

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

**An Assessment of the Impact of Client Involvement on THE Outcome OF
Public Construction Projects; Case Study GETFund (SUTeMIP) Projects in the
Volta Region of Ghana.**

by

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A Dissertation submitted to the Department of Building Technology,

College of Art and Built Environment

in partial fulfilment of the requirements for the degree of

MASTER OF SCIENCE

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DECLARATION

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

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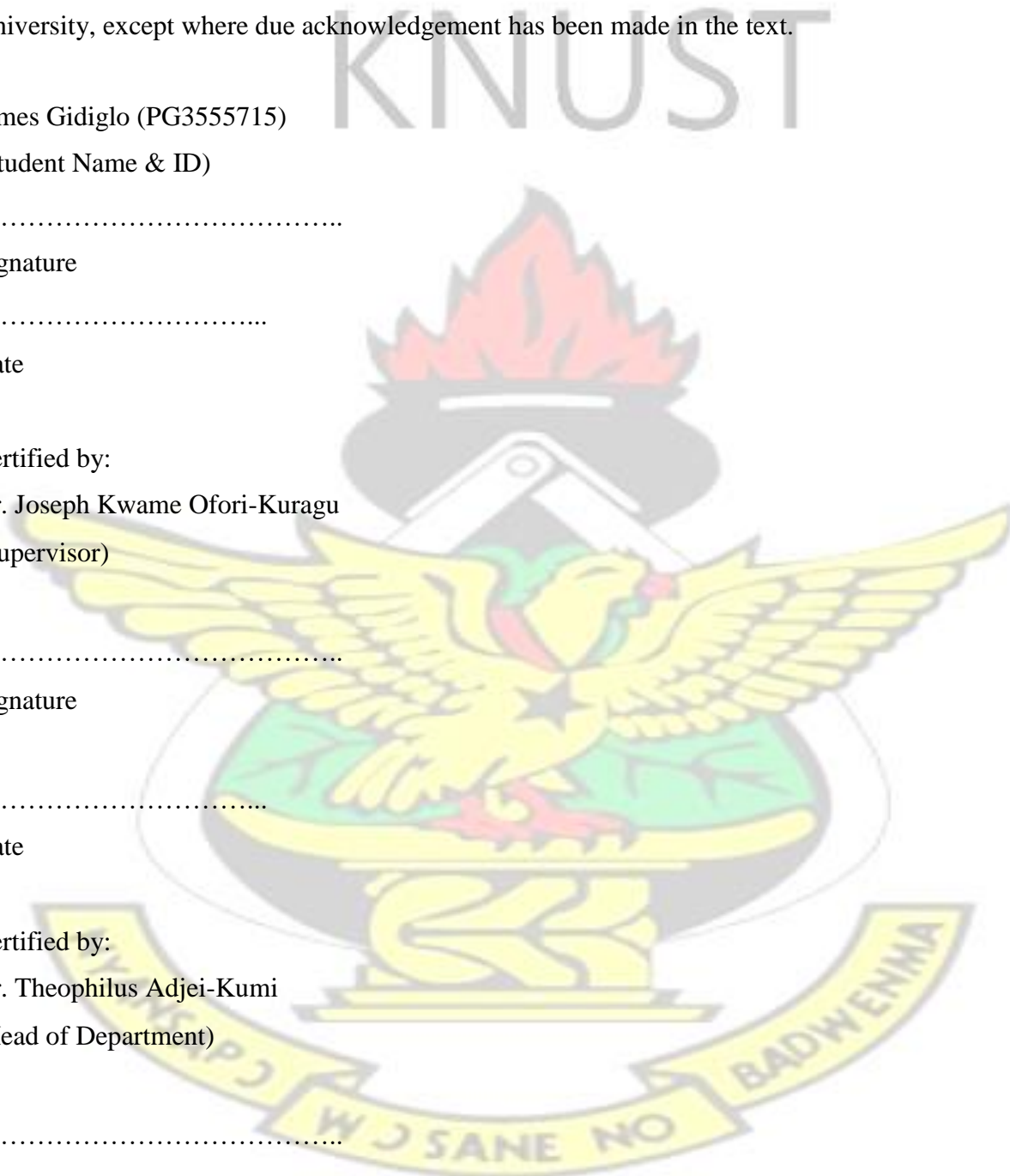
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ABSTRACT

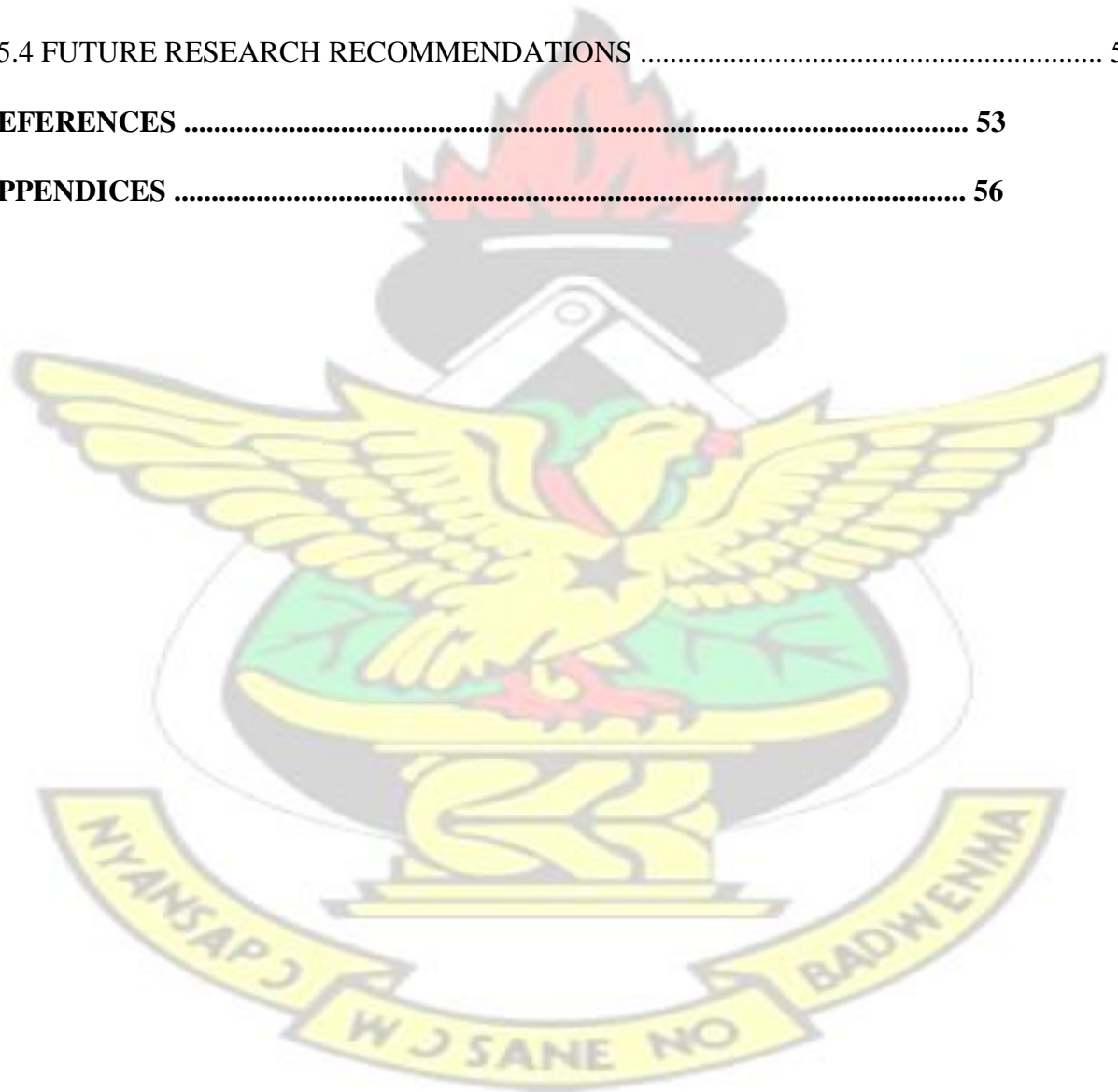
Client are considered to be central to all construction projects, hence their conduct on the project has direct influence on the outcome of project. The importance of client participation outlines the need to ensure optimum performance at all stages of the project. This study aims at assessing the extent of involvement and the effectiveness of client / client representative role on GETFund SUTEmIP in the Volta region of Ghana. In order to achieve this aim, objectives were outlined; (i) to identify the main roles of the client on construction projects; (ii) to investigation the current levels of client involvement on GETFund SUTEmIP; and (iii) to assess the performance of client or client representative based on their roles on the project. The study employed a survey research method, where questionnaires were distributed to the contractor and consultants working on GETFund SUTEmIP projects in the Volta region of Ghana. The questionnaires were distributed to 75 persons, consisting of 8 consultants (2 persons from each consulting firm) and 67 contractors. 58 questionnaires were answered and returned from the contractors and all 8 questionnaires were received from the consultants. A 5 point Likert scale questionnaire (very poor to Very good) was used and analyzed as such. The results indicated that client performance was “Average” and their level of involvement was also “Average” based on the roles of clients established from existing literature on the subject. The data gathered suggests that GETFund SUTEmIPs are not being delivered successfully as a result of the average performance and involvement of clients. It was however recommended that client must develop positive attitudes toward their project and ensure they perform their roles adequately.

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DEDICATION

I dedicate this work to my late father Mr. Ebenezer Koroku Gidiglo for teaching me to believe and have faith in God at all times.



CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF STUDY

The nature of the construction industry is complex due to the large number of parties involved such as the client(s), consultants, contractors, stakeholders, and regulators. Even though the industry is complex, it plays a significant role in the development and achievement of societal objective. Dadzie et al. (2012) in reviewing GyaduAsiedu (2009) it was emphasized that developing countries at various levels of socioeconomic development including Ghana have recognized the need and importance of taking necessary measures aimed at improving the performance of their industry (Gyadu-Asiedu,2009).

The construction industry in Ghana is a major contributor to the growth and development of the country, especially in an era where the country is competing for global recognition, economic independency, and appropriate social standard among many others.

With respect to the gross domestic product (GDP) of Ghana; the construction industry recorded a contribution of Gh¢10,765 at during the period representing 11.8% of the total GDP of the country, the highest in the industry sector for that period, based on the revised GDP estimates for 2013 (Ghana Statistical Service, 2014).Construction industries worldwide contributes between 5-10% of the gross national product of developing countries and an average of 10% of the total employment (Access, 2016). Hence improving the industry's performance is likely to yield significant socio-economic benefits to the nation.

The public sector is noted for that large number construction it undertakes. These project are undertaken for a purpose which might be either to serve an immediate need or that of the future. The success of these projects are evaluated based on the satisfaction of the client and other relevant stakeholders, which may be measured within the following constraints; (i) time (ii) cost (iii) quality and (iv) safety and health

The need to adequately manage these project success determinant factors (time, cost and quality) requires that all parties involved in the construction project work assiduously to realize the goal.

Over the years little attention has been paid to the performance of client in the construction industry and the effect their performance has on the outcome of the project (Alinaitwe, 2008). Every client aims at a successful construction project, thus a project that has is adequately planned, designed and constructed in accordance with the agreed design and specifications, completed on time at an acceptable cost (Nyarko, 2014) notwithstanding the fact that the performance of the client may considerably determine the outcome of the project.

As cited by Nkansa (2012) in construction projects, the primary challenge is to achieve all of the project goals and objectives whilst meeting the demands of project constraints (Lewis, 2000; Phillips, 2003).

According to Trigunarsyah and Al-Solaiman (2015), a project is a temporary endeavor carried out to achieve a unique service, product or an outcome for a specific purpose. The nature of building construction makes it possible to determine a definite beginning and an end of projects. The end is considered to have been reached when project objectives and goals have been achieved or when the project is terminated because the

objectives will not or cannot be achieved , or when the need for the project no longer exist (Addy and Cofie, 2014).

Client are very important in terms of successful project delivery of a project, according to Adedeji et al. (2015) by far Client is the most essential member of the construction team, it also emphasizing that the client is the initiator and financier of all the projects. Clients may be divided into three main categories, namely the Paying client, the User client and a combination of the two (Brandon and Lu, 2008).

The Ghana Education Trust Fund (GETFund) was established with the aid of an Act of Parliament in the year 2000 to help in the provision of educational infrastructure including some specific facilities in Ghana, with the core objective of providing funds to support the provision of educational infrastructure. Their source of funding is mandated by Act 581 of 2000 which permits them to receive and manage 2.5% VAT to support their activities (Auditor general, 2013).

GETFund projects usually involve the financiers (thus GETFund itself), consultants, contractors and other relivant stakeholders such as the regional coordinating councils, Ministry of Education etc. They do not administer their project directly, they are mandated by the public procurement act 663 to engage the service of consultant to manage projects on their behalf of the client. The consultants design and manage construction project for agreed considerations. Their duties include but not limited to preparing estimate, plan; budge; evaluating bids; and award contracts to the successful bidders; (Chan et al., 2004) designing project organizations for construction work, operating procedures, systems, and developing standard; developing detailed construction plans; supervision ; including administration of contracts and controlling of project time, cost, quality and scope management (Enshassi, 2008). From this it may

be deduced that the success of the consultant to a large extent depends on how best they understand the clients brief and the degree of client involvement on the project notwithstanding the performance of the client in terms of effectively and efficiently of playing their role during key stages of the project namely, initiation, design, & planning, execution, completion & handing over, and operation and maintenance stage (Al-Solaiman, 2014). This however has been far from, owing to the managerial inefficiencies (Ahadzie and Amoa-Mensah, 2010).

According to Eyiah-Botwe (2015) a performance audit report confirmed that GETFund stakeholders are concerned about the management of the funds committed to infrastructural projects and the inability of GETFund to successfully deliver projects (Performance Audit Report of the Auditor General, Ghana, 2012) as a result of several factors which includes very low level of client involvement on the project (Eyiah-botwe, 2015). To find the solutions to the successfully delivery of GETFund funded projects, a thorough investigation is required to assess all the possible factors which includes the major stakeholder of the industry such as the clients (Ofori, 2012). Trigunarsyah and Al-Solaiman, (2015) and (Ryd 2004 & Xu and Miao, 2010) all identified that a successful construction project begins with the client, Trigunarsyah and Al-Solaiman (2015) further suggested that clients represent the driving force in every project and thus their performance must be adequate.

1.2 PROBLEM STATEMENT

Adedeji et al. (2015) found that the nature of the construction industry and construction projects in developing countries, are different from that of the developed countries in many aspects. High project performance and project success are not common in developing countries (Long et al., 2004). Nyarko (2014) in a review of Hartkoon (1997) it was identified that most construction projects in Africa are rarely completed within the appropriate time, cost and to the desired quality. Between 1998 and 2003 a pilot survey of fifteen project of public construction projects in West Africa was conducted by Hartkoon (1997), the survey discovered that all the projects considered were behind schedule and the cost of construction exceeding the original estimate (Nyarko, 2014). According to Gaba (2013) the Ghanaian construction industry is one that has been very much plagued with construction project failures. These occurrences has inspired several researches aimed at finding the causes and the solutions (Ofori, 2012). Several studies have been conduct on construction processes and the performance of contractor as well as some stakeholders but relatively very little studies has been conducted on the performance and involvement of clients (Adams, 1997). Clients are very important member construction team (Adedeji et al., 2015) they poses the ability to initiate and control construction activities (Al-solaiman, 2012; Ofori, 2012). Dadzie et al (2012), in review of the Construction Industry Development Board report 2007(PMG, 2007), it was suggested that the failure of public construction projects are not solely as a result of contractor actions or inactions, Client and client representatives (consultants) activities may also lead to the failure of construction projects. Hence this study focuses on assessing the involvement and the performance of clients to

GETFund funded projects in the Volta region of Ghana.

The Auditor General's Report (2013) discovered the following after auditing GETFund funded infrastructural project in the country.

1. Adequate planning and due diligence are usually not carried out prior to the commencement of project which results in delay in completion and variations that lead to cost overruns.
2. Payment delays is affecting project progress, which leads to payment of interest on delayed payment and fluctuation hence increasing the cost of construction.

Also, the third Ghana Education Trust Fund (GETFund) forum for consultation held on February 2010, a review by Eyiah-botwe (2015) of the operations of the GETFund in a report titled "GETFund review and outlook (2000-2009)" concerns were raised on the poor resources management practices as a result of lack of project due diligence which can obviously be avoided.

Consultants are engaged on GETFund project to design, supervise and manage construction projects on behalf of the clients. These Consultants are expected to help address problems to improve project activities in order to attain project success (Dadzie et al., 2012). According to Dadzie et al (2012) it is almost no secret that many projects often delay and most of them also have their contract sums significantly increasing, sometimes more than double the tender figure due to variations.

1.3 AIM AND OBJECTIVES

1.3.1 Aim of Study

This study aims at assessing the extent of involvement and the effectiveness of client / client representative role on GETFund SUTEmIP in the Volta region of Ghana.

1.3.2 Objectives of Study

In achieving the aim of the study objectives were developed;

1. To identify the main roles of the client on construction projects;
2. To investigate the current levels of client involvement on GETFund (SUTEmIP) projects; and
3. To assess the performance of client or client's representative based on their role on GETFund (SUTEmIP) projects.

1.4 JUSTIFICATION

The Ghanaian construction industry contribution significantly to nation's GDP, hence deliberate effort must be made to ensure its success, the large and complex nature of the industry makes it imperative to research and add to existing knowledge in all aspects of the industry. The industry recognizes client to be very essential in its activities with the ability to influence its success (Adedeji et al., 2015). This implies that the success of a construction project depends on the client (Ofori, 2012). Client performance generally has relatively not been adequately investigated especially in developing countries (Alinaitwe, 2008). But rather as cited by Alinaitwe (2008) research has focused on the processes and performance of contractor's themselves (Adams, 1997). This study reveals the level of client involvement on GETFund SUTEmIP and the impact it has on the success of such project in the Volta region of Ghana

1.5 SCOPE OF STUDY

The study was focused on assessing client's performance on public construction projects in Ghana. The key elements addressed are consultants and contractors perspective of client or client representative's performance on construction projects in

Ghana. The respondents engaged in the quest to collect data are contractors and consultants /Project managers who work on Ghana Education Trust fund (GETFund) projects. In this study the term “consultant” refers to Quantity surveyors, Architects, Engineers and Building technologist working in the capacity of their respective firms and not as individuals.

The “owners or client” in this case is the Government of Ghana represented by its agents or institutions namely the Ministry of Education, Regional coordinating councils, District /Metropolitan / Municipal Assemblies or the benefiting Institutions etc.

1.6 LIMITATIONS

This study was limited to project funded by the Ghana Education Trust fund (GETFund) in the Volta Regions of Ghana. According to Ghana Education Trust Fund (GETfund, 2014) the total number of GETfund funded projects (Schools under tree and Emergency Intervention Program) in the country was 2,456 projects with the Volter region recording 466 projects as the highest compared to other region in Ghana. The study limits itself to the Volta region being the region with the highest number of GETFund (SUTEmIP) projects in the country as at 2014. In addition, it is imperative to note the following limitations as well:

1. The “owner or client” referred to the Government of Ghana represented by its agents or institutions namely the Ministry of Education, Regional coordinating councils, District / Metropolitan / Municipal Assemblies or the benefiting Institutions.
2. The study covered only GETFund SUTEmIP in the Volta region of Ghana

3. The research was limited to the role of clients as government institutions executing construction projects

1.7 BRIEF OF METHODOLOGY

The approach for this study involved the review of literature and the administration of structured questionnaires. The required variables for the study was extracted from existing literature. Thus review formed the basis for structuring the questionnaire for the study. The respondents for the study were constructor and consultants working on GETFund (SUTEmIP) projects in the Volta Regions of Ghana. Simple random sampling technique was used to select the contractors and while consensus sampling strategy was be used for the consulting firms. The Likert scale approach was used to develop the questionnaire and analyzed using Microsoft excel. Simple statistical analysis involving tables and are used to represent the findings. Descriptive explanations was also employed in making the analysis more meaningful.

1.8 ORGANIZATION OF THE STUDY

The study comprised five chapters of which the current chapter was one which involves, background, Problem statement, Aims and objectives of the study, methodology, limitations of the study and organization of the study; chapter two reviewed existing literature, chapter three was the methodology, chapter four presented results and analysis and the final chapter was the summary, conclusions and recommendations.

CHAPTER TWO LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents a review of existing literature. The chapter is in three parts. In the first part presented an overview of the construction industry in Ghana. The second part presented and discussed the activities of client, their roles on the concept and how their performance can impact the outcome of the project.

The third part focused on the parties to construction project, the fundamental relationships and their respective roles on the project.

2.2 THE GHANAIAN CONSTRUCTION INDUSTRY

Ghana is known to be one of the developing countries in West African sub region. Its construction industry contributes to the country's socio-economic development by developing and providing the structures that are used in the production of all goods in the economy (Ofori, 2012). Furthermore, the nation's economic backbone is the physical infrastructure, achieved through construction activities, which forms the arteries for the facilitate the distribution of goods and services within and outside the country(Ofori, 2012). This industry is dominated by physical infrastructure and asset-based-lending as a means for growth and development (Songwe et al., 2013). The construction industry supports the national economy with about 5% to 10% of Gross domestic product (GDP) and employs about 10% of the working population (Nelson & Asamoah, 2014). Ofori (2012) identified that developing the construction industry will help alleviate poverty in developing countries. The construction industry in Ghana is complex in nature, involving a wide range of stakeholders (Dadzie et al., 2012). These stakeholders in the industry poses the power and capacity to induce positive changes required to improve the current state and nature of the industry (Ofori, 2012).

The significant size of the construction industry in Ghana makes it possible for the industry contribution to the growth of the national economy. However when the output of construction is low it can adversely influence the growth of the economy (Ofori, 2012).

There are two main bodies in Ghana that oversee and supervise construction work in the country: the Ministry of Works, Water Resources and Housing in charge of housing infrastructure while the Ministry of Roads and Transport is in charge of civil-related development (Osei et al., 2013). The Ministry of Works, Water Resources, and Housing is responsible for the housing infrastructure. The ministry also classifies building contractors into four categories: projects worth up to \$75,000 (D4K4); projects ranging from \$75,000-250,000 (D3K4); projects worth \$250,000-500,000 (D2K2); and projects over \$500,000 (D1K1) (Frimpong, 2013). Most firms in Ghana are considered under D4K4 and D3K4 classification (Oxford Business Group, 2014).

As stated by Osei et al., (2013) aside from the main entities that oversee construction activities in Ghana, subsidiary organizations have been established to support the agencies of the ministries. The agencies that support the ministries include the Ghana Highway Authority (GHA) which is responsible for roads covering 13400km distance. The Department of Feeder Roads (DFR) are in charge of roads of 32000km length. In the metropolitan and municipal areas in the country the Department of Urban Roads (DUR) is responsible for roads covering 3700km.

The Chartered Institute of Building in Ghana released an estimate that indicated over 1,600 building contractors operating in Ghana from October 2012 (Oxford Business Group, 2014).

Despite the fact that the building construction industry contributes significantly to the country's economy and also provides a platform for social development and integration, the industry is faced with challenges of unprofessional practices (Asamoah and Decardi-Nelson, 2014). The industry is noted for some challenges which include lack of planning, inappropriate water and energy use, building material usage issues, failure to satisfy the end user's needs, and complicated stakeholder's cooperation among many others (Twumasi-Ampofo et al., 2013). The deficits in the industry contributes to series of problems including the high level corruption usually involved the processes in the procuring contractors as well as the services of consultants (Asamoah and Decardi-Nelson, 2014). Ofori (2012) suggested this explains the reason for long gestation period of most projects, the complex nature of the construction industry and the issues of scope creep as well as the slow responds to construction issues in the country (Ghana). The poor processes associated with the construction industry continue to take toll on Ghana's development (Djokoto et al., 2014).

The construction industry comprises of considerable government intervention, low development of indigenous technology, much dependency on foreign input such as construction material, machinery and skilled labour (Adedeji et al., 2015). It is argued that the industry is dominated mostly by foreign construction firms having execute major construction works in the country (Adedeji et al., 2015).

2.3 MAJOR CONSTRUCTION PROJECT PARTIES

Construction project generally involves the client (the financier/user), consultant, and the contractor and other relevant stakeholders, with each party playing a unique role aimed at a successful project.

2.3.1 Clients

The definition of client has over the time changed with consideration of the perceived influence it has on the events and the outcome of the project (Arabi & McCaffer, 2007). Alsolaiman, (2014) noted that several approaches have been used to clearly define who a client is on a construction project. Alsolaiman, (2014) also stressed that currently the low level of understanding for exactly what the construction client means starts from the inadequate definition of the term, “client”, (Boyd & Chinyio, 2006). The International Council for Research and Innovation in Building and Construction (2005) in Helsinki defines client as follows:

“The client is an individual or an organization with the capacity at a specific time, to initiate and commission design and construction activity with the objective of solving a problem, improving the performance of an organization’s social or business objectives (Alsolaiman, 2014)”

The Construction Design and Management (CDM, 2015) regulation classifies client under two major categories namely commercial and domestic (Anon, 2015)

The CDM (2015) also explains Public client to be an organization or individual whom a construction project is undertaken for, the outcome of the project (the facility) is the used for either a profitable or non-profitable business.

“Domestic clients are those whose construction works are undertaken for them which is not used for business purposes. Usually, this means carrying out work on the property meant for a family residence (CDM, 2015).

The client is considered as the body that initiates the project and has the power to certify expenditures on the project (Walker, 1996), as cited by Adedeji et al.(2015) to a large

extent the client is the most essential entity among the construction team and is considered as the financier and initiator of the project.

In a report published by Arabiat and Mccaffer (2007) client may be categorized according to the type of projects they are involved in, the cost of projects, the magnitude of the project, the expertise or skill and size and nature of the client (organization / individual) (Pryke and Smyth, 2006). The client image in time has developed based the relationship it has with other elements of the project (Arabiat & Mccaffer, 2007).which suggests that it has direct relations with the project. Arabiat and Mccaffer (2007) also noted that client is often seen to be special in relation to the rest of the players in the construction industry, as the client views and experiences building construction different from the rest of the industry players; for example, where the client needs a high value for money for its project, the contractor is also seeking a reasonable profit (Boyed and Chinyo, 2006).

Client in their respective capacities are considered to be central to the success of a project hence successfully constructed project starts with the client (Ryd, 2004; Xu & Miao, 2010) Clients in general are also know for creating the market for the construction industry hence they should be positioned central to the construction process (Latham, 1994).

2.3.1.1 Types of Clients

It's obvious that there are various types of clients in the construction industry (Alsolai{Bibliography}man, 2014). Kometa et al (2001) simply defines the client or owner as the one who pays the bills. The client may be an individual or an organization responsible for financing the project(Kulatunga & Haigh, 2000). Furthermore, Boyd and Chinyio (2006) expanded the definition to include the owners representatives or

any person or entity who act's with delegated authority of the owner(Alinaitwe, 2016), this expanded definition of the client poses a host of challenges in terms of decision-making, powers of the client and the degree of influence and authority the client has, vis-à-vis the clients requirements. Another important aspect of this is the client's nature and sometimes the type of client which brings up the idea of differentiating a paying client and the end user.

Construction clients can be considered to undertake projects one-off or as repetitive business/continuing, the client may be sophisticated or naïve client (Alinaitwe, 2008). Construction clients are heterogeneous and significant efforts of differentiate them accordingly has been made (Alinaitwe, 2008). Alinaitwe (2008) cited Naoum and Mustapha (1994) who grouped clients into ongoing, on-off and one-off. Alinaitwe (2008), Flanagan and Norman (1993) also classified clients as public and private ones. Alsolaiman (2014) cited Brandon and Lu (2008) in a report identifying six criteria that may be used to categorize clients (Table 2-1): paying & user clients; clients degree of experience with construction; the client organization's nature and culture; the type of business the client is involved in; the client organizations size and rate of environmental changes within the client's organization.

Table 2.1 Type of Client summary

Client 'Type'	Terms used to refer to the type
Paying and end user client	<ul style="list-style-type: none"> • Apparent customer and user • Paying and end user clients • Physical and virtual customer
Degree of experience in construction (and degree of experience with specific types of building)	<ul style="list-style-type: none"> • Sophisticated, inadequately informed and naïve • On-going portfolios and one-off projects • Unitary and pluralistic

Client organizations nature of the (sector)	<ul style="list-style-type: none"> • Public (national and local) • Private (industry and service) • Mixed (mix of public and private enterprise; not-for profit and private regulated)
Client business type	<input type="checkbox"/> Property developers (primary) and those who build to perform some business activity (secondary)
Product type	<input type="checkbox"/> Building form types, building use types, ownership types
Rate of change in environment	<input type="checkbox"/> Static versus dynamic environments
Size of the client organization	<input type="checkbox"/> Small, medium or large companies

Source: (Brandon and Lu, 2008)

Alsolaiman (2014) noted that the public sector in developing countries spends significant funds on their projects compared to other sectors (Boyd & Chinyio, 2006), hence sufficient consideration must be made to improve construction client activities in the Ghanaian industry.

2.3.1.2 The Role of Clients

Bowen et al. (1997) in a report stated that the construction industry is noted for having a higher proportion of dissatisfied clients than any other industry (Alinaitwe, 2008). Meanwhile these client form the driving force in projects. Alinaitwe (2008) cited Kometa et al., (1994) states an evidence which suggest that construction project consultants or representatives and contractors performance often doesn't satisfy the clients due misunderstanding of the client needs. Assuming that is true, one will then ask whether the clients themselves perfume their roles appropriately thus communicate and ensure clear understanding of the need so as to positively influence the outcome of the project and also satisfying other stakeholders other appropriately.

It is general knowledge that consultants are mostly engaged on public projects in Ghana as respective to the client, hence consultants have essential roles to play. As

cited by Alsolaiman (2014) Clients must identify and adopt efficient effective methods that will enable them contribute to the project and ensure adequate performance with their involvement on the project (Al-jarasha, 2010; AlKharashi& Skitmore, 2009; Xu and Miao, 2010). Client activity becomes more essential to ensure success on a project when the project gets larger and complex in nature.

According to Alsolaiman (2014) a study conducted by Jawahar-Nesan and Price (1997) formulated twelve essential area where client must improve or perform adequately to improving the outcomes projects, (Table 2-2). Their study was conducted in the United Kingdom, and focused on crucial practices to be perform on each consecutive task to improve the outcome of construction project (Alsolaiman, 2014).

Table 2.2 Important activities to improving the performance of clients

No.	Improvement of Performance
1	Preparation and organization
2	Development of definition for Project
3	Procurement
4	Management and organizing of joint teams
5	Management of designs
6	Management of safety
7	Performance measurement & review
8	Communications
9	Motivation
10	Coordination
11	Documentations
12	evaluation of Projects

Source: (Jawahar-Nesan and Price, 1997) as cited by (Alsolaiman, 2014)

The CDM (2015) states that the client has overall responsibility for the successful management of the project and is supported by the consultant, principal designer and principal contractor in different stages of the project. For the successful delivery of a construction project, good working relationships between major duty holders are essential from the start throughout the project.

Cole (2000) identifies ten (10) major roles of client within three broad categories which are interpersonal, informational and decision roles (Kulatunga & Haigh, 2000.).

The effectiveness of client performance maybe contingent upon the level of experience it has, Alinaitwe (2015) stated that it could be argue that the nature and type of client impacts on the roles and contributions of the client. Based on this idea Masterman and Gameson (1994) categorized clients into two categories namely secondary experienced, primary experienced clients (Alinaitwe, 2016) Gameson (1990) also suggested that clients should classification must be based upon these two characteristics: (i) Whether they are primary or secondary constructors; (ii) Their level of construction experience.

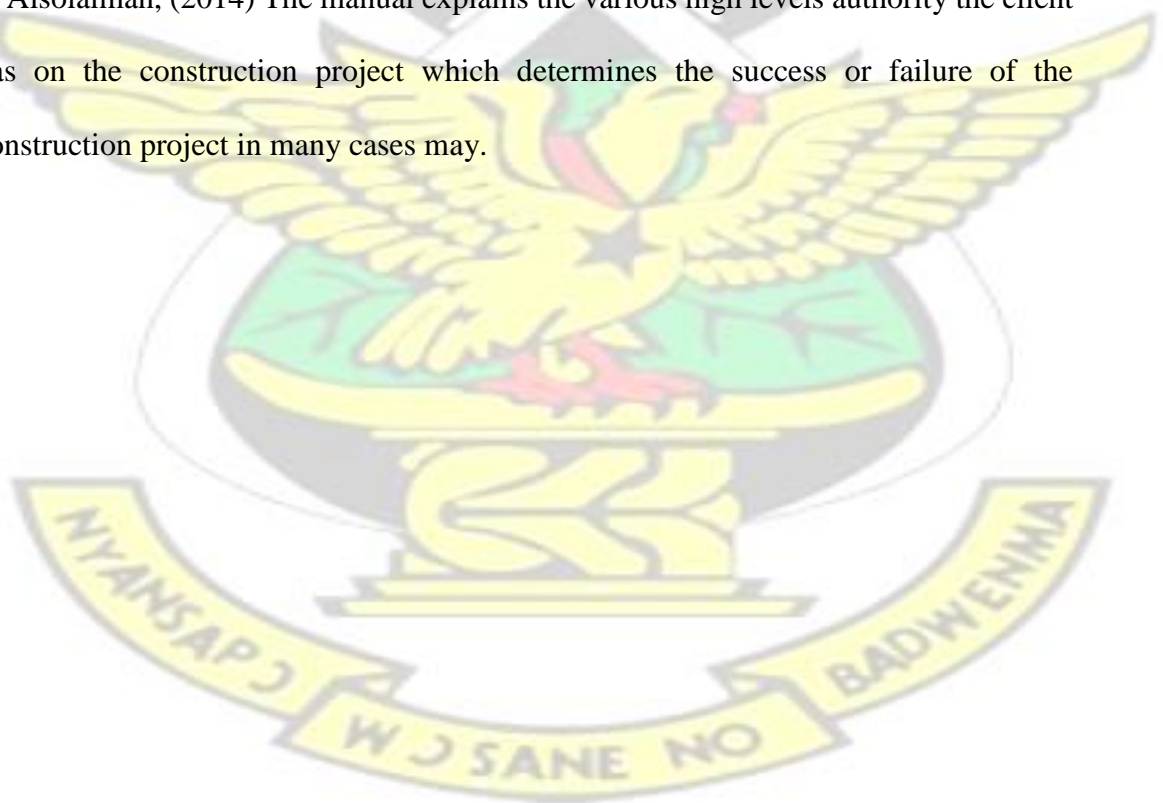
According to Dadzie et al. (2012) construction clients' classification is based on their level of appreciating construction activities, the nature of the organizational and the purpose of ownership of facility. Some construction project clients are knowledgeable than others with varying size of organizations. Example, some client's institutions are small, some medium sized, and others are large. Also, there are private, corporate clients and public clients.

According to Tindiwensi (2006) it was found that deficiencies of managing labour which includes poor motivation, unfair wages and poor training contributes to client dissatisfaction. However the clients themselves can directly influence these.

Construction client mostly expects the following important element out of their projects; (a) high quality, (b) reasonable cost; and (c) completion on time (Forgues, 2006).

For optimum management and success in project delivery, the three constraints namely time, cost and quality must be established and defined clearly by the client (Alsolaiman, 2014). Paying less attention to even one of these constraints may have a negative effect on the other two (Bowen, et al, 2012). Hence high quality requires clear and definite specifications accompanied by the appropriate management practice. The quest to attain high quality may likely lead to high cost with additional time coupled with the high risk of investing too much on the project (Alsolaiman, 2014).

Therefore, the client's aim is to attain the appropriate balance between all the essential elements in order to meet the aim of the project (Alsolaiman, 2014), as presented in Figure 2-1. The significance of the client's role and the essence of the client's role was discussed in the ASCE Quality in the Constructed Project Manual (2012). According to Alsolaiman, (2014) The manual explains the various high levels of authority the client has on the construction project which determines the success or failure of the construction project in many cases may.



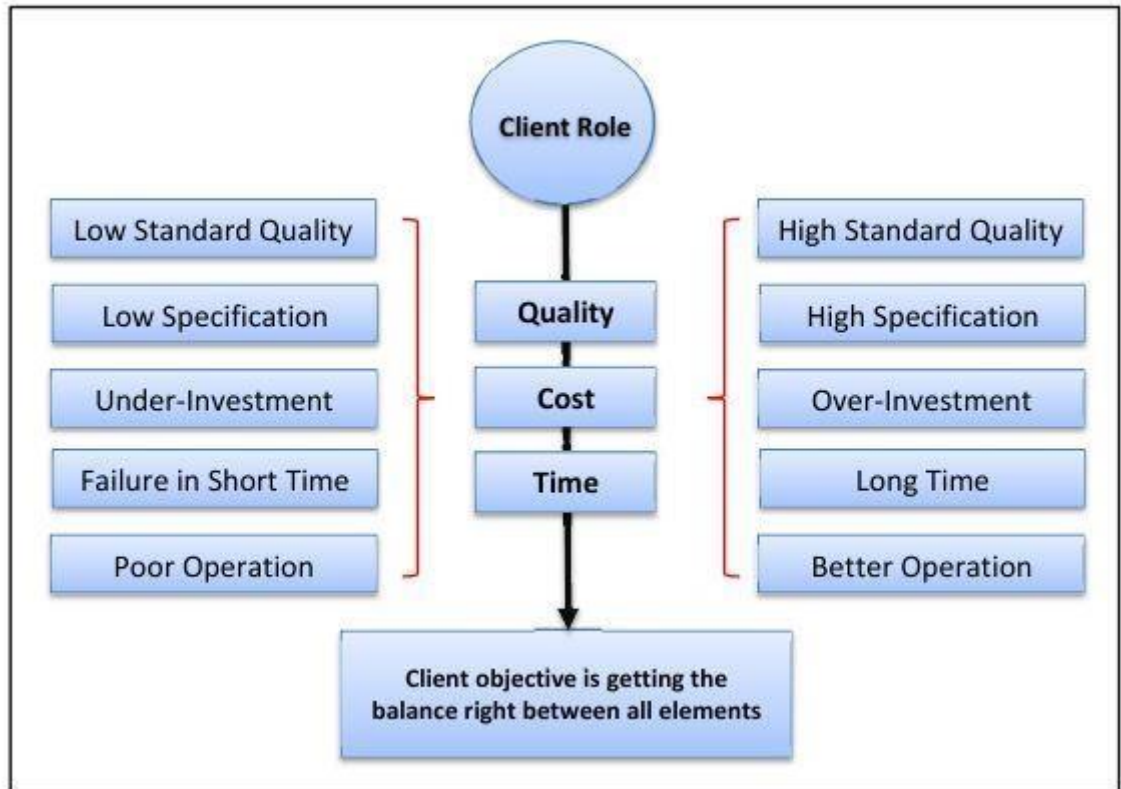


Figure 2.1 Client's role in project delivery (Alsolaiman, 2014)

According to Shu Hui et al. (2011) the degree of efficiency exercised by the clients in terms of performing their role on a projects depends basically on its level experience in construction (Bennett & Flanagan, 1983; Rowlinson & Newcombe, 1984; Nahapiet & Nahapiet, 1985). The definition given by Masterman (1992) and Walker (1984) for an experienced client is one that builds on a regular or continuous basis, i.e. more than once every 5 years, while inexperienced clients build only once or less every 5 years.

Construction clients, who are experienced or not, must be considerably involved in their construction project process in order to get what they want (Ministry of Public Building and Works 1965; CIRIA, 1987). Bennett (1985) dealt with the wide scope of client participation in their construction projects under five major headings:

- Set project goals and objectives;

- Outline the organization of project;
- Selection the team for the project;
- Establish a control system for the project team; and
- Establish a culture for the project (Shu Hui et al., 2011)

Obviously, these responsibilities can be complex and overwhelming, therefore as stated by Shu Hui et al. (2011) an inexperienced clients would find it difficult to undertake these responsibilities because they lack the knowledge and experience in construction activities (Higgin & Jessop, 1965)

Poor project definition and organization by the client may lead in an unsuccessful project irrespective of the kind consultant's engaged and its performance (Shu Hui et al., 2011). Also, payment delays by clients may cause cash flow challenges to consult and constructors which will subsequently affect the outcome of the project. Delay in making critical decisions may also have an affect the project. Active involvement of clients in projects to a large extent will impact upon the outcome of the projects and will have an effect on the general performance of the industry (Shu Hui et al., 2011).

2.3.1.3 Factors Influencing Client Performance

The factors influencing the success or failure of a project has over-time received attention from a number of authors (Dadzie et al., 2012). With very little attention to the influence client's performance has on the overall success of the project. Ideally the client must come up with a clear set of strategies that can help improve their performance on projects. According to Dadzie (2012) with reference to Pinto and Kharbanda (1996), Torp et al (2004) it is accepted that knowing the critical success factors and potential challenges at the front-end (identifying problems before they occur and planning the responds for it) a project will enable the project teams to

reduce and perhaps eliminate firefighting, intuitive and ad hoc approach to managing uncertainties.

These studies, together with Mengesha (2004) influenced Torp et al., (2004) observation that there is gradual move in focus over time from purely technical issues towards organizational and management issues in terms of managing project.

According to Kometa et al. (2008) client success in terms of performance depends on how it deals with the following factors which affects success as identified by Morris & Hough (1986). Table 2-3 explain the factors:

Table 2.3 Factor influencing client performance

Factors	Description
Project definition/formulation	This refers to dialogue between the client /client organization and the consulting firm in which the client makes a reasonable effort to ensure that he/she defines/formulates the project properly.
Planning and design	These are the in-house planning and design that some clients undertake before engaging a consultant or contractor
Politics/social factors	This refers to fiscal policy, safety, regulatory framework and community/social factors. These element should be identified by the client and precautions taken to accommodate them.
Schedule urgency and schedule duration	This refers to clients sense of urgency instilled the in their personnel, i.e. avoid undue rushing to finish specific exercises but yet discouraging delays. Schedule duration refers to the overall time allocated to activities by the client for the practical completion of the project.
Finance	The client should ensure a stable source of funding for the project. The client is responsible for funding the project.
Legal agreement	This refers to the client's responsibility of ensuring that participants to the projects are committed to making the contract work rather than getting involved with litigations.
Contracting	This refers to the client's knowledge of the available procurement routes and contract forms which are important for project success.

Project implementation/management	It is the client's responsibility to determine how the project should be implemented/managed, which bears on the successful execution of the project.
Human factors	This refers to the selection of the right people for the project.

Source: (Kometa et al., 2008.)

According to Adedeji et al. (2015) Decisions that are made at the pre-contract stages are difficult and expensive to change once construction begins, hence it is obvious that any wrong decision made by the client may have some level of impact on the outcome of the project. Therefore there is a need for client to play active part in the various stages of the project particularly the design phase and ensuring maximum performance in order to ensure quality project at a reduced or reasonable cost and time (Adedeji et al., 2015).

2.4 THE CONSTRUCTION CONSULTANTS

Consultants, also known as Engineers are a group of professional working together for a common goal. They are engaged by the client to manage project on their behalf. According to FIDIC a “Consultant” is professional institution or person mentioned in an agreement and engaged by the Client to perform specific duties or services(FIDIC, IV)

The role of a consultant is to ensures that the project meet the agreed design standards, completed at the right cost and quality with the right technical specifications, i.e. given the employer or client always want value for Money (Dadzie et al., 2012). In detail FIDIC (IV) stated the following to include the duties of the consultant; review and update design details; monitor the activities of contractor’s to ensure that works begins on time; review contractor’s schedule of works; undertake quality control assessments; review contractor’s periodic invoices and certify payment; evaluate claims for Interim

/ additional payment and the request for extension of time; and monthly, quarterly and annual progress preparation.

Dadzie et al. (2012) in reviewing Rawlinsons (2003) mentioned that consultants must have the following capabilities: very good of leadership skills and good communication skills; capacity to handle manage issues the might surface by virtue of the project and the participant of the project; ability to manage statutory or local government approval process; ability to handle the design process; ability to appreciate and manage the process construction adequately; and capacity to manage risks. These duties however makes it imperative for the consultant to understand the needs of the client. Dadzie et al. (2012) reinforced this by stating that the consultant must have a clear appreciation of the project; understand of designs; appreciate of tendering process; understand of the construction process and technical specifications and requirement of building projects; strategies to Management Risk; and communication.

2.5 THE CONTRACTOR

Essentially, the contractor is the person (or company) that implements the construction process and concretizes the dreams of the client (promoter). The major task a Contractor includes organizing allocating allocate labour, materials and equipment resources available to him/her in a strategic manner to ensure the completion of a project at maximum efficiency on time, with right quality and at the appropriate cost”(Adedeji et al., 2015)

2.6 GHANA EDUCATION TRUST FUND (GETFund)

In Ghana, the Ministry of Education (MoE), through the Ghana Education Service (GES), are mandated provide infrastructural development and maintain essential educational facilities country at all levels with the funds allocated to it through the

annual budget(Auditor General, 2013.) It became obvious that the Ministry alone could not fully satisfy the need of the nation considering the high demands on the educational sector as a result of population growth, technological advancement among many others.

The Ghana Education Trust Fund “GETFund” was then established to provide and support the Ministry of Education(MoE) with a sustained source of funding in the sector of educational, the fund was established through an Act of Parliament in the year 2000 (Act 581 of 200) to support in the provision of funds for the development of educational infrastructure and other essential facilities in for the sector(Auditor General, 2013.). Since its establishment in 2000, the GETFund it has help significantly in the development of educational infrastructure nationwide which has brought some relief to the educational sector.

The GETFund Secretariat was formed to manage its allocations with the mandate to receive 2.5% of VAT from the Ministry of Finance and distribute the funds with a formula approved by Parliament of Ghana, annually the formula is reviewed by Parliament (Act 581 of 200). According to the Auditor general’s report (2013) the main aim of GETFund is to provide supplementary funds in the provision of infrastructure for educational facilities at all levels by the government.Act of the Parliament of Ghana Act 581 (2000) captured the functions GETFund to include;

- provide financial support to institutions and agencies under the Ministry of Education (MoE),through the Minister, this funds are used to develop and maintain important educational facilities and infrastructure in government educational institutions,
- Ensuring the adequate utilization of funds with regard to the operations of the

National Council for Tertiary Education, and

- Ensure the conformity of all specifications and the promotions of quality assurance by monitoring and controlling all GETFund sponsored projects.

All the above functions of GETFund are capture by Act 581 of 2000 of the republic of Ghana as a basis for their operations. In effect GETFund is task with the responsibility of ensuring value for money in all their operations. Hence they must be involved in their project. It then obvious that actions and inactions on the part of GETFund will have direct impact on the outcome of their projects. Some stakeholders in the past have express dissatisfaction in the activities of GETFund. As stated by Eyiah-Botwe (2015) during the third GETFund consultative forum that was held in February 2010, reviewing the operations of GETFund in a report titled “GETFund review and outlook (2000-2009)” concerns were raised on certain challenges encountered by GETFun projects. Eyiah-Botwe (2015) also noted that the report indicated the following as some of the challenges encountered by GETFund; project exceeded time and cost and also value for money weren’t hieved in many instances.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the research methodology adopted for the study, source of data collected (Wusuah, 2012), design of research and source of instruments will be given. The chapter will also look at the validity and reliability of the research data and their analyses.it will also explains the study methodology as an organized set of guidelines or stages aimed at generating valid and reliable study results. Singh & Masuku (2014)

defined methodology as the various procedures that are generally adopted by the researcher in studying a research problem with regard the logic behind them,

To undertake this investigation, a qualitative research approach was adopted (Access 2016) to provide descriptive evidence to explain the relationship between key variables. Below is the sequential flow of the research as cited by Gaba (2013.)



Figure 3.1 Research Process, (Creswell, J. 2003 P.5)

3.2 RESEARCH DESIGN

Tamakloe (2011) explained research design as the total plan for organizing and analyzing information or data including the measures to enhance both internal and external validity. Research design is the term often used to describe the various decisions taken in the data collection and processing (Durrheim, 1992). Yin (2003), also considers it as an action plan that is used to collect data. This study employs the survey research design, according to Sproul (1988) research design may be grouped under two headings namely experimental design and non-experimental design. This study employed the non-experimental design which is very often employed for several researches as it has been proven to be an essential tool (Of et al., 2008) for investigating trends and specific situations in many scientific disciplines (Asiedu, 2012). The approach adopted is qualitative research approach. This approach was chosen because the study collected descriptive data.

This research focuses on assessment of the effect of client participation on the outcome of public sector construction projects; a case study of GETFund (SUTEmIP). The study aims at establishing critical issues with regards to client performance in Ghana. Questionnaire survey was used to verify client / client's representative's performance based on the issues identified in literature reviewed.

The relevant variables considered for the study were extracted from the literature.

Thus, result of the literature review formed the basis of investigation.

3.3 SAMPLING TECHNIQUE

According to Gaba (2013) in selecting the sample for the research, the characteristics of respondents (i.e. the population of interest) should be taken into consideration (McDaniel and Gates, 2012) based on preliminary investigation. To obtain the number of contractors working on GETFund (SUTEmIP) projects in the volta region of Ghana, a formal enquiry was made to the GETFund secretariat requesting for the number of contractor and consultants working on their projects in the Volta Region out of which a sample was drawn. According to the responses, a total 94 contractors with 4 consulting firms are in the region working on GETFund (SUTEmIP) projects.

Considering the nature of the and size of the sample, a consensus sample sizing strategy (Israel, 1992) was used for the consulting firms, hence the all the four consulting firms were selected for the study. For the contractors a different sample size strategy was used involving a use of a formula to reduce the sample size slightly. According to Israel (1992), Yamane (1967) provides a simplified formula calculate sample sizes. The is as shown below;

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

Where n represents the size of the sample, N representing size of the population, and e also representing the precision level. When the formula is applied to the total number of contractors, the result is;

$$n = \frac{94}{1 + 94 (0.05)^2} = 76 \dots$$

Adopted from (Singh & Masuku, 2014)

Therefore the sample size of contractor to be used for the study is 76. Hence simple random sampling was used to select the calculated sample size (74) out of the total population of total population of the contractor's. The simple random sampling was done by simple balloting where all the contractor were given equal chance of being selected (Singh & Masuku, 2014) to select the number of contractors required for the study.

3.4 DATA COLLECTION

The data gathered for the study was obtained by the use of a close ended questionnaire; which is a very useful survey instrument (McDaniel and Gates, 2012) commonly used for formal qualitative research (Baxter et al., 2008). Collection of data was achieved by self-administering by hand to the identified persons/firms considering the nature of the study and the limited time available to collect data for analysis, However, those who may not be able answer the questionnaire as at the time of distribution, the researcher used the questionnaire to interview them by administering it via either on cellular phone call or face-to-face session if necessary

The questionnaires was designed such that the factors and the criteria considered as variables are evaluated and rated accordingly by using the Likert scale approach.

3.5 DATA ANALYSIS

Microsoft excel and Matlab was used to analyze the data obtained and the results represented using bar chart and tables, the results was then discussed to further present the result in a descriptive manner.

CHAPTER FOUR RESULTS AND DISCUSSIONS

4.1 INTRODUCTION

The previous chapter discussed the methodology employed for the research. The study to bring to light the performance of client and representatives on GETFund SUTEmIP projects in the Volta region of Ghana. It also provided details of how the data was collected and analyzed.

This chapter was used to presents the field data collected during the survey in tables and bar charts with a descriptive approach. The chapter is divided into seven sections, the first section give an introduction to the chapter, the second present the role of clients / client representative, while the third section presents the general result of the survey, the forth section presents the profile of the respondents while the fifth section presents client/client representatives level of involvement on GETFund SUTEmIP project, the sixth presents the performance ranking of the client / client representatives and finally the seven section present the summary to the chapter.

4.2 THE ROLES OF CONSTRUCTION PROJECT CLIENT

Construction project are very essential to the development of a country hence significant research is needed to improve and develop current system. In the recent past

researches has been conducted in the area of client participation in public sector construction projects. This has brought to light several significant factors that influences client involvement on the public sector construction projects and the effect client performance has on the outcome of public construction project.

The literature reviewed in chapter two discussed issues bothering the construction industry as a whole, the existing types of client and their roles as well as the factors affecting client performance on public sector projects. Out of these discussion the following major roles were identified considering the nature GETFund (SUTEmIP) projects in the Volta region of Ghana as very essential to the success such projects. The following roles may be performed by the client body itself or a representative employed to perform these roles on behalf of the client;

1. Be present during handing over and taking over of construction project
2. Visit construction project site to inspect and monitor construction activities first hand.
3. Interaction with stakeholders on the project.
4. Evaluate interim claims submitted by deserving entities with regards to the project
5. Involved in the management of risk on the project
6. Provide advice and suggestions aimed at optimizing the outcome of the project.
7. Inform stakeholders of the purpose and implications of the project.
8. Coordinate organize and ensure efficient dissemination of information to the right sources at the right time.
9. Adopt and ensure adequate health and safety measures on the project.
10. Ensure appropriate documentation at all stages of the project.

11. Ensure prompt and adequate payment of certified claims.
12. Ensure adequate monitoring and evaluation.
13. Ensure that major stakeholders understand the details of the project.
14. Make prompt and clear decision on time.

4.3 SURVEY RESULTS

Questionnaires were distributed to 75 persons, consisting of 8 consultants (2 persons from each consulting firm) and 67 contractors with a target of achieving 80% responds. 58 questionnaires were answered and returned from the contractors representing 87% responds and the all 8 questionnaires were received from the consultant representing 100% responds. The respondent's position indicates they agree the client or client representatives have a role to play.

4.4 RESPONDENTS PROFILE

Level of Education

A total number of seventy-six (76) contractors and 8 consultants working on GETFund (SUTEmIP) projects in the Volta region were selected, these contractors were provided with questionnaire to administer. Figure 4-1 and 4-2 indicates the responses from the respondent.

Table 4.1 Contractor's or contractor representatives level of education

Level	Frequency	Percentage %
Master Degree	20	26
Bachelor's degree	5	7
Higher Diploma	41	54
Other	10	13
Total	76	100

Source: Field survey, 2016

Table 4.2 Consultant's level of education

Level	Frequency	Percentage %
Master Degree	2	25
Bachelor's degree	5	63
Higher Diploma	1	12
Other	0	0
total	8	100

Source: Field survey, 2016

The result in table 4-1 indicates that 54% hold higher diploma, 26% hold master degree, 7% hold bachelor's degree and 13 % hold other qualification such as construction technician course (CTC), General courses in construction (GCC). This shows that majority of contractor or the contractors representatives are knowledgeable enough to appreciate the importance of client involvement on their

With the consultants, 63% hold bachelor's degree, 25% hold master's degree and 12% hold higher diploma. This indicates that the majority of the respondent (consultants) are bachelor's degree holders.

Years of experience on GETFund SUTeMIP projects

Table 4.3 Contractors years of experience

Years of experience	Frequency	Percentage %
1 to 5years	45	59.2
6 to 10years	26	34.2
11 to 15years	5	6.6
16 year and above	0	0
Total	76	100

Source: Field survey, 2016

Table 4.4 Consultants years of experience

Years of experience	Frequency	Percentage %
1 to 5years	4	50.00
6 to 10years	3	37.5
11 to 15years	1	12.5
16 year and above	0	0
Total	8	100

Source: Field survey, 2016

59.2% of the contractors have 1 to 5 years of experience on GETFund project, 34.2% have 11 to 15 year experience while 6.6% have 11 to 15 years of experience on the GETFund projects.

Considering the consultants 50% have 1 to 5 years of experience, 37.5% with 6 to 10 years of experience and 12.5% have 11 to 15 years. Indicating that the majority of the respondent have 1 to 5 years of experience on the GETFund SUTEmIP project in the Volta region

4.5 CLIENT / CLIENT REPRESENTATIVE’S LEVEL INVOLVEMENT ON PROJECTS

The data below shows the average view of respondent of client and client representative with regards to their involvement on projects.

1. Clients presence when handing over projects to contractors

Table 4.5 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	4	4	4	5
Consultants	2	4	4	0

Source: Field survey, 2016



Figure 4.1 Descriptive presentation of data

Source: Field survey, 2016

The data above indicated that 41% of the respondents (contractor) are of the view that the client / client representatives presence on site during handing over of projects is good, while 50% (consultant) share the same view, 36% of contractors consider presence on site as very good and 25 % of consultant share the same view, 23% of the contractors also considers their presence as average and 25 % of the consultant share the same view.

2. Clients presence when taking over completed projects

Table 4.6 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	4	4	4	1
Consultants	3	4	2	2

Source: Field survey, 2016



Figure 4.2 Descriptive presentation of client presence during taking over of completed projects

Source: Field survey, 2016

The study found out that are mostly present for taking over completed project. Thus 50% of the respondent (contractors) and 47% of consultants are of the view the rate of the client presence is good on representing the majority, 47% of the contractors and 38% of the consultant are of the view their present is very good.

3. Client visiting construction project sites during construction

Table 4.7 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	2	1	1	2
Consultants	2	3	2	1

Source: Field survey, 2016

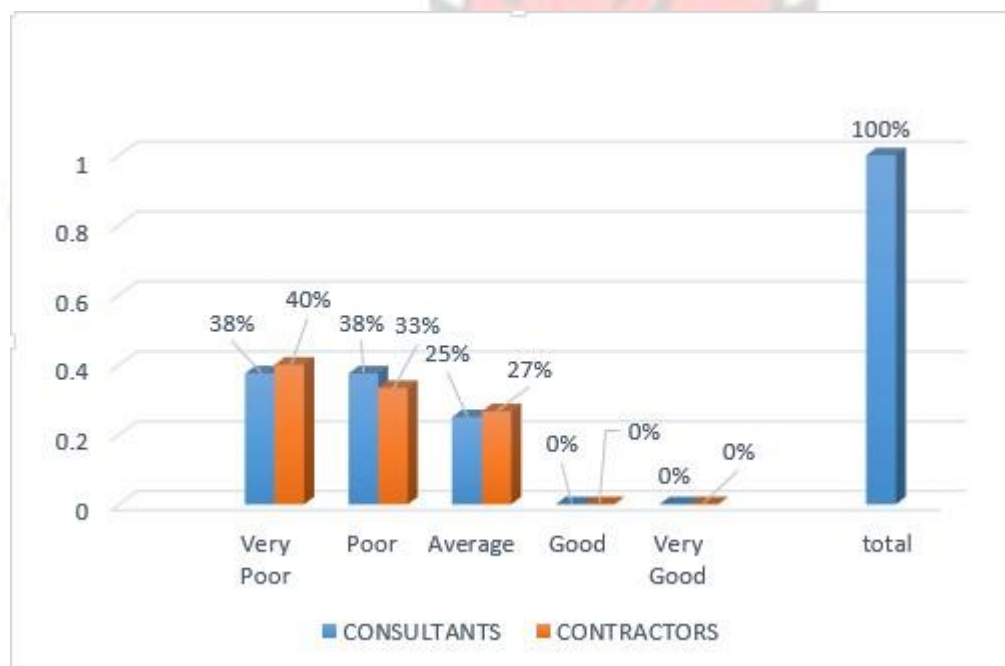


Figure 4.3 Descriptive presentation of Client visiting construction project sites during construction Source: Field survey, 2016

From the study it was found that client / client representative do not very often visit site during construction. The data revealed that 40% of the contractor and 38% of the consultant consider the rate of involvement in terms of site visitation to be very poor, 33% contractors and 38% of consultant view their involvement to be poor while 27% of the contractor and 25% of the consultant consider their involvement to be average.

4. Clients having representative(s) knowledgeable in the area of construction who interact with consultants and contractors during the construction period.

Table 4.8 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	3	2	2	1
Consultants	3	3	3	2

Source: Field survey, 2016



Figure 4.4 descriptive presentation

Source: Field survey, 2016

The study indicates that 47% of the contractors and 50% of consultant's thinks that client or client representative knowledgably in the field of construction's level of interacting with contractors and consultants is poor on the project, 33% of contractors and 38% consultants also think they are average and only 13% of the consultant view them to be very poor.

5. Client contributing in the distribution of risk on the project.

Table 4.9 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	3	2	2	0.50
Consultants	2	2	2	1

Source: Field survey, 2016

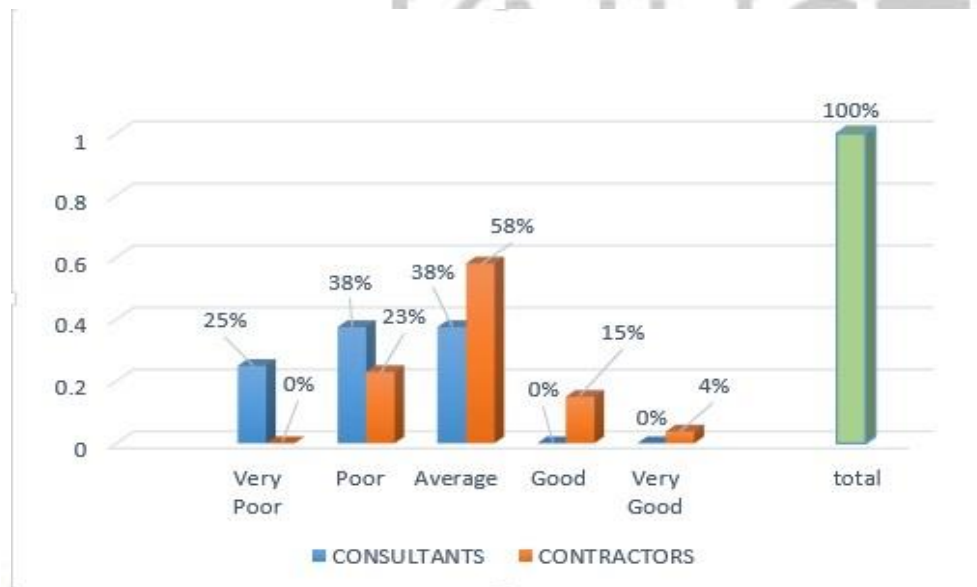


Figure 4.5 Descriptive presentation of client participation in risk management

Source: Field survey, 2016

It's essential for Client / client representative to be involved in the management of risk on projects. From the field data collected 58% of the contractor and 38% of the consultant consider the level of client involvement with regards to risk management as average, 23% of contractors and 38% of consultant also consider their involvement to be poor while 25% of the consultants thinks their level of involvement is very poor. On the other hand 15% of the contractors view the client involvement to me good and 4% thinks their very good.

Table

6. Client demand to be informed about challenges encounter on the project

4.10 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	2	2	1	1
Consultants	3	2	2	3

Source: Field survey, 2016



Source: Field survey, 2016

The study found that client / client representative are mostly not informed about challenges encountered on site. Majority of the respondents thus 54% of the contractors and 50% of the consultants view client involvement with regard to being informed about the project challenges as poor, 27% of the contractors and 13% of the consultant thinks of their involvement as average and 15% of the contractor and 38% of the

Table

consultant also considers their involvement to be poor while only 4% of the consultant think they are good in that regard

7. Client providing advice/suggestions aimed at optimizing the outcome of the project

4.11 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	2	2	2	1
Consultants	3	2	1	3

Source: Field survey, 2016



Figure 4.6 Descriptive presentation of Client providing advice/suggestions aimed at optimizing the outcome of the project Source: Field survey, 2016

From the field data collected, 65% of the contractors and 38% of the consultants are of the view that client / client representatives averagely involve themselves, 23% of the

Table

contractors and 50% of the consultant also think client involvement on the Likert scale is poor, and 12% of the contractors, 12% of the consultants are also of the view they are good with respect to client advising or suggestion action to optimize the project. This suggests that majority believe their involvement on the Likert scale is average.

8. Clients informing other stakeholder of the project and its implications

4.12 Central tendency summarized

	Median	Mode	Range	Inter-quartile range
Contractors	3	3	2	1
Consultants	5	3	3	3

Source: Field survey, 2016



Figure 4.7 Descriptive presentation of Clients informing other stakeholder of the project and its implications

Source: Field survey, 2016

Table

Stakeholder contribute to the success of a project and needs to be duly informed. The data collected indicates that 58% of the contractors and 63% of the consultant are of the view that client or client representative involvement on project in terms of informing other stakeholders is average on the Likert scale, 35% of the contractor and 25% of the consultancy thinks they are poor while 8% of the contractors and 13% of the consultant are of the view they good. Hence the majority thinks their involvement ranks average.



4.6 SUMMARY OF THE LEVEL OF INVOLVEMENT

From the findings 37.25% of the total population of the contractor selected for the study representing the majority thinks client level of involvement is “average”,

26.81% ranked second also thinks their level of involvement is “poor”, while 18.31% of the population also thinks their involvement is “good”, also ranked fourth is 10.75 % of the population who are of the view client level of involvement is “very good” and finally 6.88% of the population ranked fifth indicating level of involvement to be “very poor”.

For the consultant, 31.19% representing the majority of the selected population indicated client level of involvement to be “average” and the same population (31.91%) also thinks their level of involvement is “poor”, 15.75% of the remaining population are of the view level of involvement for the client is “good” while 14.12% think it is “very poor” and 7.75% are also of the view client level of involvement is “very good”.

Table 4.13 Client Level of involvement of projects

Contractors	Very poor	Poor	Average	Good	Very good	Total (%)
Percentage (%)	6.88	26.81	37.25	18.31	10.75	100
Ranking	5th	2nd	1st	3rd	4th	
Consultants						
Percentage (%)	14.12	31.19	31.19	15.75	7.75	100
Ranking	3rd	1st	1st	2nd	4th	
Average and ranking for both contractor and consultants.						
AVERAGE	10.20	29.00	34.22	17.03	9.23	100
Ranking	4th	2nd	1st	3rd	5th	

Source: Field survey, 2016

4.7 ROLE PERFORMANCE OF CLIENT / CLIENT REPRESENTATIVES

This section of the questionnaire was used to assess the performance of the client / client representatives using a five point Likert scale, “Very poor to Very good” as indicated in Figure 4-8. To identify the level of performance the “performance scale”, was established to have five intervals, “very poor, poor, Average, good and very good”. The scale was developed by dividing the four intervals of the Likert scale by the five intervals to obtain the range. The outcome was 0.8 representing each interval. Hence the performance scale profile was developed with a five-point Likert scale (Figure 4-8).

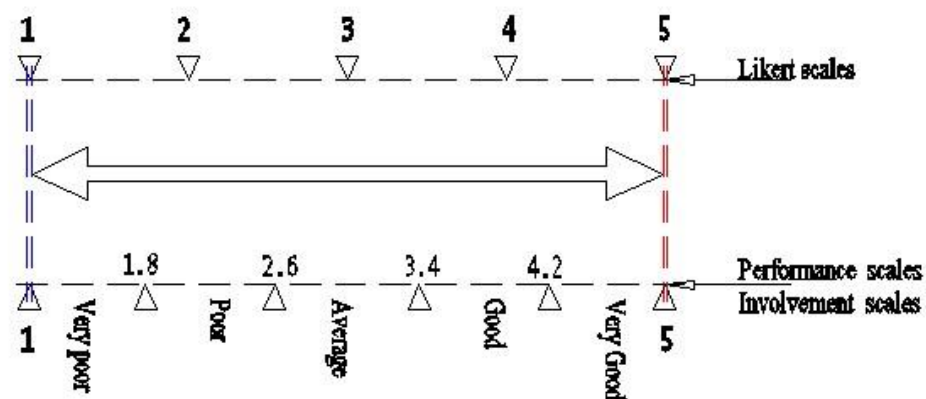


Figure 4.8 Likert scale and Interval profile for client / client representative performance

Table 4.14 Client or Client representative role Performance ranking

	<i>Client / client representative performance on construction projects.</i>	Average (mean) Contracto rs	Average (mean) Consulta nts	Average Both categories	Performance
1	Clients presence when handing over projects to contractors	4.13	4.00	4.07	Very good
2	Clients presence when taking over completed projects	4.40	4.25	4.33	Very good
3	Client visiting construction project sites	1.80	1.00	1.40	Very poor

4	Clients having representative(s) knowledgeable in the area of construction who interact with consultants and contractors during the construction period	2.73	2.25	2.49	Poor
5	Client contributing in the distribution of risk on the project	2.19	3.15	2.67	Average
6	Client demand to be informed about challenges encounter on the project	2.88	1.5	2.19	Poor
7	client providing advice/suggestions aimed at optimizing the outcome of the project	2.73	1.63	2.18	Poor
8	Clients informing other stakeholder of the project and its implications	2.69	2.88	2.79	Average
9	Client evaluate claims certified by consultants	3.00	3.5	3.25	Good
10	Coordinating, organizing and ensuring efficient dissemination of information to the right persons and the right time.	2.35	2.00	2.18	Poor
11	Ensuring appropriate distribution of risk on the project	2.19	1.8	1.99	Poor
12	Adopting or ensuring adequate health and safety measures on site	2.23	2.13	2.18	Poor
13	Ensuring appropriate documentations at all stages of the project	2.96	2.63	2.79	Average
14	Ensuring prompt and adequate payment of certified claims	1.65	2.00	3.33	Average
15	Adequate monitoring and evaluation of project.	2.61	2.88	2.75	Average
16	Explain and ensuring clear understanding of project requirement and specifications.	2.92	3.38	3.15	Average
17	Making prompt and clear decision as when needed	2.69	2.88	2.79	Average
18	Monitoring to ensure client's agent are performing their roles appropriately.	2.88	2.87	2.87	Average
OVERALL PERFORMANCE		2.73	2.60	2.67	AVERAGE

Source: Field survey, 2016

4.8 SUMMARY

The purpose this analysis was to assess the level of client / client representative's involvement and their performance on GETFund SUTEmIP project the Volta region of Ghana. The chapter presented the major roles of client on public project identified

from literature review in presented in chapter two of this report, the chapter also presented the data collected from the field in a descriptive manner detailing out the respondent view on the level of client participation on the project. It also presented the performance ranking of the client / client representative by using the Likert scale approach to identify their performance on a scale of one to five ranging from “very Poor to Very good” and the overall performance based on the roles determined in the literature reviewed. The analysis indicated that the client / client representatives performance averagely.

CHAPTER FIVE CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The motivation for this research was to investigate the impact of client involvement on construction projects in the Volta region of Ghana, as presented in Chapter one, the research was designed to bring to light the level of client involvement and the performance of client / client representative to develop and improve client involvement on GETFund funded projects to improve the outcomes of such projects.

To achieve this aim, three research objective were set: (1) to identify the roles of the client on construction projects. (2) Investigate the current level of client involvement on GETFund SUTEmIP Project in the Volta region (3) Assess the performance of client and client representatives on GETFund project.

In Chapter two the literature review presented existing knowledge on the topic and addressed some specific issues. In addition it provided the researcher the opportunity to relate the objective of the study to existing body of literature. The study focused on the parties usually involved in GETFund SUTEmIP project and their roles and the essence of client involvement and the factors influencing client involvement on public

construction projects among others. In the Ghanaian context not much research have been undertaken in the area of client involvement on construction projects.

Chapter 3 however presents the research methodology which detailed the set out steps employed to attain the research objectives. The research design approach was developed to cover how the sample size was determined and treated, data collection and analysis in the study. Chapter four therefore presented the results and the analysis of the data collected from the questionnaire. Descriptive statistical approach was used to analyze and present data collected from the respondent. The role of the client / client representative was established based on the literature reviewed, the established roles was used to investigate the level of client involvement on GETFund project and the performance was ranked. Chapter five finally presented the conclusion of the research findings and also indicated the limitations of the research as well as making recommendations for future research.

5.2 CONCLUSIONS

The aim of this study as set out in chapter one of this report is to assess the extent of involvement and effectiveness of client and client representative's role on GETFund SUTeMIP in the Volta region of Ghana. The chapter discusses the findings of the study and makes recommendations based on the findings

5.2.1 Main Roles of Client on Construction Projects

The success of every construction project begins with the client, therefore client/client representatives must endeavor to be involved in their project at all stages. According to the literature reviewed, the roles of clients/ client representatives includes the following on a construction projects; developing project definition and objectives, Establish a culture for the project; Procurement, designing; review of documents and

design; organizing and preparing resources for the project; project team selection; monitoring and control, developing systems of communication and coordination; motivation and the measurement of performance.

Very often Consultants also known as Engineers are engaged by clients or client representatives to manage projects on their behalf. In such situations client / client representatives must ensure that consultants fully play their specific roles as agreed on the project.

5.2.2 Level of Client Involvement

The survey conducted revealed 34.22% of the entire population of respondent considering client involvement to be “average” on the five point Likert scale, 29.00% considered their involvement to be “poor” while 17.03% believes their level of involvement is “good” and 10.20% are also of the view their level of involvement is “very poor” and the final 9.23% think their level of involvement is “good”.

This data indicated that client and client representative are not doing much in terms of getting themselves involved in projects, this situation is however taking a toll on outcome of the projects. According to the findings client and client representatives level of involvement on projects is “average” based on the five point Likert scale. Client and client representative are responsible for the success of their project, hence high level of involvement on the project will reduce or eliminate the negative effect their absence will cause since issues requiring client input can be dealt with smoothly.

The “average” client /client representative level of involvement on the projects adversely impacted the delivery time, quality and cost of construction projects. The

level of client participation at the pre-contract and construction phase of the project has an effect on the success of the project.

5.2.3 Performance of Clients

The performance of client and client representative has direct relation with the degree of client involvement and ultimately the outcome of the project. Client role is considered very critical to the success of every project considering the authority they possess to make decisions that can positively or negatively impact the outcome of the project. The role of client or client representative was indicated to include preparing and organizing joint management teams on the project, develop a clear definition for the project, ensure proper procurement, manage and review design, ensure safety on the project, establish a strong communication system, measure and review performance, motivation the teams, coordinate, document and evaluate the project. Using this roles as a base to measure the performance of GETFund SUTEmIP client and client representative in the Volta region, it was revealed that their performance was discovered to be “average”. For a developing country like Ghana such performance will prevent the client or the educational sector from attaining optimum value for money and may also affect the construction industry at large. To improve the outcome GETFund SUTEmIP, it’s imperative for the client or client representative to improve their performance above average by increasing their level of participation on the project and also performing their roles adequately.

5.3 RECOMMENDATIONS

The researcher noted the following recommendation based on the findings of the study to improve the outcome of GETFund SUTEmIP in the Volta region of Ghana.

- Client and client representative must be educated on the importance of their involvement on project to improve the outcome
- Client and client representative must endeavor and be interested in every stage of the projects
- Projects must be designed to involve client and client representatives at all stages.

5.4 FUTURE RESEARCH RECOMMENDATIONS

The limitations and the findings of the study enabled the researcher identified and note a number of issues recommended for future research;

- Further studies may be conducted to identify the essential factors influencing the concept of client involvement.
- Future studies can be considered to identify the effect of organizational culture on client involvement in Ghana.
- Future research may be considered in the role of client and contractor to facilitate high level client involvement.
- Future studied may be conducted to identify capacity of client / client representatives in terms of participating of construction projects.
- Similar study can be conducted in other regions on Ghana to strengthen the finding of this study.

REFERENCES

- Access, O. (2016). Mega Construction Projects : using stakeholder management for enhanced sustainable construction American Journal of Engineering Research (AJER). , (5), pp.80–86.
- Addy, N.A. & Cofie, J.R. (2014). Leadership Essentials for Project Management in Ghana ' s Building Construction Industry. (2026), pp.72–84.
- Adedeji, A., Lawal, O.A. & Ojetade, O.I. (2015b). Optimization of Project Construction Management for Client Involvement in Nigeria. , 5(1), pp.370– 379.
- Ahadzie, D.. & Amoa-Mensah, K. (2010). Management Practices in the Ghanaian House Building Industry. *Journal of Science and Technology (Ghana)*, 30(2), pp.62–75.
- Alinaitwe, H.M. (2016). An assessment of clients ' performance in having an efficient building process in Uganda. , 3730(April).
- Alinaitwe, H.M. (2008). An assessment of clients' performance in having an efficient building process in Uganda. *Journal of Civil Engineering and Management*, 14(2), pp.73–78. Available at: <http://www.tandfonline.com/doi/abs/10.3846/1392-3730.2008.14.1>.
- Alsolaiman, S.M. (2016) An Empirical Study of the Factors Impacting on the Involvement of Clients in Saudi Arabian Construction Projects, 23(21), pp. 1162.
- Al-jarosha, Y. (2010). Expert warns of waste of 93 billion riyals in government projects in the coming years. Alriyadh Newspaper, Issue 15409
- Al-Kharashi, A., & Skitmore, M. (2009). Causes of delays in Saudi Arabian public sector construction projects. *Construction Management and Economics*, 27(1), 3 - 23.
- Arabiati, A. & Mccaffer, R., 2007a. Does client behaviour actively induce risk in construction projects ? , (September), pp.745–754.
- Arabiati, A. & Mccaffer, R. (2007b). Does Client Behaviour Actively Induce Risk in Construction Projects ? , (September), pp.745–754.
- Asamoah, Richard Oduro and Isaac Decardi-Nelson,. (2014). Promoting Trust and Confidence in the Construction industry in Ghana through the Development and Enforcement of Ethics. *Information and knowledge* Vol. 3, No 4:63-68

- Baxter, P., Susan Jack & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report Volume*, 13(4), pp.544–559.
- Bowen, P. A., Cattel, K. S., Hall, K. A., Edwards, P. J., & Pearl, R. G. (2012). Perceptions of time, cost and quality management on building projects. *Australasian Journal of Construction Economics and Building*, 2(2), 48-56
- Brandon, P and L, S.L (2008). Client Driving Innovation Eds. Wiley-Blackwell publishing ltd,
- Boyd, D. and Chinyio. (2006). Understanding the Construction Client. WileyBlackwell publishing ltd,
- Chan, A.P.C., Scott, D. & Chan, A.P.L. (2004). Factors Affecting the Success of a Construction Project. , (February), pp.153–155.
- Construction (Design and Management) Regulations (CDM), (2015) Industry guidance for client. pp 7-9
- Dadzie, J., R, A.-A. & a, K. (2012). Performance of Consultants on Government Projects in Ghana: Client and Contractor Pespective. *international journal of Business and Social Research*, 2 (2009), pp.256–267.
- Djokoto, S.D., Dadzie, J. & Ohemeng-Ababio, E. (2014). Barriers to Sustainable Construction in the Ghanaian Construction Industry: Consultants Perspectives. *Journal of Sustainable Development*, 7(1), p.p134. Available at: <http://www.ccsenet.org/journal/index.php/jsd/article/view/31906>.
- Enshassi, A. (2008). Factors affecting the performance of construction projects in the Gaza strip. *Journal of Civil ...*, pp.243–251. Available at: <http://www.tandfonline.com/doi/abs/10.3846/1392-3730.2009.15.269-280>.
- Eyiah-botwe, E. (2015). An Evaluation of Stakeholder Management Role in GETFund Polytechnics Projects Delivery in Ghana. , 7(3), pp.66–74.
- Ghana Statistical Service. (2014). Statistics for Development and Progress Gross Domestic Product. (2014). , (April), p.3. Available at: [http://www.statsghana.gov.gh/docfiles/GDP/GDP_\(2014\).pdf](http://www.statsghana.gov.gh/docfiles/GDP/GDP_(2014).pdf).
- Infrastructural, G.F., In, P. & Tertiary, P. (2014) REPUBLIC OF GHANA of the AUDITOR GENERAL on the GETFUND FUNDED INFRASTRUCTURAL PROJECTS IN PUBLIC TERTIARY INSTITUTIONS.
- Israel, G.D. (1992). Samplesize1. , (November), pp.1–5.

- Kometa, S.T., Olomolaiye, P.O. & Harris, F.C. (2008). Engineering, Construction and Architectural Management.
- Kothari, U. (2002). *Migration and Chronic Poverty*,
- Kulatunga, K. & Haigh, R., Researching “ Construction Client and Innovation ”: pilot study and analysis. , pp.484–495.
- Lewis, J.P. (2000). The Project Manager’s Desk Reference: A Comprehensive Guide to Project Planning, Scheduling, Evaluation and Systems p.185
- Nelson, I.D. & Asamoah, R.O. (2014). Participation of Real Estate Developers in Mortgage Financing : Push and Pull Factors in Ghana. *International Journal of Management Sciences*, 3(3), pp.126–139.
- Pryke, S. and Smyth, H. (2006). The Management of complex project: a relationship approach. (first ed.). Oxford: Balckwell Publishing Ltd.
- Osei, F. & Kwasi, O. (2013). Analyzing the Risk of Investment in the Construction Industry of. , 5(2), pp.121–130.
- Ofori, G. (2012a). Developing the Construction Industry in Ghana : the case for a central agency. , (March), pp.1–19.
- Ofori, G. (2012b). Developing the construction industry in Ghana: the case for a central agency. *National University of Singapore Omega*, 25(March), pp.415– 435.
- Phillips J. (2003), PMP Project Management Professional Study Guide. McGrawHill Professional, 2002 ISBN0-07223062-2 p354
- Shu Hui, W. et al. (2011). Engineering, Construction and Architectural Management. *Nurul Husna Haron International Journal of Public Sector Management Iss*, 16(4), pp.598–611. Available at: <http://dx.doi.org/10.1108/09699980911002593>.
- Singh, A. & Masuku, M. (2014). Sampling Techniques & Determination of Sample Size in Applied Statistics Research: an Overview. *Ijecm.Co.Uk*, II(11), pp.1 – 22. Available at: <http://ijecm.co.uk/wp-content/uploads/2014/11/21131.pdf>.
- Songwe, V., Fellow, N.S. & Initiative, A.G. (2013). Africa ’ S Capital Market Appetite : Challenges and Opportunities for. , pp.13–15.
- Tamakloe Y. A. (2011). Assessment of cost and time impacts of public sector Construction projects in Ghana. Kwame Nkrumah University of Science and Technology. 2(8), pp 23-27.

Twumasi-Ampofo, K., Osei-Tutu, E., Decardi-Nelson, I & Ofori, P. A., 2014. A A Model for Reactivating Abandoned Public Housing Project in Ghana. Civil and Environmental Research, 6(3), pp 6-16.

Wusuah, M.A. (2012). An assessment of project communication management on construction projects in Ghana

Xu, L., & Miao, Y. (2010). Based on the owner of the construction project management research. Paper presented at the International Conference on Future Information Technology and Management Engineering: IEEE
www.newsghana.com.gh/oxford-business-group-launches-2014-report-ghana/
<http://www.getfund.gov.gh/index.php/2013-05-09-10-10-00>

APPENDICES



Appendix A: Questionnaire

This questionnaire is set up to determine the level of involvement and performance of client's or client
Please indicate by ticking (✓) the option that best describes performance of client in the
following roles on the GETFund funded project(s) you are involved in based on your experience.

Level of client involvement and performance on construction projects.		Very poor	Poor	Average	Good	Very good
		1	2	3	4	5
1.	Clients presence when handing over projects to contractors					
2.	Clients presence when taking over completed projects					
3.	Client visiting construction project sites					
4.	Clients having representative(s) knowledgeable in the area of construction who interacts with consultants and contractors during the construction period?					
5.	Clients evaluating claims certified by consultants					
6.	Client contributing in the distribution of risk on the project					
7.	Client demand to be informed about challenges encounter on the project					
8.	client providing advice/suggestions aimed at optimizing the outcome of the project					
9.	Clients informing other stakeholder of the project and its implications					
10.	Coordinating, organizing and ensuring efficient dissemination of information to the right persons and the right time.					
11.	Ensuring appropriate distribution of risk on the project					
12.	Adopting or ensuring adequate health and safety measures on site					
13.	Ensuring appropriate documentations at all stages of the project					
14.	Ensuring prompt and adequate payment of certified claims					
15.	Adequate monitoring and evaluation of project.					
16.	Explain and ensuring clear understanding of project requirement and specifications.					
17.	Making prompt and clear decision as when needed					
18.	Monitoring to ensure client's agent are performing their roles appropriately.					
19.	Others (please specify)					

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