required Rate of Return

UK – United Kingdom

VFM – Value for Money

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

The construction industry of any country plays a significant role in the provision of necessary infrastructure as part of the development process, and as a nation, the construction industry in Ghana provided about $3.7 Billion to the Gross Domestic Product in the year 2017. The industry also employs over three hundred thousand people directly, with other ancillary roles not accounted for in this (Ghana Statistical Service, 2012). The government of Ghana is the largest investor in the industry, through annual infrastructure projects, and a budget for the Ministry of Water Resources, Works and Housing (MWRWH) in excess of $5 Billion in the 2017 budget statement (Ministry of Finance – Ghana, 2017). In the provision of construction projects, the building contractor also plays a significant role, as they undertake the direct construction works of the project. However, in securing the construction projects to undertake, whether from private developers or the government, the contractor needs to go through a tendering or bidding process to win the contract. The construction industry is very competitive and as such bidding for any project does not necessarily guarantee to the contractor that they will win it (Dulaimi and Shan, 2002). The contractors most often have to go through some form of competitive tendering process in order to win a project from the governmental sector, and private sector developers also try to follow the format developed by the public sector (Harris et al., 2006).

Competitive bidding for projects comes in different forms and is the most common method for selecting a successful contractor to undertake a construction project. Contractors can bid for a project that they deem themselves to be most qualified for and

have the greatest chance of winning through a competitive bidding process. Once bids have been received from prospective contractors the client or the client's team reviews the bid/tenders and selects the lowest priced and most responsive bid. This then brings to question the factors which influence the decision by the contractors to bid for a project. (Department of Quantity Surveying, Bells University of Technology, Ota, Ogun, NIGERIA et al., 2016) note that the decision to bid or not to bid for a project and most building contractors have to consider each project on a case by case but in most cases, they rely on their experience, intuition and guesses.

A study conducted among some UK contractors according to (Bageis and Fortune, 2009) established three most important factors considered by contractors when deciding to bid for a project. This were necessity for the work, the possible competitors and the track record on other projects undertaken before. In a recent study, bid decision making as stated by (El-Mashaleh et al., 2016) explored project factors and degree of influence using the Data Envelopment Analysis (DEA). The decision to bid for a project depends on numerous factors because the implications for winning or losing out on a project are significant for the managerial, financial, manpower and other resources of the company. Successful bids can certainly impact on the continued existence of the firm, while continued lost bids can spell doom for a construction firm. Firms need to be able to meet their costs of operations and make profits to expand or purchase necessary equipment for future projects, and all these can only be done if they are successful at their bids. It is expected that the management of the contracting organizations will make firm decisions about the tender in order to achieve the long-term goals of the organization. Contractors tend to make strategic decisions about project selection, d. H. Whether for a job (Oo, Drew and Lo, 2008, Shash, 1993, Lowe and Parvar, 2004). The appraisal process

involves considering the various factors that influence the tendering process in order to arrive at an informed decision that has a positive effect on the organization as a whole.

It is therefore clear that tenderers need to consider several factors before they bid for projects and it is due to this background that the research seeks to solicit the factors that influence the decision to tender for Government projects.

1.2 PROBLEM STATEMENT

The decision to tender for a project immensely strengthens the position of a company in terms of its position in the construction industry. More often than not, the survival and success of the company also hinges on the contractor's ability to choose or select contracts which will be of benefit and profitable to the company. Mostly, a decision not to tender for a project can mean a loss of profit and establishing new business relationships with other companies in the same construction environment. Moreover, Leniak and Plebankiewicz (2013) opined that it is very obvious that there is always a substantial loss of time and cost when there are numerous bid failures. This negatively affects the company's reputation. Fellow and Langford (1992) argued that bidding also affects the physical and managerial manpower resources of the firm as well as its financial resources hence the decision to bid has to be thought out very well before contractors make the decision to bid. In order for the tenderer to make the right decisions, a number of factors related to both the project and the company have to be considered. A lot of these factors are arrived at within the environment and market in which the company operates. There is however some research, done to establish factors that determine the bid/no bid decision. However, little has been done to investigate factors in developing countries, particularly Ghana, that affect the decision to bid or not to bid. Since what may be considered as an important factor in the developed countries may be different from that in the developing countries.

This research therefore seeks to explore those factors that affects a tenderer's decision to tender for Government of Ghana Projects within the Adentan and Ga East Municipal Assembly.

1.3 AIM OF THE STUDY

The aim of the study is to explore decision making in tendering for Government of Ghana Projects in the Adentan and Ga East Municipal Assembly.

1.4 OBJECTIVES OF THE STUDY

To achieve the aim of the study, the following research objectives were set:

I. To identify the decision-making process used by contractors

II. To identify factors influencing the decision to tender for government projects by contractors

1.5 SCOPE OF THE STUDY

GDP from construction to the Ghanaian economy in 2017 was over $3.7 Billion and the government of Ghana remains the largest investor in the construction sector in Ghana. In 2017 was over $3.7 Billion and the government of Ghana remains the largest investor in the construction sector in Ghana. With this understanding the government undertakes several construction projects from the national level down to the sub-administrative levels represented by the Municipal, Metropolitan and District Assemblies (MMDAs). As such for this study the focus will be on the contractors who bid on these governmental projects and the factors that influence the decision to bid on these projects. For the sake of the economy the study will target contractors in the classes D1 to D3 who operate in the Greater Accra region of Ghana. More specifically, contractors who bid for Government of Ghana projects in the Adentan and Ga East Municipal Assembly, and duly registered with the Adentan and Ga East Municipal Assembly will be contacted.

1.6 SIGNIFICANCE OF THE STUDY

This study is significant because as stated above the construction industry is very important to the growth of the economy, as it is an engine for providing necessary infrastructure needs of the country, while also contributing significantly to the Gross Domestic Product (GDP). With the government investing heavily in the construction sector annually, contractors will certainly always need to tender for these projects as stakeholders of the development process. However, it is also important to determine from the contractors the decision-making process for tendering for government construction projects and the factors that influence these decisions. The findings to be made from this study will be significant for the following:

Contractors can determine more efficient strategies for determining which governmental contracts are more profitable and efficient for them to bid for, so that they ensure that their chances of winning the projects and successfully completing them are enhanced. The contractors can also better identify the factors that influence negatively their ability to bid and successfully complete governmental projects, so their earnings capacity and reputations with the government are not also tarnished. The contractors' professional groups can also base on these findings to develop guidance to members on bidding for governmental projects. The findings from the study can also add to existing knowledge on decision making processes for contractors in relation to governmental projects.

1.7 RESEARCH METHODOLOGY

The study applied a quantitative research strategy that made use of large quantities of data collected and analysed mathematically to draw conclusions for the study. The quantitative research strategy allowed for the use of survey method for collecting data for the study. The study used both primary and secondary data, with the primary data collected from research respondents using the structured questionnaires. The secondary data was collected from already published works, and came from textbooks, journals, articles and other online published sources. The study respondents were targeted using a convenient sampling technique and the data collected will be analysed using descriptive statistics and mean score ranking.

1.8 ORGANIZATION OF THE STUDY

The work is structured into five (5) chapters. Chapter one is the introduction of the study. It comprises the background of the study, the problem statement, objectives of the study, research questions, the significance, the scope and limitations of the study and organization of the study.

Chapter Two comprises the literature review of this study. It contains a review of existing literature in order to retrieve information within which the study is focused. It thus reviews related theories and empirical literature on the study.

Chapter Three contains the methodology used in the study to arrive at the findings. This chapter discusses the research design, research instrumentation, target population, sampling procedure, the method of data analysis and the limitations of the study.

Chapter Four discusses empirical results, makes analysis and provides interpretations for the major variables in this study.

Chapter Five which is the last chapter summarizes the major findings of the study and makes conclusions and recommendations that was appropriate for both policy decisions and further academic research.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The literature review covers the already published works in relation to the topic of study. It allows the researcher to present as much information from other published works as possible which will provide some context on the problem statement, as well as guide the production of the research questionnaires to gather the primary data. This literature review will cover the relevant definitions and a review of related works as outlined by the objectives of the study.

2.2 DEFINITION OF KEY TERMS

2.2.1 Decision Making

The decision making process is one that is made with full awareness of an existing problem and the drive to solve it by evaluating a set of alternative solutions and making a final decision on the one that is most suitable to the problem at hand (Concordia, 2018). 'The decision making process is generally terminated once a suitable solution is selected, and the method to determine which is the most suitable is varying (Kahneman and Tversky, 2000).

2.2.2 Tendering

Bret (1997) defines tendering as a process of preparing the necessary documentation to submit a price for carrying out works for a project, with the ultimate hope of winning such project. This process is carried out by studying the related contract documents to the project and making a final informed decision based on these. According to the Chartered Institute of Building (2009) also, the tendering process involves the preparation and submission of an offer to carry out works at a certain price, with the

expectation that it be accepted as against those presented by competitors. Maddock and Pais and Chrisholm (1997) add that the tendering process often involves a web of legal issues that the tenderer must fully understand before submitting a bid for a project.

2.3 OVERVIEW OF PUBLIC PROCUREMENT

Public procurement is not a new concept but one that dates back to as far back at 2400 BC, where procurement information was carved on slabs of clay in Syria. That information was for the order of 50 jars of smooth fragrant oil for 600 weights in grain. Coming to the present day however, the role of procurement in the public sector has evolved to become the core component of securing the services of contractors to undertake any project, and (Brammer and Walker, 2011) surmised that public procurement is a key acidity for government, since it allows for clear and transparent use of public funds for development projects. Kal et al., (2007) also added in their definition of public procurement that it is a process which public institutions rely on to acquire goods and services for the people they serve. The public procurement process must bring the private and public sector to collaborate on the provision of goods and services and this process is often considered successful when public funds are transformed into goods and services at the right quality, price and timely delivery. Areas for collaboration on public procurement are far and wide, and could include health services, infrastructure provision (Kilver & Kodym, 2004).

According to a World Bank report in 2008, though there does not exist aggregate statistics on the actual volume of public procurement works within the construction sector in Ghana, there is however strong evidence that public procurement in that sector is very high. The estimate is that about 80% of the tax revenue generated by the Government of Ghana is spent on public procurement works. Due to the high value of works that are undertaken with respect to public procurement, (Pegnato,2003)

recommends that a greater level of importance be placed on it as a tool for development. It serves as a very important tool for achieving economic development and social intervention programmes of the government (Arrowsmith and Hartley, 2002).

2.3.1 The Public Procurement Act, 2003, (Act 663)

The Public Procurement Act (663) was established by the parliament of the republic of Ghana in the year 2003 to oversee the use of public funds for procurement of goods and services by various government agencies in fair and transparent manner. The Act also established the Public Procurement Authority (PPA) which was also tasked with oversee procurement processes for the public sector and the implementation of the Act. Though this Act 663 was generally implemented to oversee public procurement, private organizations have also adopted the provisions of the Act into their own internal procurement processes. Rules of public procurement are based on principles that are undertaken from which services, works and supplies are purchased according to specific criteria. The award criterion is often verifiable to everyone in the sense that selection is not made according to personal connections, preferences or other subjective circumstances. All firms and interested service providers who wish to offer the requested services or works to the state are given the opportunity to do so and this ensures that there is judicious use of taxpayer's money as effectively and expediently as possible.

2.4 OBJECTIVES OF PUBLIC PROCUREMENT

For any public procurement action to be considered successful whether for a large or small scale project, there are certain objectives that the proponents of the project must seek to meet:

I. The main purpose of public procurement is to ensure that there is a fair and transparent use of public funds in the delivery of development projects and social welfare programs. The procurement process must be open and fair to

all participants, with the assurance from all parties to be transparent in all their dealings.

II. Public procurement must seek to achieve Value for Money (VFM) in any project that is undertaken, and the principle of VFM seeks that there be economy, efficiency and equity in the use of public funds. Public procurement must ensure that each project has measurable parameters for determining VFM.

III. Public procurement initiatives must also ensure that there is innovation with the delivery of projects, while also ensuring social and environmental sustainability for any project undertaken.

IV. Public procurement projects must also seek to meet the triple constraint at all levels, and these include meeting cost, time and quality standards which are of the highest order for each specific project.

2.5 TYPES OF TENDERING

(Lynch, 2003) defines tendering as the processes which an agency procuring goods, services or works uses to determine how these are secured. The process is often made up of different sub-processes, which starts with the client or agency determining what exactly it wants in the goods, services or works. A professional team then works with this client or agency to develop relevant legal documents that will allow prospective tenderers to submit their bids to supply the goods, services or works for the client. The client on the other hand must also ensure that all the funding for the project is ready and available, and must also be firm on what he wants out of the project. The method of tendering a client will adopt largely depends on the nature of the contract, the complexity in the construction process, the expertise needed and many other reasons. Open tenders are usually used in government projects to ensure that works are done in a fair manner

without prejudice. The various types of tenders generally used are: open tender, selective tender, negotiated tender, serial tender and term tendering. According to the Public Procurement Act, (ACT 663, 2003), there are four main methods of tendering in Ghana. They include:

i. Request for quotations (clause 42-43)

ii. Single-source procurement (clause 40-41)

iii. Restrictive tendering (38-39)

iv. Open Competitive tendering (clause 35-37)

2.5.1 Open Tendering

Smith et al., (2006) assert that open tendering, as the name suggests, is a type of tendering where the any and every contractor that believes that they are able to supply the goods, services or works can submit a tender for. There is no restriction on the number or qualification of tenderers, and it is often up to the tenderers themselves to evaluate their eligibility to tender and win. This method is the most used for public procurement since it allows for fairness and openness to all contractors who wish to submit a tender. (Kwakye, 1994) also adds that this method is good for the contractors because, new, growing or mature contracting companies can all submit tenders, though there exists also a higher risk for the client with this method. Due to the potential number of bids that may be submitted, it often becomes and difficult, long and financially tasking to review and select the winning bid. There is also potential for undue influence in such a tendering process from the contractors. Procurement entities in Ghana normally use this approach since prior approval is not required from the procumbent authority. there are two types of open tendering and these are the International Competitive Tendering (ICT) and National Competitive Tendering (NCT), when the nature of procurement is complex and

of high value, and also such that its value threshold is above that stated in schedule 3 of act 663, then the ICT becomes a preferable choice (PPA, 2018).

2.5.2 Restricted / Selective Tendering

(The Chartered Institute of Building, 1995) defines restricted / selective tendering as a procurement method where bids are received from contractors who are specially selected or invited to bid for a project. The client determines which contractor to invite based on specific qualifications or experiences or even certain specific types of projects that he believes that the contractors have undertaken and therefore makes them suitable to submit bids. Preselection is very important in restricted tendering, and this is done by the client in consultation with his professional team of advisors. This method eliminates the need to go through a vast number of bids to determine eligibility and price appropriateness because in the estimation of the client all contractors who are selected are actually experienced and capable enough to undertake the project (Kwakye, 1994). This gives the client the flexibility to choose the lowest tender without being risky (Smith et al., 2006) and by so doing the client obtains value of money.

Selective Tendering also has the disadvantage of some bidders resorting to cover pricing by reducing the number of serious bids which deceives the client (Ofori, 1990). There are however some contractors who want to be seen to have participated in the bidding process so they are not deemed to be uninterested. These types of bidders get the cover price from their fellow competitors and submit bidders as if it were a genuine bid. This is usually known as cover pricing. To overcome or avoid cover pricing, potential and interested bidders are requested through preliminary inquiry to determine if they will be interested to bid, after which an invitation is sent to them. This approach may seem workable; however, some contractors find it difficult to reject the invitation to bid when it is made.

There are some conditions that necessitate the use of selective tendering as a method for bidding some of which are:

I. if the firm has the capacity in terms of goods/services/works and

II. if the examination and evaluation will not constitute time wasting thus increasing cost.

Chever et al. (2017) was of the view that, since restricted tendering does not involve a lot of tenderers, it brings about savings in the process of procurement and creates an avenue for procurement entities to deal with bidders who are skilled and have the qualities to complete the work.

2.5.3 Single Source Procurement

The use of single source procurement requires approval from the Public Procurement Authority. Single source procurement allows for the engagement of services of a single firm with a proven track record to undertake the project without any competition. It is very important and necessary to show the necessity for the use of this method, and also if the work will be delivered and has satisfied the value for money criteria. A tender is prepared by a firm under consideration as though it was in a competition. In this manner, the contractor is mostly chosen on the basis of their reputation. Rather than competing, the prospective parties negotiate the contract. According to Smith et al., (2006), this method may seem straightforward but in reality, the procedure is time consuming.

Below are some of the conditions under which this method of tendering is employed:

I. When there is a need of urgency, and the competitive bidding process will likely to cause an undue delay.

II. In case of force majeure or unforeseen circumstances

III. When there is an effect on national security and competition is undesirable

In the event of any of the conditions occurring, this type of tendering is normally required and a final negotiation has to be done as pointed out in Tang et al. (2003).

This method like the selective tendering also requires the approval from the Public Procurement Authority to restrict the abuse, since it could seriously violate the ideals of fairness. Single source procurement involves the engagement of a single firm to execute the contract without any competition. It may however, be necessary to prove beyond reasonable doubt the need for the use of this method, also the competence of the firm and achievement of value for money when the contract is awarded. The single firm under consideration will therefore have to prepare a tender just as if it is in competition. The tendering process involves a client approaching a single contractor and engaging this company to carry out works for them. The contractor is usually chosen in this manner on the basis of their reputation. Rather than competing, the contract is negotiated between the prospective parties. According Smith et al. (2006), this method may seem straightforward but in reality, it is a very time-consuming procedure.

Some of the conditions for which this method of tendering may be engaged include:

i. Where a particular firm has the exclusive rights in respect of the Goods/Works/Services and there is no reasonable alternative or substitute

ii. There is a situation of urgency and competitive tendering proceedings may cause an unacceptable delay

iii. In instances of catastrophe etc.

iv. Has effect on national security and competition may not be desirable.

Tang et al (2003) pointed out that this type of tendering normally requires a final negotiation in which case the rapport established between the client and the contractor plays a major role. For the client, familiarity is a major principle upon which good relationships could be fostered. A client would be more at ease working with a contractor

he/she has successfully worked with and would therefore prefer to use the same contractor again for another project (Murdoch, 2008). In (Kwakye, 1994) negotiation offers the advantage of timely participation of the contractor, less cost and assessment for the client, client ability to attain what they want through negotiation and proficiency of the contractor can be exploited. The demerits of this procurement method comprise the possibility of the initial pricing being undependable, mostly grounded on inadequate evidence and this could affect cost control. Also, the ultimate price for the work may not certainly be competitive and the methodology may not be fully accountable

Approval from the PPA is also required in order to restrict abuse of the system and violation of the ideals of fairness.

2.5.4 Request for quotations

Request for quotation is the method used by firms to invite suppliers to submit quotations for a product or service. This procurement as the name suggest involves the invitation of well-known firms to submit quotations. Per the act, quotations are requested from as many bidders as possible in accordance with the PPA. This method of procurement is used when the value of the goods or services to be procured is well established.

2.6 COMPETITIVE BIDDING IN THE CONSTRUCTION INDUSTRY

(Love et al., 2004) note that the standard for successful delivery of a project is that it must meet time, quality and cost expectations of the client, and the client therefore chooses the procurement method that he best believes will help his achieve this. In most cases of procurement in the construction industry, it is the competitive tendering, or what is called the traditional tendering that is most often used. Brian and Graham (2011) describe it as a one-stage-lump-sum procurement method where contractors place a single priced bill for a contract with the expectation to be selected as the lowest most

responsive bid. This traditional procurement system has some unique characteristics which include:

i. Delivery of projects on a step-by-step basis
ii. Building design is completed before construction works start
iii. Project responsibilities are handled by the client's team and contractor's team separately
iv. The payment to the contractor is either done as a lump sum or stage-by-stage payments

The traditional procurement begins with the client hiring consultants to design the building and then preparing the tender documents which may either be purchased or picked up freely by prospective contractors (Hughes, 2006). This process of pre-designing ensures that any uncertainties about the project are eliminated and cost of construction can be clearly determined also. The decision to bid or present a tender for such a project will then fall squarely with the contractor, who may have to compete with a small or large number of other prospective bidders.

Competition in the construction industry is very strong, with new construction companies springing up almost on a daily basis. Contractors bid for projects where they are expected to win based on how low their price is, and as such this price competition becomes very aggressive (Walraven & De Vries, 2009). However, beyond just price, clients now consider other factors such as contractor performance also in determining most responsive bids.

2.6.1 Price vs Performance Competition

Waara and Bröchner (2006) note that more clients are comfortable with selecting a prospective contractor based on price than on other factors, because the consideration for the client is mainly how much a project will cost. However, other consideration such as

performance need to be considered because these can affect cost, time delivery and the quality that the contractor can produce (Walraven and De Vries, 2009).

Waara and Bröchner (2006) analysed how Swedish clients used multiple criteria to select a contractor and how the non-price criteria were applied in the model. The multiple criteria include: quality; bid price; function; Technical design; environmental management system; operation costs; maintenance costs; life-cycle costs; Service; Project duration; Contractors‟ capabilities; skills; training; references; past experience and performance; construction methods; financial capacity; health and safety and conformity with bidding documents.

2.6.2 Experienced vs Inexperienced Contractor

Fu et al., (2003) note that experience of contractors in very important with regards to the decision to bid for a project and the chances also of winning the projects that they bid for. Contractors need to be experiences in construction methods and project management, resource management, managing risks and constraints as well as maintaining proper communication with all stakeholders on a project. Without relevant experience in all these areas, a contractor may make a wrong decision in bidding for a project they are not adequately experienced to undertake. Contractors build their experiences for bidding on projects through new projects they bid for and also from their past experiences on bidding. The more a company bids for projects, the more it understands the requirements for similar projects and thus increases their chances of winning in the competitive environment (Fu et al., 2003).

2.7 THE BID DECISION MAKING PROCESS

The decision to bid or not to bid for a project is a very important one for any construction company, since their success or failure can determine the survival of the company. The decision to bid is impacted by several different factors, and the contractor not only considers their possibility of winning at the bid but also their ability to successfully complete the project and hand over a project to the client that meets the time, quality and cost standards (Egemen and Mohamed, 2007). In competitive bidding process, a client selects a number of contractors to bid for the proposed project. The selected contractors must make the decision whether to bid or not bid. The contractors need to submit an estimated price if they intend to bid. The client would select the contractor who submitted the preferred price. Therefore, there are two stages involved in the bidding process, first the decision to bid/ no bid; and the mark up level decision. (Shash, 1993). In the competitive bidding scenario, the contractor has four choices to make and these are identified by (Lowe and Parvar, 2004).

i. Accept to bid for the project
ii. Put the bid invitation into a reserve list
iii. Submit a "cover price"
iv. Reject bid invitation

2.7.1 Importance of the bid decision

This decision is very significant to any construction company because the industry works with competitive bidding for contractors to win projects. Contractors hardly solicit projects in the construction industry, except from private clients, so most contractors secure between 20% and 100% of their new projects through competitive bidding (Egemen and Mohamed, 2007). However, the decision to bid or not is a difficult one, because deciding not to bid for a new project is considered as a lost opportunity, while

the decision to bid also has immediate direct costs with regards to preparing the tender documents and submitting them. However, as to whether the tender will be successful or not may not be known for a few months as the tender process is completed. If the decision made is wrong then it could lead to the contractor losing on potential earning, loss of reputation in the industry and slowdown of growth (Shash, 1993).

2.8 THE BID DECISION STRATEGY

A vital decision made frequently by contractors is mostly to determine whether to bid or not to bid for a project. The decision is vital in the sense that the contractor's survival depends largely on his ability to deal with various tendering situations successfully with limited time space. An unsuccessful bid means that a lot of time and resources that could have been put to other profitable use goes wasted. However, should a contractor miss out on a good opportunity to bid for a particular project, it leads to a loss of profit and an opportunity to improve the contractors' strength in the industry and gain a long-term relation with the client. There is a need for contractors to be very selective when tendering for projects as it comes with a cost and any prudent action undertaken by the contractor could lead to a reduction in cost. According to Shash (1993), tendering decision process are grouped into two. These are, the decision of whether or not to tender and secondly the determination of the bid price. He further emphasized that the commitment to provide resources leads to incurring some financial losses hence the decision to tender is of great importance to the contractor. In order to come out with a successful tender figure under the traditional cost-plus mark-up pricing model, a contractor calculates the direct and indirect cost of labour, equipment and materials that will be consumed during the project. This indirect cost is often referred to as overhead cost. Hence the contractor marks up the estimated cost by a certain percentage to cover his/her office overhead, contingencies, and profit. However, in order to be competitive,

each contractor tries to outwit the other by offering a price bid that maximizes his chances of winning the bid and minimizes the differences between his or her bid. Drew et al (2001) concluded that a contractor needs to answer two questions; is the project the kind of work the company has been successful at completing to the satisfaction of the client, and will the company make reasonable profit for that work? The decision is not only to consider the probability of winning the bid but also being able to complete the project as planned with the expected profit, which is being able to finish the job as planned with the expected profit. The cost involved in the preparation of an unsuccessful bid is normally written off. According to Ahmad and Minkarah, (1988), the mark-up size decision is of great importance and has a direct bearing on a contractors' business. These decisions are considered complex for the following reasons

i. The consequences of each alternative are uncertain

ii. The large number of factors having considerable effect on both decisions

2.9 FACTORS THAT INFLUENCE THE DECISION TO TENDER FOR A PROJECT

Financial, managerial, manpower and physical resources are all affected when contractors decide to bid for a project. There is therefore the need for contractors to make such decisions strategically before starting any project (Odusote and Fellow, 1992). Additionally, Egemen and Mohammed (2007); stresses that the most important decision to be made by the contractor is whether to bid or not to bid. The decision-making process involves the consideration of all factors that can affect bid for projects to make a positive and informed choice that reflects on the organisations profile as whole. Odusote and Fellow (1992), outlined a number of factors that influenced the decision to bid or not to bid of many contractors, some of which were the customer's identity and reputation, the profit margin, the current state of the business, the corporal resources required to

complete the project, the ability of the client to pay, work availability (present and probable), the monetary resources needed to complete the project, the consultant's exceptionality, the type of work and the availability of time to tender are other factors that are considered. a study conducted by Shash (1993), amongst some UK contractors noted the following influenced a contractor's decision to tender for a project.

i. The project size,
ii. The client or promoter,
iii. The conditions of the contract,
iv. The contract types
v. Cash flow of the project
vi. Current workload of the firm,
vii. Profit made from similar projects undertaken by the contractor
viii. Need for work and method of tendering, experience and the number of firms competing

A study in Egypt of the tendering behaviour of contractors on the most vital bid/no bid factors by Hassanein (1996) found that finance, the type of project, project monetary size, the owner of the project, other contractors expected to tender for the project, the strategic objective of the contractor, current workload of the firm, degree of difficulty, the prestige attached to the project and the local expertise/labour availability as factors. Egemen and Mohammed (2007) also conducted a survey of contracting firms in Northern Cyprus on the factors that affect the decision of contractors to bid for a project. Some of the factors includes the ability of the contractor to complete the bid, risks due to inflation, the countries exchange rate and its stability, the policies and legislation regarding licenses, the government's policy on taxation, threat of an increase in competitiveness due to new actors if the field and a government's monetary and fiscal policies. Since not

all these factors are likely to be considered by decision makers Smith (1995) suggested that for each potential project the contractor makes a set of intuitive and subjective judgments in view of prevailing circumstances, obtained from a combination of guesses, gut-feelings and experience (Ahmad, 1990).

Hillebrandt and Cannon (1990) stated some reasons why some firms decide not to tender for a particular project include inadequate skills to undertake the work, poor arrangements for payment for work done, the presence of competitors, inadequate ability in the estimating department and in-experience in a particular geographical area.

A recent study by Yang et al. (2018) to determine the factors that influence the decision to bid for a project considered the factors from three different perspectives. These include the individual, group and the organization. They argued that these three entities will consider different factors regarding the decision of taking on a project. The results indicate that the two most important factors considered by individual, group or organization is risk perception and team decision perception.

Table 2.1 Factors Affecting Contractors' Decision to Tender as Identified by Some Studies

Author	Country	Project Type	Factors Affecting Decision to Tender
Odusote and Fellows (1992)	UK	Building/civil engineering	Identity and status of the client, physical resources essential to complete the project, current state of company's amount of work, capability of clients to pay, margin of profits involved and readiness of work
Shash (1993)	UK	Building/civil engineering	Need for work, totality of competitors, contractor's know-how in the project, current job load, client's personality, project type, project size, tendering procedure, risk and project location
Hassanein (1996)	Egypt	Building/civil engineering	Project type, project financial size, anticipated duration, project client, funding source, level of threat difficulty, status of project, contractor's own calculated goals and present job loaf

Fayek, Ghoshal and AbouRizk (1999)	Canada	Civil engineering	Type of project, probability of winning the project, aspiration for the project, knowledge of market, knowledge of the geographical area, scope of project and company's asset
Wanous, et al (20030	Syria	Building/civil engineering	Satisfying the tender requirements enacted by the client, financial competency of the client, affiliations with and status of the client, project scope, time available for tendering process, and availability of financial involvement required for the project
Lowe and Parvar (2004)	UK	Building/civil engineering	Company's goals and strategies, contract necessities, job load, nature of the work, resource at hand, tender documents, cost involved in preparing tender, contract scope, project site and the client
Banki, et al (2008)	Iran	Building	Internal elements: Skills, knowledge, resources and abilities External element: Number of bidders, tendering risk, kind of project and cash flow necessities Environmental Elements: number of other projects that exist, skilled labour at hand and number of equipment available
El-Mashaleh et al. (2014)	Jordan	Building/civil Engineering	Financial fitness of the client, status of the client, client's personality, scope of project, current job load and nature of project

2.10 DECISION MAKING MODELS

Most tenders are faced with the decision to bid low enough to win the contract but high enough to make a profit. Contractors take into consideration several factors such as whether to bid or not to bid and how much to bid.

In other to assist contractors make reasonable decisions, (Department of Quantity Surveying, Bells University of Technology, Ota, Ogun, NIGERIA et al., 2016) proposed an evaluation system to aid contractors make good decision. This model was made with the sense that contractors will utilize their own resources to procure new projects and hire resources that will be released progressively from on-going projects. This led to the production of CPM network model which makes use of a resource allocation schedule.

One merit of the model was its ability to balance the resources owned by a contractor and those resources that have to be procured and those which are available for on-going works. Additionally, the model provides time and cost of estimate projected for use on the project however, (Wanous et al., n.d.) stipulated that model by Ahuja and Arunachalam (1984) was better. Considering an allocation of resource model and not a bid or no bid model is the best way forward. They argued that the model does not indicate clearly a criterion to give a bid recommendation.

Another model called Bid Expert was developed by AbouRizk et al. (1993). BidTrak model was developed by the integration of a data-based management program that uses historical information from past tenders.

Another aspect of the work content of a bidding process is the estimate of items that make up the work. The Fair and Reasonable Mark-up Pricing Model (FaRM) is a program which is used to calculate the accuracy of the estimate for a project. It is the minimum mark-up that satisfies the Required Rate of Return (RRR) of the contractor for a particular project at hand. The model seeks to establish a reasonable and easily accessible information which informs the contractor concerning the Minimum Acceptable Price (MAP). Usually construction firms cannot accept the project at a price below the Minimum Acceptable Price as it would diminish equity holder's wealth. This model aid contractors to make more reasonable intelligent pricing decisions. AbouRizk et al. (1993) argued that the use of this method is necessary for historical information.

(Wanous et al.,2003.) in Syria undertook a survey to uncover the parameters that influenced the bid making decisions and proposed a model based on the parameters obtained from his survey. He noted that only 3% of the contractors surveyed used mathematical procedures to make their bidding decisions. Majority of the respondents used judgement based on past experience which was similar to studies conducted in other

countries. (Wanous et al., 2003) Proposed a parametric bid/no bid strategy which was mostly based on qualitative bidding methods.

Important factors identified in (Wanous et al., 2003.) were used in this model. Each of the factors was given a parametric scale to assess its contribution to the bid decision making process. Based on the total contribution after assessment, which is called Building Index, the model recommended whether to bid/not to bid with a degree of confidence. The parametric model was 85% accurate in stimulating the actual bidding decisions in real life projects. The limitation of this model was that it assumed a linear influence of the decision's criteria on the final decision.

In an attempt to rectify the 'linear influence' situation (Wanous et al., 2003.) proposed an Artificial Neural Network Model (ANN). The ANN is analogy-based, problem solving capabilities by learning from a set of data records of inputs associated with the actual (desired) outputs. This new modelled has the advantage of predicting outcomes from new examples based on analogy.

In Chua et al., (2001) ANN was referred to as an expert system which is based on artificial intelligence. However, they asserted that the expert system is rule based unlike bid decisions which are dynamically highly unstructured, changing and characterised by a degree of uncertainty and subjectivity. Hence, bid decision is too complicated, for any set of clear rules to be defined that will work in each new instance. In Chua et al., (2001) a new model based on reasoning was process. This model based on concrete based reasoning system, derives its recommendation from past cases. Here the decision maker is able to discern the reason process behind past projects, interact with and review the reasoning process and even perform heuristic adjustments on the derived result where necessary'.

Chua and Li (2000) identified some external factors that were considered when determining the level of competition for a project. The five most important factors include availability of other projects, availability of qualified staff, bid method, cash flow requirement and degree of technological difficulty. It will however be noted that the accuracy in estimating, adequacy and clarity of required information poses an uncertainty during the bid process.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The purpose of the research methodology is to outline the strategies which the researcher will use in reaching the necessary conclusions for the study. This chapter will therefore outline the research strategy, the research design, the research data, instrument, population and then finally the method for analysing the data.

3.2RESEARCH DESIGN

The research design outlines the process that the researcher relies on to put the various parts of the research in coherent and logical manner so that credible conclusions can be drawn. The research design gives the researcher the strategy for collecting, analysing and presenting data for the study, and its purpose is also to ensure that the research problem is effectively addressed. According to De Vaus (2008) a well-structured research design will clearly define the research problem and justify its selection, synthesize the related literature, define the data needed for the study and then prescribe the method for analysis of the data (Gorard, 2013). Research design according to (Baiden,2006) can be experimental, case study or surveys. This study adopts the survey strategy because surveys are capable of obtaining information from large samples of the population. They are also well suited to gathering demographic data that describe the composition of the sample (Glasow, 2005) Surveys are inclusive in the types and number of variables that can be studied, require minimal investment to develop and administer, and are relatively easy for making generalizations. Surveys can also elicit information about attitudes that are otherwise difficult to measure using observational techniques (Glasow,2005).

3.3 RESEARCH STRATEGY

This is a step by step plan of action that gives direction to the thoughts and efforts leading to a credible conclusion for the study. This follows in the line of the research design because it enables a researcher to systematically carry out a research, stay focused, on schedule and produce quality results and detailed reporting (McKinsey, 2014). Traditionally the research strategy is identified as either qualitative or quantitative. A quantitative research strategy is differentiated from a qualitative one by the fact that it emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon (Babbie, 2010). This study adopts the quantitative method towards producing statistical measures of the variables or results of the study.

3.3 RESEARCH DATA

Research data is defined as recorded factual material commonly retained by and accepted as necessary to validate research findings**.** Research data often comes in two main categories, either the primary or secondary information. According to Moore (2006) the primary data is often collected directly from source and has not been previously collected for other research before. Primary data is often considered reliable because it is collected with the research problem and expected conclusions in mind. Due also to the fact that it is often free from manipulations it forms a credible basis for drawing conclusions for a study. The secondary information on the other hand is one that has already been collected and readily available to the researcher from other sources. The advantage secondary information has over the primary data is that it is easier and cheaper to acquire and can also be relied on to draw conclusions in the absence of the primary data.

3.4 DATA COLLECTION INSTRUMENT

The study applied a quantitative research strategy which allows for the use of surveys in collecting of data for analysis. This study thus will apply the structured questionnaire to collect research data from selected respondents. The questionnaire is important for this study because it allows numerous respondents to be reached with the same questions and provide answers to similar questions which can then be analysed to draw conclusions (Creswell, 2003).

3.4.1 Questionnaire development

Before developing the questionnaire, the researcher will need to first determine what data is to be collected and how to apply it to meeting the research objectives. This questionnaire will use structured, close ended questions, which will apply a Likert type scale. This will allow the respondents to show the degree to which they agree or disagree with any factor identified in the questionnaire.

The questionnaire is divided into three parts, with the first focused on the demographic characteristics of the respondents, the second part focused on the decision-making processes of the construction firms, and finally the third part focused on the factors that influence the decision-making practices of these firms.

3.5 RESEARCH POPULATION

A research population is also known as a well-defined collection of individuals or objects known to have similar characteristics. All individuals or objects within a certain population usually have a common, binding characteristic or trait. The study focused on construction companies operating in the Greater Accra Region, and more specifically, the companies operating in the Adentan and the Ga East Municipal Assembly. A visit to the Adentan Municipal Assembly (AdMA) revealed that fifty (50) construction firms

have registered with the assembly and In the Ga East Municipal Assembly, a total of seventy-five (75) construction firms had registered with the Assembly.

Therefore, a total population of one hundred and twenty-five (125) was considered.

They were building contractors undertaking various works in these Assemblies. They were found to be registered with their municipal assemblies and in good standing, as well as undertaking projects at various stages of completion

3.6 SAMPLING TECHNIQUE

Due to the limited number of contractors that operate in the Adentan and Ga East Municipality who are in good standing, the study applies a census sampling that allowed for all possible members of the population to be targeted and is used where the researcher has determined who constitutes the research population and which among them can provide the data relevant for the study. Thus, all contractors in the Municipality were identified through the Municipal office with their company offices also located through the Municipality.

3.7 DATA ANALYSIS

The data collected using the structured questionnaires was analysed using descriptive statistics, mean score indexing and relative importance index. The descriptive statistics will allow for the demographic characteristics of the population to be presented using tally tables and charts. The mean score index is used to determine the decision-making practices of the firms while the relative importance index is used for determining the significant factors that impact the decision-making process.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

Chapter four of this study provides an analysis of the data collected using the structured Likert scale questionnaires and discusses the results in relation to the literature that was found on the study. This chapter is divided into different parts, with the first part focused on the demographic characteristics, and the second part focusing on the objectives of the study. The analysis methods used include the descriptive statistics and mean score indexing.

4.2 DEMOGRAPHIC STATISTICS

Out of the one hundred and twenty-five (125) questionnaires which were administered to the respondents of construction firms registered with the Adentan and Ga East Municipalities, one hundred (100) of them were retrieved. This indicated a respondent rate of 80% indicating a high respondent rate. Those that were not obtained was due to the busy nature of respondents and loss of questionnaires by the respondents. This section is to detail the characteristics that make them reliable respondents to participate in the study. It also gives confidence about their experiences and qualifications to provide credible responses. The demographic characteristics are presented using tally tables.

Table 2 Demographic characteristics of respondents

FACTOR	FREQUENCY	PERCENTAGE
Position of respondent in the company		
Quantity Surveyor	35	35%
Project Manager	5	5%
Managing Director	28	28%
Engineer	13	13%
Supervisor	19	19%

Source: Field data 2018

Table 2 above gives a summary of the data collected on the respondents' demographics, which was collected to determine that the respondents were qualified, experienced and knowledgeable enough on the subject matter to provide relevant responses. All respondents were targeted from construction companies registered and in good standing with the Adentan and Ga East Municipal Assembly.

The demographic statistics begin with the positions that the respondents hold within their respective construction companies. This information is important to ensure that are actually workers within their various companies, and more specifically, are workers with construction related positions. 35% of the respondents identified as quantity surveyors, and a further 28% also indicated that they were the managing directors in their firms. These set of respondents are critical for this research since the focus is primarily on decision making. 19% of the respondents were supervisors, 13% engineers and the remaining 5% were project managers.

Table 3 Academic qualification of respondent

Academic qualification of respondent		
PhD	0	0%
MSC/MPHIL	34	34%
Undergraduate	51	51%
HND	15	15%

Source: Field data 2018

The next set of data collected related to the academic qualifications of the respondents and this was also to ensure that the respondents had the requisite educational background to be able to understand what is required of them in this study. Table 3 shows that 85% of the respondents had at least an undergraduate or post graduate qualification, and the

remaining 15% had a Higher National Diploma each. Thus, there is confidence that the respondents are qualified enough to participate in this study.

Table 4 Number of years in professions

Number of years in professions		
1 – 5 years	6	6%
6 – 10 years	37	37%
11 – 15 years	44	44%
16 – 20 years	8	8%

Source: Field data 2018

Finally, regarding the experience level of the respondents also the study determined from them the number of years of experience they had in their professions. Table 4 shows that 94% of the respondents had been in their professions at least 6 years or more, with more than 50% of the respondents being in their professions over 10 years. Thus, this can be concluded to be a very experienced set of respondents participating in this study

Table 5 Number of full-time workers

Number of years in professions		
1 – 10	84	84%
11 – 20	16	16%
21 – 30	0	0%
31 – 40	0	0%
Above 40	0	0%

Source: Field data 2018

The next set of questions on the demographics relate to the companies within which the respondents operate, and this information is also significant to determine that the company characteristics will have a significant impact on the objectives of the study.

The first determination was the number of permanent workers in the company. This determination is important because it shows the size of the companies, and their abilities to bid for governmental projects. Some companies may also have a small size of permanent workers but a significant number of temporary workers they hire for projects. 84% of the companies had permanents staff of between 1 and 10, and the remaining 16% had permanent staff of between 11 and 20. These numbers align with conventional knowledge on sizes of construction firms in Ghana.

Table 6 Category of construction projects undertaken

Category of construction projects undertaken		
Building construction	37	37%
Civil construction	21	21%
Both	41	42%

Source: Field data 2018

Next the respondents were to indicate whether their companies carried out building or civil construction works or both. Since governmental projects are not limited to the building works alone then it is necessary to determine the diversity in works undertaken by the participating companies. 37% of the respondents indicated that their companies undertook building works alone and 21% indicated they carried out civil works and finally, 42% also indicated their companies carried out both works.

Table 7 Majority of construction works undertaken

Majority of construction works undertaken		
Public works	0	0%
Private Works	0	0%
Both	100	100%

Source: Field data 2018

Going on to the question of companies actually making decisions to bid for governmental projects, the next question sought to also determine from respondents whether their companies bid for private works only, private works only or a mix of both. From Table 4.1 we see that 100% of the respondents showed that their companies bid for both public and private works, and this also aligns with conventional knowledge on construction companies in Ghana.

Table 8 Number of years of company existence

Number of years of company existence		
1 – 5 years	11	11%
6 – 10 years	72	72%
11 – 15 years	7	7%
16 – 20 years	10	10%
Above 20 years	0	0%

Source: Field data 2018

Regarding the length of time the companies had been in existence, the largest percentage, 72%, had existed for up to 10 years, and 10% had existed up to 20years, and the remainder being inexistence for up to 5 years only. Though only a small percentage of the companies have been in existence for a considerably amount of time, their lengths of existence could afford them ample time to bid and win enough projects to justify their survival.

Table 9 Company tendering for government projects

Company tendering for government projects		
YES	100	100%
NO	0	0%
How often company tenders for government projects		
Very often	36	36%
Often	51	51%
Not often	13	13%

Source: Field data 2018

The respondents were next required to indicate whether their companies tendered for governmental projects, and this was important because the core aim of this study is to identify the decision-making practices of the construction firms regarding bidding for governmental projects. All respondents indicated that their companies actually bid for governmental projects, and 87% of the respondents also indicated that their companies bid for governmental projects either often or very often. 13% of the respondents also indicated that they did not bid for governmental project often at all.

Table 10 Percentage of jobs secured through competitive tendering

Percentage of jobs secured through competitive tendering		
0% - 25%	12	12%
26% - 50%	61	61%
51% - 75%	9	9%
76% - 100%	19	19%

Source: Field data 2018

In determining the extent to which the construction companies depend on tendering to secure new projects, they were to indicate which percentages of their jobs are secured through competitive tendering. There was a mixed response, with 12% of the companies securing up to 25% of their jobs through competitive bidding, 61% securing up to 50% of new jobs through that, 9% securing up to 75% of new jobs through that and 19% of the companies securing up to 100% through competitive bidding.

Table 11 Percentage of lost bids for projects

Percentage of lost bids for projects		
0% – 25%	19	19%
26% - 50%	69	69%
51% - 75%	12	12%
76% - 100%	0	0%

Source: Field data 2018

On the other side, in determining also how many jobs were lost through their competitive tendering process. The results from the respondents were also aligned with the data from the previous question. 19% of companies lose up to 25% of projects they bid on, 69% lose up to 50% of projects they bid on and 12% lose up to 75% of projects they bid on.

Table 12 Methods of tendering by companies

Methods of tendering company has been part of		
Open competitive tendering	100/100	100%
Restrictive tendering	21/100	21%
Single source procurement	18/100	18%
Request for quotations	34/100	34%

Source: Field data 2018

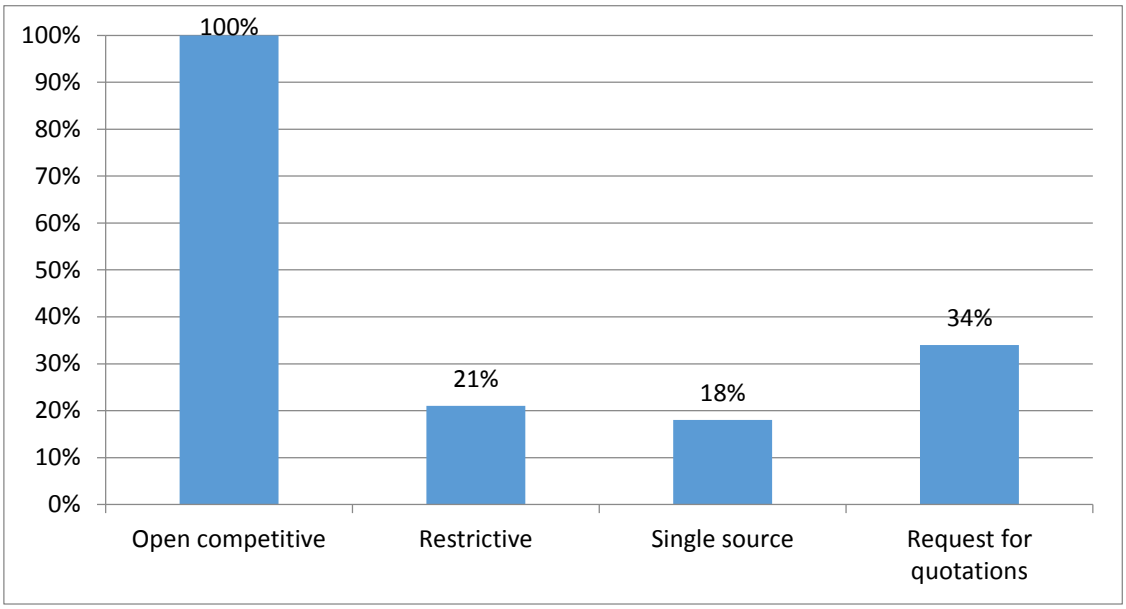

Figure 1 Tendering methods construction companies are part of

Source: Field data 2018

The respondents then indicated the methods of tendering that they regularly use and is depicted in figure 4.1.

Fig. 1 shows that 100% of the construction companies engage in open competitive tendering, thus making it the most common method within the construction industry, the other less common methods include 34% participating in request for quotations, 21% participating in restrictive tendering and 18% being included in single sourcing processes. The demographic data on the respondents and their companies indicate overall that they are constantly making decisions regarding bidding for projects, mostly through open competitive tendering. Most governmental construction projects are procured through open competitive tendering which is regulated by the Public Procurement Authority (PPA). Thus, the next set of questions relate to the decision-making process used by construction firms in determining whether to bid for a governmental project or not.

Table 13 Decision making processes used by construction firms

FACTOR	FREQUENCY	PERCENTAGE
Determination of mark-up percentage on tenders		
Intuition	19/100	19%
Experience	100/100	100%
Past data	100/100	100%
Bid models	41/100	41%
Mathematical calculations	78/100	78%
Mathematical equations used in decision making		
Decision tree	38/100	38%
Weighted Average	69/100	69%
Decision matrix	48/100	48%
Integer programming	0/100	0%
Geometrical programming	0/100	0%
Network programming	64/100	64%
Most significant actions taken before deciding to bid for a government project		
Purchase all tender documents outright	0/100	0%
Consider project factors	100/100	100%
Organize pretender meeting	100/100	100%
Estimate the cost of works	0/100	0%
Determine the mark-up price	0/100	0%

Source: Field study 2018

Table 13 above provides the details on the decision-making practices of the respondents' construction companies. The first objective of the study is to identify the decision-making practices of construction firms regarding tendering for government projects. The table 2 above focuses on three key areas of the decision process to bid for a project. The first is the process of determining the mark-up on any governmental project to bid on, the second is the mathematical calculation or calculations relied on for this decision and

the third are the most significant actions taken before deciding to bid for a governmental project.

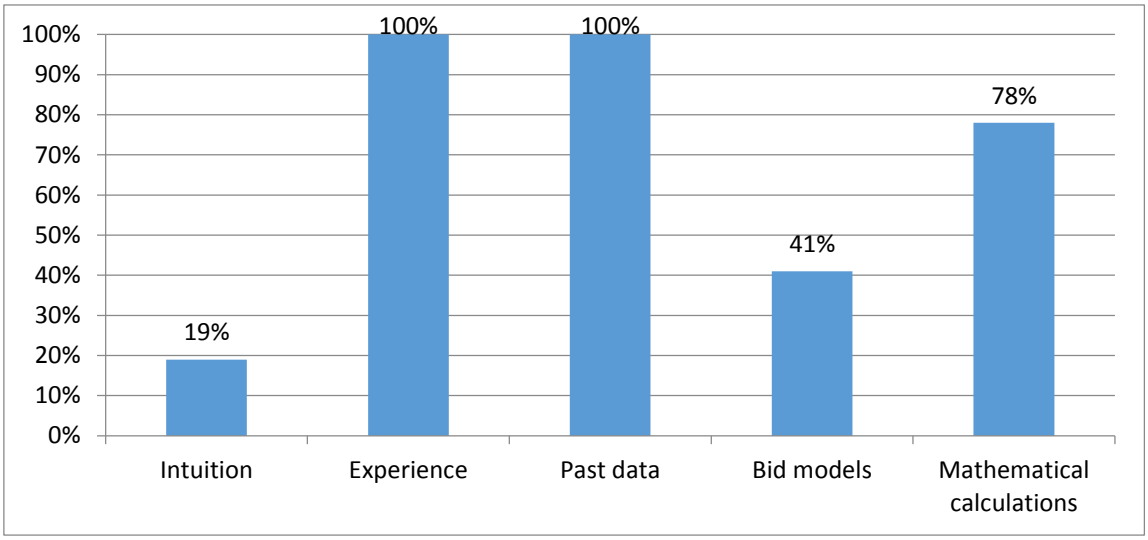

Figure 2 Determining mark-up percentage on tenders

Source: Field data 2018

Figure 2 shows that construction companies rely mostly on experience and past data in making their decisions on mark-up percentage for their projects. Egemen and Mohammed (2007) note that the decision to bid or not to bid for a project is one of the most critical for any construction company and the mark-up percentage form one of the core principles guiding this decision. Ahmad and Minkarah (1988) also add that the mark-up decision is significant because it has a direct impact on a contractor's business. Beyond the experience and past data, the respondents note that mathematical calculations are helpful in determining the mark-up price. The Fair and Reasonable Mark-up Pricing Model (FaRM) is a program which is used to calculate the accuracy of the estimate for a project. It is the minimum mark-up that satisfies the Required Rate of Return (RRR) of the contractor for a particular project at hand. Respondents as well note that bid models are sometimes used in their determination of the mark-up price for projects they bid for, though only 45% of them alluded to this, only 19% of the respondents indicated that they

use intuition to determine the mark-up price, showing that this is not a very popular method.

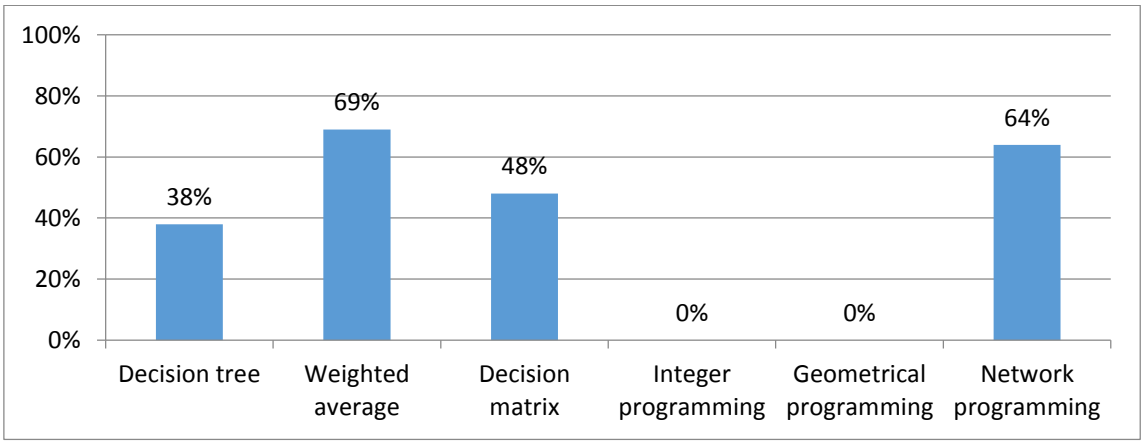

Figure 3 Mathematical equations used in decision making

Source: Field data 2018

Figure 3 above represents the mathematical equations that construction companies rely on in the decision-making process, and from figure 4.2 above 78% of the respondents indicated that they relied on these mathematical equations in making their decisions. Thus, in ranking which of the equations are most popular, the figure shows that the weighted average is the most popular mathematical equation for decision making, followed by the network programming, then the decision-making matrix. This assigns a weighted score to each decision factor and the one with the most weighted score is selected. The decision tree was also selected by the respondents as significant to their decision-making process. However, from the figure 4.3 it can be seen that integer programming and geometrical programming are not selected by the respondents as mathematical methods they apply. However, it is also important to note that none of the equations received 100% selection among the respondents, indicating that there may be other mathematical equations not identified by the study which may be used by the respondents. Finally, the respondents were required to indicate the most significant activities they undertook before making the decision to bid. These activities have a direct

impact on the choice to bid or not to bid for a project. Figure 4.4 summarizes the responses.

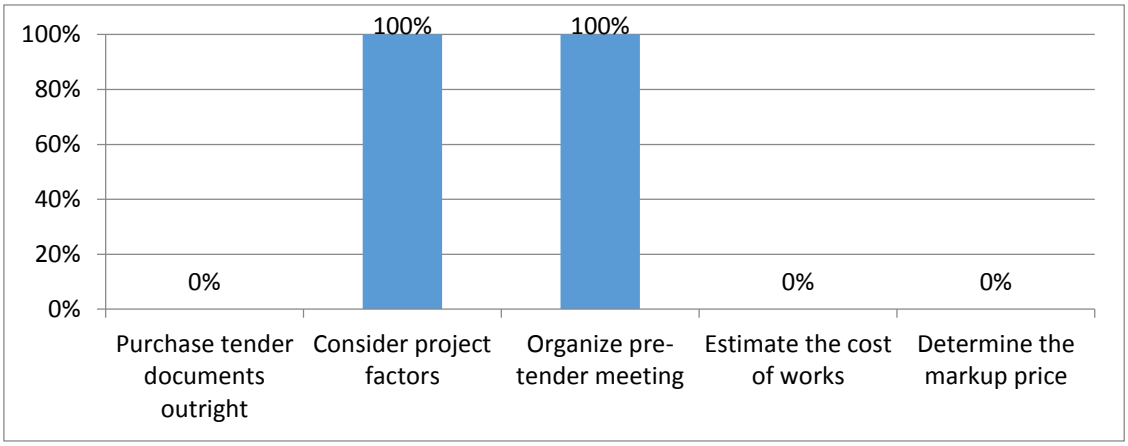

Figure 4 Most significant actions taken in deciding to bid for a government project

Source: Field data 2018

Figure 4 also gives a representation of the major activities that a construction company undertakes before deciding to bid for a project. EI-Mashaleh (2013) explored project factors and degree of influence regarding the decision to bid. The decision to bid for a project depends numerous factors because the implications for winning or losing out on a project are significant for the managerial, financial, manpower and other resources of the company. Successful bids can certainly impact on the continued existence of the firm, while continued lost bids can spell doom for a construction firm. From figure 4.4 it can be seen that the only two significant factors that the respondents consider before deciding to tender for a project are to consider the project factors and organize a pretender meeting. It is often at this pretender meeting that the project factors can be considered. It can be seen that activities such as purchasing the documents outright cannot be considered because a company needs to assess its strength and eligibility criteria before deciding to purchase the bid documents (Drew and Lo, 2008).

Construction companies cannot also estimate the cost of works nor determine the markup price without first purchasing the documents that is why those two did not select either of them.

4.3 FACTORS INFLUENCING THE DECISION TO BID

The next objective of this study after determining the factors to consider in deciding to bid is to also determine the factors which may influence the decision to bid for governmental projects. The literature review identified several categories of factors, with their sub factors, and the respondents were to rank these on a 5-point Likert scale to show the degree of importance of each factor. Tables 13 and 14 give a summary of the responses.

Table 14 Mean score for factors influencing the decision to bid for governmental projects

	N	Mean	Std. Deviation	Std. Error Mean
Need for Work				
Availability of labour/equipment	100	2.68	1.034	.103
Need for work	100	4.23	.589	.059
Current workload	100	3.74	.865	.087
Availability of other projects	100	3.87	.831	.083
		3.63		
Strength of Firm				
Fulfilling the tender conditions	100	4.08	.618	.062
Portion subcontracted to others	100	2.79	1.017	.102
Chances of obtaining the job	100	4.35	.532	.053
Prequalification requirement	100	4.14	.599	.060

Completeness of documents	100	2.97	.982	.098
		3.67		
Project Conditions Contributing to Profitability of the Project				
Type of contract	100	3.74	.862	.086
Profitability (profit potential)	100	4.24	.593	.059
Project size	100	4.07	.634	.063
Project location	100	3.89	.861	.086
Duration of project	100	3.55	.901	.090
Anticipated rate of return	100	4.21	.573	.057
Tax liability	100	2.69	1.029	1.03
General overhead	100	3.47	.961	.096
Government legislation	100	2.93	1.037	.104
Bidding document price	100	3.60	.973	.097
Insurance premium	100	3.75	.961	.096
		3.65		
Job Uncertainty				
Uncertainty due to weather conditions	100	2.77	1.054	.105
Site condition	100	2.81	1.048	.105
Site accessibility	100	2.79	1.050	1.05
		2.79		
Job Complexity				
Experience in similar project	100	4.09	.627	.063

Technological difficulty of project beyond the capability of the firm	100	3.78	.869	.087
Method of construction	100	3.52	.924	.092
		3.80		
Risk Creating Job & Contract Conditions				
Risk involved in investment	100	4.17	.593	.059
Tendering method	100	3.28	.894	.089
Tendering duration	100	2.75	1.054	.105
Risk of fluctuation in material price	100	2.49	1.063	.106
Value of liquidated damages	100	2.69	1.034	.103
Degree of hazard/safety	100	3.14	.954	.095
Site clearance of obstruction	100	2.87	1.042	.104
		3.06		
Client and Consultants of the Project				
Financial capability of the client	100	4.11	.621	.062
Type of owner/client identity	100	4.06	.649	.065
Owner's requirement	100	3.79	.859	.086
Requirement of bond capacity	100	3.72	.869	.087
		3.92		
Availability of Resources				
Availability of materials	100	2.93	.997	.100
Availability of capital	100	3.94	.637	.064
Imported materials and equipment	100	2.89	1.041	.104
		3.25		

Competition				
Competitiveness of competitors	100	4.12	.610	.061
Number of competitors	100	3.53	.914	.091
Identity of competitors	100	3.51	.934	.093
Competitive environment	100	4.07	.628	.063
		3.81		
Foreseeable Future Market Condition & Firms Financial Situation				
Market direction	100	**3.57**	.973	.097
Client (Considering Long Term Gains/Losses				
Project's possible contribution to breaking into new markets	100	3.69	.951	.095
Relations with and reputation to client	100	4.06	.637	.064
		3.88		

Source: Field data 2018

Table 15 Summary of Mean score and Ranking of factors influencing the decision to bid for governmental projects

FACTOR	MEAN SCORE	RANKING
Client and Consultants of the Project		I
Financial capability of the client	4.11	1
Type of owner/client identity	4.06	2
Owner's requirement	3.79	3
Requirement of bond capacity	3.72	4

Client (Considering Long Term Gains/Losses		II
Relations with and reputation to client	4.06	1
Project's possible contribution to breaking into new markets	3.69	2
Competition	4.12	III
Competitiveness of competitors	4.07	1
Competitive environment	3.53	2
Number of competitors	3.51	3
Identity of competitors		4
Job Complexity		IV
Experience in similar project	4.09	1
Technological difficulty of project beyond the capability of the firm	3.78	2
Method of construction	3.52	3
Strength of Firm		V
Chances of obtaining the job	4.35	1
Prequalification requirement	4.14	2
Fulfilling the tender conditions	4.08	3
Completeness of documents	2.97	4
Portion subcontracted to others	2.79	5
Project Conditions Contributing to Profitability of the Project		VI

Profitability (profit potential)	4.24	1
Anticipated rate of return	4.21	2
Project size	4.07	3
Project location	3.89	4
Insurance premium	3.75	5
Type of contract	3.74	6
Bidding document price	3.60	7
Duration of project	3.55	8
General overhead	3.47	9
Government legislation	2.93	10
Tax liability	2.69	11
Need for Work		VII
Need for work	4.23	1
Availability of other projects	3.87	2
Current workload	3.74	3
Availability of labour/equipment	2.68	4
Foreseeable Future Market Condition & Firms Financial Situation		VIII
Market direction	3.57	1
Availability of Resources		IX
Availability of capital	3.94	1
Availability of materials	2.93	2
Imported materials and equipment	2.89	3

Risk Creating Job and Contract Conditions		X
Risk involved in investment	4.17	1
Tendering method	3.28	2
Degree of hazard/safety	3.14	3
Site clearance of obstruction	2.87	4
Tendering duration	2.75	5
Value of liquidated damages	2.69	6
Risk of fluctuation in material price	2.49	7
Job Uncertainty		XI
Site condition	2.81	1
Site accessibility	2.79	2
Uncertainty due to weather conditions	2.77	3

Source: Field data 2018

Tables 14 and 15 give the analysis and ranking respectively, and the ranking was a two-stage to determine the significant factors that influence the decision by construction companies to bid for governmental projects. The respondents ranked these factors on a 5-point Likert scale with 1 showing least importance and 5 showing the most importance. The factors were ranked according to the major categories and the sub-categories also ranked based on the mean score. Since the factors were ranked on a scale of 1 to 5, with 3 being the neutral / median point then mean scores above this point will be considered relevant for this study.

According to the analysis and then ranking table 4.4, the most significant factor that influences construction companies' decision to bid or not to bid is the client / consultant on the project. Odusote and Fellow (1992) Outlined some factors that influenced the

decision to bid or otherwise of many contractors, and the identity of the project owner or the contractor was very significant. In this case the client for any project is the government of Ghana. A study conducted by Shash (1993), amongst some UK contractors noted the client or promoter of a project is very significant in determining whether they bid nor not bid for a project. Under the client factors however, the most significant of the individual factors was the client ability to finance the project successfully, and in most cases the Government of Ghana is able to give assurance of its ability to pay for project, though there is also history of delayed payments to contractors which can lead to projects being abandoned. The client identity is the next ranked significant factor, and that is followed by the client requirements. For governmental projects requirements may be more than for a private project, with the government requiring tax returns and registration with the Ministry of Water Resources, Works and Housing (MWRWH). The client requirement of bond capacity is also a significant determinant for construction companies since for governmental projects the size of project means that the bond requirement is also high. If a company cannot meet this requirement it may not bid for a project.

The second ranked factor that influences the decision to bid or not bid for governmental projects is also related to the client, and this time rather in terms of the long-term gains and losses to be made. Banki, et al (2008) note this as important, particularly when considering relations with and reputation of the client and also the opportunities to break into new markets. Most contractors will consider the opportunity to develop a strong relationship with the government as a significant motivator for deciding to bid for a project and hope to win. Experience of past works with the government can certainly influence the opportunity for future new projects.

The next significant influencing factor is the competition, and in this regard the consideration is made of the competitiveness of the competition, the competition environment, the number and identity of competitors. Chua and Li (2000) identified some external factors that were considered when determining the level of competition for a project. The five most important factors include availability of other projects, availability of qualified staff, bid method, cash flow requirement and degree of technological difficulty. A contractor may evaluate itself on these factors to determine its eligibility for a project as well as the chances for winning the contract. Where the competition for a project is potentially high, with construction companies of a higher grade potentially bidding, this may deter a contractor from bidding for a project. For instance, when a multi-million-dollar project is to be procured, with the potential of several D1 and D2 contractors bidding, the D3 and D4 contractors may choose not to bid on the knowledge that they may be less able to win against the higher companies.

Job complexity is the next ranked influencing factor for the respondents to bid or not bid for a governmental project and this is valid because the ability to undertake a complex project or not will certainly influence the chances of a contractor winning it. Past experiences with similar projects are very important, and well as the technological requirements for the project (Wanous et al., n.d.). These considerations need to be taken seriously in order not to bid for a project that the construction company does not have the capacity to undertake.

The respondents next considered the strength of the firm to be a significant determinant in the decision to bid or not to bid. The strength of the firm can be measured by its present capacity to handle the project and as well, against the other competitors for the same contract. These can influence the chances of winning the project (Wanous et al., n.d.). The prequalification requirement can also be a good guide for the company to measure

its ability to undertake a project successfully, as well as fulfilling the tender conditions for the project. Measurement of the company strength is very important and affects a lot of other factors in choosing to bid or not to bid.

Project conditions for profitability is next ranked by the respondents and this is also very significant because construction companies need to evaluate the profit margins for their particular project, as well as the possible rate of return before investing in a tender document and spending company resources for the bidding process. The project size and location can also have an impact on the profitability potential of the project, and as such serve as an influencer for the construction companies. Where the profitability potential cannot justify the need to bid for the project then the construction company may refrain. Leniak & Plebankiewicz (2013) opined that it is very obvious that there is always a substantial loss of time and cost when there are numerous bid failures. Therefore, the determination of the profit potential of a project must not be treated lightly, and factors such as insurance or bond premiums, type of contract, the cost of the tender documents, project duration and overheads must be taken into consideration.

Construction companies can also consider their need for work as a determinant for deciding to bid or not bid for a project. Companies need to undertake new works in order to remain profitable and still in business, and therefore it is imperative that these construction companies actually bid for new projects when they arise. Hassanein (1996) notes that the construction companies consider a lot of different factors in deciding to bid for a project, and ultimately the company may decide to go for a project simply because it needs to stay in business. The company may also look at whether new projects are available or not, in deciding to bid or not. Where there are ample alternative projects then the decision to not bid for a particular project can be made easier. The current workload can also influence the decision to bid, since a company with a heavy workload may be

unable to bid for more projects, and likewise a company with a smaller workload will be willing to take on new ones.

The foreseeable market direction and company financial position can influence also the decision to bid or not bid for a project. This is determined in terms of the market direction of the construction industry. Where it is foreseen than the government is going to cut down spending or reduce the budgetary allocation towards infrastructure projects in future then it can motivate construction companies to be more aggressive in bidding for governmental projects in the present. Market conditions change based on many different factors and it is therefore important to ensure that the companies are able to correctly read these conditions and make relevant predictions that will be beneficial for the direction of their companies.

Availability of resources is another influential factor in the decision to bid for governmental projects, and in this regard it is the availability of capital that influences this decision. (Wanous et al., n.d.) note that this is very significant because the capital available for a construction firm can influence even the ability to purchase the tender document and commit resources to filling it. Capital can determine whether to bid for new projects or to skip for other among other factors. Capital impacts the operation of a construction company significantly and its availability is very paramount to the bid or no bid decision.

Finally, the respondents considered the risk element associated with bidding for a governmental project. Risks to the project come in different forms, Egemen and Mohammed (2007) also conducted a survey of contracting firms in Northern Cyprus on the factors that affect the decision of contractors to bid for a project and one was risk. Risk involved in investment is significant because there is no guarantee that a construction company will win a project bid even if they evaluate that they have a high

chance of winning the project. The tendering method may also pose some level of risk, especially where the competition is very large. Hazards and safety challenges associated with the project can also pose risks and may require the construction company to purchase more expensive insurance to cover them. These risk elements though significant, can be mitigate where the necessary steps are put in place by companies.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The fifth chapter of the study provides a summary of the findings made throughout the whole study, and will draw conclusions from them, as well as making necessary recommendations. The findings, conclusion and recommendations will all be done in line with the stated aim and objectives of the study. The stated objectives of study included the following:

I. To identify the decision-making process used by contractors regarding tendering for government contracts?

II. To identify factors influencing the decision to tender for government projects by contractors

5.2 SUMARY OF FINDINGS

The findings made in the study were according to the stated objectives and include the following:

5.2.1 Identify the decision-making process used by contractors regarding tendering for government contracts?

In order to identify the decision making practices regarding tendering for government projects, the study, through the literature, found that the most significant tendering methods that the construction companies participate in is the open competitive tendering which is also the most used for governmental projects, and from there the study also found that the decision to tender for the governmental projects is dependent on experience of the contractors as well as past data from previous projects. Some construction companies also relied on mathematical calculations in decision making,

especially in relation to determining project mark-up price. The study also found that the most significant activities that the construction companies engaged in before deciding to purchase the tender documents were to hold pretender meetings and consider the project factors.

5.2.2 Identify factors influencing the decision to tender for government projects by contractors

The factors that influence the decision to bid for a government project were identified according to various categories and ranked by the study respondents based on how important the respondents consider them to the decision process. The study found the most important categories of factors which influenced the decision process included the client and consultant considerations, and under sub-factors under these included the client financial capability, identify and requirements as well as the relationship existing with the client. The study next found competition to be significant and under it determined competitiveness of competitors, the environment and number of competitors, and after that also found the job complexity to be a significant factor to determine the choice to bid or not. Project complexity factors included experiences from similar projects, technological requirements and method for construction. The strength of the construction companies was also found to be significant to the decision, with the job alternatives available, qualification requirements and the ability to fulfil the tender requirements. Profitability factors were next ranked as significant by the study, and under that were the chances for profitability or positive rate of return, project size and location as well as contract nature and cost of bid documents were significant. The study also found that the need for work is a determinant for the decision to bid, and in this regard, it related to how much the companies actually needed new work as against their existing workload, before the study also found that market direction, and potential for future jobs

also can influence the decision to bid or not. Finally, the availability of capital for the construction company and the risk elements associated with the project were the least ranked determinants for bidding for a new project.

5.3 CONCLUSION

The aim of this study was to determine the factors that influence the decision by construction firms to bid for governmental projects and based on the findings made in the study the conclusions drawn from the study include the following;

Construction firms need to constantly decide as to bid for governmental projects or not, because they cannot rely on the private sector alone to survive in a very competitive industry. However, the process for deciding whether to bid or not is not taken in isolation, and often the companies needs to revert to either experience or data from past projects before bidding on a new project. The construction companies often rely on pretender meetings to evaluate the merits of a government project before deciding to bid. It can be concluded also that the construction companies do not rely on intuition or impulse to make the decision to bid for governmental projects, but it is a structured process that evaluate all factors before making the decision.

The study also concluded that the decision to bid on a project is influenced by different factors, which may include, but not be limited to the client identity and financial standing, level of competition for governmental projects, project complexity and technological requirements, strength of construction companies, the profitability potential, need for new work and risk elements associated with bidding for the project.

5.4 RECOMMENDATIONS

Based on the findings and conclusions drawn from the study, it is recommended that construction companies actively study governmental projects thoroughly before making bids for them, and not necessarily shun such projects because of some delayed payment

challenges associated with some governmental projects. The company must rely on the experiences of human resource to evaluate the merits of each project. Companies must also invest in their capacity so they can increase their chances of winning governmental projects.

5.5 DIRECTIONS FOR FUTURE STUDIES

This study focused specifically on the factors that influence the decision to bid for governmental projects, but future research can also conduct a comparative analysis of the factors influencing the decision to bid for governmental and private projects.

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APPENDICES

Appendix 1

RESEARCH QUESTIONNAIRE

TOPIC: EXPLORING DECISION MAKING IN TENDERING FOR GOVERNMENT OF GHANA PROJECT – A CASE STUDY OF THE ADENTA AND GA EAST MUNICIPAL ASSEMBLY

This study is being conducted as part of an academic requirement for the award of a MSc. Construction Management. The aim is to explore the factors that influence the decision to tender for government of Ghana projects.

The objectives of the study are:

i. To identify the decision-making process used by contractors

ii. To identify factors influencing the decision processes by contractors

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

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 research purposes and will 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,

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SUPERVISOR:

DR MICHAEL NII ADDY

PMB,

KNUST.

PART I: BACKGROUND OF RESPONDENT

1.What position do you hold in the company?

☐ Quantity surveyor ☐ Project Manager ☐ Managing Director Engineer

☐ hers please specify …….

2. Kindly indicate your academic qualification?

☐ PHD ☐ MSC/MPHIL ☐ BSC

Others please specify …….

3. How many years have you been practicing your profession?

☐ 1-5years ☐ 6-10years ☐ 11-15years ☐ 16-20years ☐ above 20

PART II: BACKGROUND OF COMPANY

4. How many full-time employees does your company have?

☐ 1-10 ☐ 11-20 ☐ 21-30 ☐ 31-40 ☐ above 40

5. What category of construction projects does your company undertake?

☐ Building Construction ☐ Civil Construction ☐ Both

6. What kind of construction projects does your company undertake?

☐ Private ☐ Public ☐ Both

7. How many years have your company been in existence?

☐ 1-5years ☐ 6-10years ☐ 11-15years ☐ 16-20years ☐ above 20

8. Has your company tendered for government of Ghana projects before?

☐ Yes ☐ No

9. If yes, how often does your company tender for government of Ghana Projects?

☐ Very Often ☐ Often ☐ Not Often

10. If your answer to question 8 is Yes, what is the percentage of jobs obtained through competitive bidding?

☐ 0%-25% ☐ 26%-50% ☐ 51%-75% ☐ 76%-100%

11. What is the percentage of rejected bid invitation?

☐ 0%-25% ☐ 26%-50% ☐ 51%-75% ☐ 76%-100%

12. Which methods of tendering have your company participated in before? Tick as many as applicable.

☐ Open competitive tendering

☐ Restrictive tendering

☐ Single source procurement

☐ Request for quotations

PART III DECISION MAKING PROCESSES USED BY CONSTRUCTION FIRMS

13. How does your company come up with the mark-up percentage? Thick as many as applicable

☐ Intuition

☐ Experience

☐ Past data

☐ Bid models

☐ Mathematical calculations

14. Which of the following mathematical equations for decision-making are most identifiable to you? Please select three

☐ Decision tree

☐ Weighted Average

☐ Decision Matrix

☐ Integer Programming

☐ Geometrical Programming

☐

Network Programming

15. Which of the following activities does your company undertake when deciding whether or not to bid for government of Ghana projects? Tick as many as applicable

☐ Purchasing of tender documents

☐ Considering the factors surrounding the project

☐ Organising pretender meeting

☐ Estimating of the cost of the work

☐ Determining the mark-up price

PART II: FACTORS INFLUENCING CONTRACTORS DECISION TO BID FOR GOVERNMENT OF GHANA PROJECTS.

Please indicate the extent to which the following factors influence the decision to tender for government of Ghana Projects.

Please respond by ticking the appropriate box using the following Likert scale;

[**1=Not Important; 2= Less Important; 3=Neutral; 4= Important; 5=Very Important**] Please tick (√) in the space provided.

	FACTORS INFLUENCING THE DECISION TO BID FOR GOVERNMENT OF GHANA PROJECTS	**Rating**				
		1	**2**	**3**	**4**	**5**
	Need for Work					
1	Availability of labour/equipment					
2	Need for work					
3	Current workload					
4	Availability of other projects					
	Strength of Firm					
5	Fulfilling the tender conditions					

6	Portion subcontracted to others					
7	Chances of obtaining the job					
8	Prequalification requirement					
9	Completeness of documents					
10	**Project Conditions Contributing to Profitability of the Project**					
11	Type of contract					
12	Profitability (profit potential)					
13	Project size					
14	Project location					
15	Duration of project					
16	Anticipated rate of return					
17	Tax liability					
18	General overhead					
19	Government legislation					
20	Bidding document price					
21	Insurance premium					
	Job Uncertainty					
22	Uncertainty due to weather conditions					
23	Site condition					
24	Site accessibility					
	Job Complexity					
25	Experience in similar project					

26	Technological difficulty of project beyond the capability of the firm					
27	Method of construction					
	Risk Creating Job and Contract Conditions					
28	Risk involved in investment					
29	Tendering method					
30	Tendering duration					
31	Risk of fluctuation in material price					
32	Value of liquidated damages					
33	Degree of hazard/safety					
34	Site clearance of obstruction					
	Client and Consultants of the Project					
35	Financial capability of the client					
36	Type of owner/client identity					
37	Owner's requirement					
38	Requirement of bond capacity					
	Availability of Resources					
39	Availability of materials					
40	Availability of capital					
41	Imported materials and equipment					
	Competition					
42	Competitiveness of competitors					
43	Number of competitors					
44	Identity of competitors					

45	Competitive environment					
	Foreseeable Future Market Condition & Firms Financial Situation					
46	Market direction					
	Client (Considering Long Term Gains/Losses					
47	Project's possible contribution to breaking into new markets					
48	Relations with and reputation to client					

Thank you.