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**Studies on Exploring Critical Success Factors for Stakeholders Management in
Construction Projects in Ghana**

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(BSc Construction Technology and Management)**

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and Built Environment
In Partial Fulfilment of the Requirement for the Award 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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ABSTRACT

Construction projects are undertaken to achieve specific objectives and the success of it is measured by the realization of the set goals including stakeholder satisfaction. Several stakeholders are involved in construction projects and depending on the environment, complexity, and procurement method adopted; stakeholders are involved at different phases of the project undertaking different tasks and duties. These stakeholders with variable influence and power, play key roles in the success or failure of project. Hence, construction projects are normally influenced by success element which can help parties reach their envisioned goals with greater proficiency. The purpose of this study was to identify the various project stakeholders, examine the roles of project stakeholders, and also examine the impact of stakeholders on construction projects, and finally to determine critical success factors leading to construction project success in Ghana. Many critical success factors such as factors related to project manager's performance, factors related to organization, factors related to project, and factors related to external environment which become obvious from this study would be useful to ascertain which factors impact on the success of projects. Stakeholder Management is therefore indispensable if project goals are to be achieved. The research develops on the existing performance area outlined to advance a contingency-based model for evaluating construction projects in Ghana. This research also focused on the key elements and best methods that lead to the success of project in Ghana, the exploration of likely indicators for its evaluation and the identification of the critical success factors. In an attempt to fill this research gaps, a questionnaire survey was carry out in Ashanti Region - Ghana to gather the views of construction practitioners and clients concerning the relative significance of CSFs for stakeholder management. Findings from this report showed that all selected CSFs are regarded as critical by most respondents for the success of

stakeholder management in construction projects. The factor concerning Effective Program Time Management is considered most essential for managing stakeholders.

KEY WORDS: Project success criteria; project success factors; leading performance indicators; stakeholders; complexity critical success factors.

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LIST OF ABBREVIATIONS AND ACRONYMS

PSC	Project Success Criteria
PSF	Projects Success Factors
CSF	Critical Success Factors
GDP	Gross Domestic Product
SI	Stakeholder Involvement
HVAC	Heating, Ventilation, and Air Conditioning
SSNIT	Social Security and National Insurance Trust
SNA	Strategic Need Analysis
CSR	Corporate Social Responsibility
PMI	Project Management Institute
PMBOK	Project Management Body of Knowledge
PTM	Primary Team Members
KSP	Key Supporting Participants
NGO	Non-Governmental Organization
SPSS	Statistical Package for Social Sciences
HND	Higher National Diploma
PhD	Doctor of Philosophy
RII	Relative Importance Index

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DEDICATION

This project work is wholeheartedly dedicated to God Almighty and to my lovely wife, Mrs. Comfort Azasu Fummey and my family.

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

A Stakeholder is anyone who has an interest in the development or result of a project (Fewing, 2005). In a normal construction project management, any or all of the following may be a stakeholder: the client, the principal contractor, designers, subcontractors, people employed in any capacity in the project, local authorities, the end users of the product, professional bodies, local residents, local business owners, politicians, environment groups, and many more. Stakeholder management seems to be one of the major concerns in construction project management in Ghana. The prospect of project success is greatly reduced if stakeholders are ineffective in management. The communication and interrelationships among stakeholders mostly determine the total performance of a construction project, and have the critical responsibility for bringing a project to a successful completion.

Construction project involves processes of planning, scheduling, and controlling. Proper management of all these will lead to a successful completion of the project. But it seems major projects are not completed due to improper stakeholder management (Newcome, 2003; Smith and Love, 2004).

In order to run a successful project, it necessary to address the needs of the project stakeholders, effectively predicting how the project will affect them and how the can affect the project. The effective management of project stakeholders is considered an important key to project success (Olomolaiye & Chiniyo, 2010). Ineffective stakeholder management can result in dissatisfaction with the final project and negative impact on the projects' financial plan and schedule (Olomolaiye & Chiniyo, 2010).

An increasing number of studies have identified the importance of stakeholder management in construction projects (El-Gohary *et al.*, 2006). However, the construction industry has a poor record of stakeholder management during the past decades due to the complexity and uncertainty of projects (Loosemore 2006). Many problems of stakeholder management in construction projects suggested by earlier researchers include insufficient engagement of stakeholders, project managers having unclear objectives of the stakeholder management, difficulty to identify the “invisible” stakeholder, and poor communication with stakeholders (Pouloudi and Whitley 1997; Loosemore 2006; Bourne and Walker 2006; Rowlinson and Cheung 2008).

In order to resolve these problems, project parties need to know what the fundamentals are for managing stakeholders (Cleland and Ireland 2002). To identify the essentials of stakeholder management, ‘Critical Success Factors’ (CSFs) approach is used in this thesis. The concept of Critical Success Factors is usually credited to (Daniel, 1961) who introduced it in association with the management information crisis (Fortune & White, 2006). Rubin and Seeling (1967) first initiated the theory of project success factors in 1967 and Rockart (1982) used the expressions critical success factors (CSFs) for the first time (Toor, 2008): This approach was first advanced by Rockart (1979). CSFs can be defined as ‘areas, in which outcomes, if they are satisfactory, well guarantee successful competitive performance for the organization’ (Rockart 1979). Saraph *et al.* (1989) observed them as “those critical areas of managerial planning and action that must be practiced in order to achieve effectiveness”. Many scholars (e.g. Chan *et al.*, 2001); Jefferies *et al.*, 2002; Yu *et al.*, 2006) have used this technique as a means to improve the performance of the management process. In the field of stakeholder management, Cleland and Ireland (2002) consider it important that the project term should recognize

whether or not it is successfully “managing” the project stakeholders. In this write-up, CSFs are seen as those events and practices that should be addressed in order to ensure successful management of stakeholders in construction industry in Ghana.

1.2 Problem Statement

Traditionally, a construction project success is measured against its original scope, time of delivery, financial plan, and the quality or performance of deliverables. The term ‘Critical Success Factors’, refers to the specific conditions, events, and circumstances that contribute to project results” (Ika, 2009).

The construction industry is one of the largest job creating industry in developing countries like Ghana. Ahadzie (2009) acknowledged that construction contributes to the national socioeconomic development by providing extensive occupation prospects for non-skilled and trained levels. Beyond that, the industry provides the infrastructure and services required for other sectors of the economy to boom, such sectors include institutions of learning and training centers, housing for basic human requests, industrial unit and factories for commercial and business activities, hospitals for health care, and structures for the national communications network and so on. According to Ofori-Kuragu *et al.*, (2016) the Ghanaian construction industry is the pillar of the economy contributing about 8.5% to the overall Gross Domestic Product (GDP) and employing 2.3% of the active population.

Various stakeholders, individuals and groups are involved in the provision and delivery of construction projects and each has their own responsibility, requirement and objectives, this introduces a level of complexity to the concept of stakeholder’s involvement (SI) within the industry (Bal *et al.*, 2013).

This write-up assesses the views of contractors and project managers on the critical success factors that lead to project success in construction industry in Ghana, but based on the type of the project being embarked on and its precise requirements. To meet the divergent demands of different stakeholder groups, and in order to raise the efficiency and output of the decisions that are made during the construction project life cycle, project managers must develop comprehensive stakeholder involvement plans (Saghatforoush *et al.*, 2010).

Earlier research studies in the construction sector (Bal *et al.*, 2013; Bosher *et al.*, 2007; Olander and Landin, 2005a) point out that stakeholder involvement is vital in humanizing the efficiency of project results (Yang, 2010). The quality of a construction project is also mostly dependent on the right performance management of different stakeholders, particularly contractor and consultants (Low Sui and Ke-Wei, 1996). This means that, if major parties of a construct are not committed to properly carrying out their duties, it is likely to badly affect the final project quality level. In Ghana, there are no known accurate studies on the causes of failure and success of project in Ghana (Ayee 2000), at least before 2000 and a further search of the literature suggests that there have been none since that time.

The Potential problems associated with a construction projects success is greatly reduced if stakeholders are unproductively manage. These include insufficient engagement of stakeholders, project managers having unclear objectives of stakeholder management, difficulty to identify the “invisible” stakeholder, and poor communication with stakeholders (Pouloudi and Whitley, 1997; Loosemore, 2006; Bourne and walker, 2006; Rowlinson and Cheug, 2008). The problems associated with an ineffective management

are regulatory changes that affect the project or a negative reaction from the community against the project. These challenges affect the financial plan schedules. Therefore, in identifying the fundamentals of stakeholder management, Critical Success Factors (CSFs) approach was used for the study.

1.3 Aims and Objectives

The study was to explore critical success factors for stakeholder management in construction project in Ghana that reflect the viewpoints of the client and practitioners.

In order to achieve the main aim of this research, the following objectives were set:

1. To identify the various project stakeholders;
2. To examine the roles of project stakeholders in construction industry;
3. To examine the impact of stakeholders on construction project; and
4. To determine the critical success factors of stakeholder management in project delivery in Ghanaian construction industry.

1.5 Research Questions

1. Who are the stakeholders in the construction industry?
2. What are the roles, of project a stakeholder in Construction Industry in Ghana?
3. What are the various impacts a stakeholder may have on a Construction Project?
4. What are the critical success factors of stakeholder management in project delivery in Ghanaian construction industry?

1.6 Significance of the Study

For project involving complex client, large terms and many other stakeholders, there is a dire need for effective coordination and general management of the different risks, which

requires active client management. This role of the client is underperformed (Latham, 1994; Egan, 1998, 2002; Boyd and Chinio, 2006). Stakeholder management improves greater ability in relation to issues and reduces risk within. To achieve a successful project result, the project manager must be capable of managing the interests of various participants during the whole project management process (Sutterfield *et al.*, 2006). These results could additionally be used as an assessment instrument to assess the performance of stakeholder management and hence they aid to identify areas for improvement. Though doctrines can be accepted within boundaries, construction has its distinctiveness, therefore the requisite to improve principles of construction stakeholder management based on practical exploration.

1.7 Research Methodology

The study employed a quantitative methodological approach based on deductive reasoning and was accomplished in three stages. The first segment saw the review of relevant literature on the subject of critical success factors for stakeholder management in construction projects in Ghana. In the second phase, a structured questionnaire with multiple choice and scaled questions were prepared to obtain data from the stakeholders under consideration. However, the final point of the study elaborated the analysis of the data collected using descriptive and inferential statistical methods.

1.8 Scope of Study

According to Ahadzie (2010), construction firms in Ghana are more predominant in Accra and Kumasi metropolis; however, this study focused on Ashanti Region of Ghana. This geographical location was chosen due to proximity to data and the fact that large numbers of contractors are located in the region. The study was limited to D1K1 and

D2K2 contractors together with categories E and G being usually engaged as sub-contractors to these main contractors for general building works. Categories E and G contractors act as main contractors when the work is of specialized in nature. The research focused on six major target parties: the government, architect or designer, private clients, consultants, contractors and project manager. The different groups were targeted because they occupy different positions in the construction value chain and their perspectives were valued in this study. Eight (8) major groups and sixty-six (66) likely critical factors for managing the stakeholders' needs and expectations were identified for the respondents to determine their level of importance.

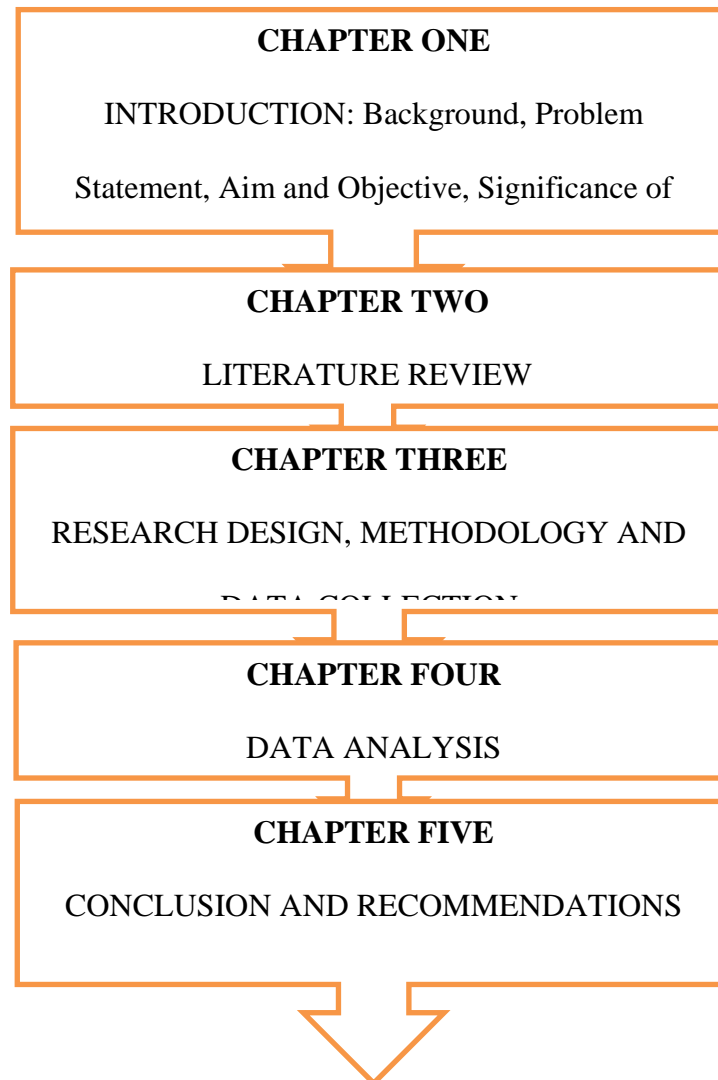
1.9 Limitations

Inability of the researcher to sample organizations across Ghana was considered one of the major study's limitations, an example of a geographical limitation. Hence, limited number of construction sites were considered in the survey, focusing only on the managerial viewpoint and not considering the other stakeholders' views. Also, the sample used for the survey was limited in size because the study consisted of managers working in Ashanti Region construction firms only.

1.10 Outline of the Study

The report was structured into five chapters. The first chapter dealt with the introduction which encompasses the background to the study, problem statement, objectives of the study, research questions, significance of the study, research methodology and the scope of the study; and chapter two considered the review of literature relating to the study. Chapter three then examined the details of the research methodology; chapter four

focused on the analysis and discussion of the data collected; and finally, chapter five tackled the summary of findings, conclusion and recommendations.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Construction projects are multidimensional events which are restricted by period, budget, resource and performance specifications designed to meet client needs. Over the years, many practitioners and scholars had made several determinations to fathom the grounds of project failure or success but all proved challenging. Hence the industry has poor records of stakeholder management due to complication or uncertainty of projects (Loosemor, 2006).

This chapter therefore probed into issues regarding stakeholders, dynamics of critical success factors for stakeholder management in construction projects. It further revised pertinent literature on issues of the roles, and impact of project stakeholders in construction industry.

2.2 Definitions of a Stakeholder

Fewings (2005) opines that a stakeholder is anyone who has an interest in the process or outcome of a project. The stakeholders define attributes of the suggested project, most challenges comes from the requirements that the project stakeholders and project surroundings place on the project. The definition led to the obligation of which kinds of stakeholders are going to be part of the project. There are a lot of different opinions regarding the definition of a stakeholder. The decision about how to define stakeholders is important as it affects who and what counts (Mitchell *et al.*, 1997).

Eden and Ackerman (1998:177) define stakeholders as 'People or small groups with the authority to respond to, negotiate with, can change the future planned of the organization'. Turner (1999) and Moodley (1999) also define stakeholders as individuals or groups that have, or believe they have legitimate rights against the practical aspect of a project. These can include the teams, relatives, individuals who acquire the product or are affected by the finish product of the local community at large. They recognize a relation between project success the ability to forge a productive union between persons affected by the end product. Again, Smith *et al.*, (2001) add to the meaning of stakeholders as representatives, direct and indirect, who may have an interest and can make an input to the planned project. However, Winch (2002) suggests a more inclusive explanation of stakeholders as those players who will incur a direct benefit or loss as a result of the project. He thinks that two categories of stakeholders exist in the construction industry – internal and external stakeholders.

2.3 Identifying Stakeholders

Scholars who study stakeholder management (Karlsen. 2002; Olander, 2006; Walker *et al.*, 2008; Jepsen and Eskkrrod, 2008) have pointed out the import of distinguishing stakeholders. The project stakeholders can be divided into different types according to various criteria (Pinto 1998). In the construction industry, during the different stages of a project from the formation through to the final operation, specific parties get involved whose expectations can affect the outcome or may be affected by both undesirable or positive events when the project is carry out (Olander, 2007). The groups include the following:

- Client
- Project Management Team

- Consultant and Designing Team
- Contractor
- Sub-contractor
- Supplier
- Employees
- Local Communities
- Funding Bodies
- Government Authorities

These parties as indicated by various scholars (Olander and Landin, 2005; Newcombe, 2003; Atkin and Skitmore, 2008; Yang, 2010) are key stakeholders of construction projects. Atkin and Skitmore (2008) suggest that successful execution and achievement of the project mostly depend on addressing the desires and anticipations of those who are involved and failure to correctly address their requests can result in a lot of project failure issues. This notion was re-echoed by Johnson and Scholes (1999) who argue that it is not sufficient just to identify stakeholders, instead, managers and owners need to value each stakeholder's interest in order to communicate their expectations on project resolutions. Lander (2007) also advocates that it is the fundamental duty of project leaders to respond to the desires and requirements raised by their stakeholders and to be able to carry out, manage and control the project policy procedure. These subjects stress the demand for having a logical approach in recognizing main project stakeholders, looking at their requests and evaluating the effect and possible threats that they can have on the project.

2.3.1 Client

The customer could be private or public. The main difference between a private construction project and a public project is that the client and the recipient are the same in a private construction project but in the construction of housing projects, the main initiator is the government and the benefit accrues to the community affected (Siriwarden *et al.*, 2010).

2.3.2 Project Management Team

They are responsible for developing project plans, focus on variations to production procedures, high-tech task, team roles and responsibilities, administrative organizations and the effects of these changes on resources. Project management team control and report events.

2.3.3 Consultant and Designing Team

They provide consultancy advice for the project on planning, estimating the project cost, technical issues/advice (Siriwardena *et al.*, 2010).

2.3.4 Contractor

He/she engages in the actual construction according to the plans, specifications, contract documents communicated by the applicable parties (Siriwardena *et al.*, 2010).

2.3.5 Subcontractor

He/she works for the main contractor and performs small, straightforward and discrete roles such as HVAC (heating, ventilation and air conditioning), electricity, plumbing, painting, ceiling contracting, wallpapering, and floor tiling.

2.3.6 Supplier

The supplier supplies materials and equipment such as concrete, windows, furnishing and modules or elements.

2.3.7 Employees

Voluntarily participate in moving rubbles, provision of labour at the construction phase of housing (Siriwardena *et al.*, 2010).

2.3.8 Local Communities

They are the most vital stakeholders. Since they are the beneficiaries, their engagement should be to communicate their needs or requirements of the relevant parties involved in executing the construction of housing projects. Designing the house and supplying labour (trained/untrained) at the stage of construction (Siriwardena *et al.*, 2010).

2.3.9 Funding Bodies

They act as the third party of the funding body and the government. They are aided in constructing thousands of provisional accommodations and permanent homes (Siriwardena *et al.*, 2010).

2.3.10 Government Authorities

The government takes the lead in terms of putting together and sustaining relations, rules and monitoring the adherence to these. Setting the standards relating to the delivery of housing reconstruction projects (Harris, 2010).

2.4 Construction Industry in Ghana

From the perspective of Ghanaian economy, four main clients are distinguished: the Government (being the major client), Real Estate Developers, Investors and Owner Occupiers. The Government as a client is represented by the Ministry of Road and Transport (for road works) and the Ministry of Water and Resources, Works and Housing in giving out projects. The Real Estate Developers are also the other group of clients who undertake large investment in building. Usually, they take loans and undertake speculative buildings for sale. Investors are usually financial companies who decide to invest additional capital in building construction. The Social Security and National Insurance Trust (SSNIT) is one of the leading investors in housing in Ghana. Owner Occupiers are individuals who decide to build their houses to live in. The figure 2.1 below shows the relationship between project and the four main clients, namely: the Government, the Real Estate Developers, Investors and Owner Occupiers.



Figure 2.1: Client's Perspective of Project Performance (Based on Mbachu, 2003)

Source: field survey, 2016.

Between the year 2000 and 2008, the government of Ghana recognized construction as a key sector for foreign and private venture as part of its vision to encourage the private sector as the engine of growth. The industry is therefore considered as the financial backbone and major contributor to the Gross Domestic Product (GDP) of Ghana. For instance, its contribution to GDP has shown it growing movement from 8.3% to 11.8% from 2010 to 2013 respectively, an indication of its growing importance in the development of the nation. Fugar and Agyakwa-Baah (2010) have also indicated that the construction industry is an important sector of every developing economy. In Ghana, the industry has been adjudged one of the main determinants of a country's Gross Domestic Product (GDP), as it adds an average of 8.9% to its GDP (Ghana Statistical Service, 2010). In addition, the industry plays a critical role in the expansion of local and rural communities and affords job to a larger segment of the masses (Amoah *et al.*, 2011).

According to the World Bank in 2003 as provided by Anvuur and Kumaraswamy (2006), an estimated yearly cost of public procurement for goods, works and consultant amenities total US\$600 million. This represents about 10% of the country's GDP. This sum forms portion of the bulk of the outflow of all government agencies, namely, the ministries, assemblies, departments, institutions and other agencies. Given the chronological background of Ghana's economy coupled with challenges of limited financial resources as in other countries, majority of projects are funded through "internal and external borrowing, grants from bilateral and multi-lateral sources and public private partnerships" (MOFEP, 2010 p.5). The construction industry in Ghana is growing rapidly, with majority of construction projects being infrastructure development (Mustapha, 2013). In 2008, 9.73% of the country's Gross Domestic Product (GDP) was invested in the construction industry (Ren, Kwaw and Yang, 2012), from foreign and local investors in both private and public sectors.

2.5 Types of Stakeholders

Project stakeholders are divided into different categories according to various criteria and can be grouped and managed once such stakeholders are identified is clear (Calvert, 1995; Winch and Bonke, 2002). Hence, the stakeholders in a project can be divided into:

- Internal Stakeholders to the organization - they are the team members of the project or those who provide the finance for the project. Internal stakeholders are people who have legal contract with the client and those assembled around the client on the demand side (employees, customers, end-users and financiers) and on the supply side (architect, engineers, contractors, trade contractors and material suppliers).

- External Stakeholders - they are the people affected by the project in some significant way. The external stakeholders included private and public actors. The private actors are from the local residents, landowners, environmentalists and archaeologists while the public actors are from supervisory agencies, local and national governments.

2.6 Stakeholder Classification

2.6.1 Direct Stakeholders

Direct stakeholders are individuals closely linked or include in the project. These involve the client, members of the project team, project sponsor, technical and financial service providers, internal or external consultants, project manager, material and equipment suppliers, site personnel, contractors and subcontractors as well as end users (Lester, 2007). They are also seen as internal stakeholders.

2.6.2 Indirect Stakeholders

Indirect stakeholders are persons who are not closely related with the project, such as; internal managers of the company and supplementary workforce not directly involved in the project, national and local government, technical institutions, public utilities, professional bodies, and personal interest groups such as stockholders, licensing and inspecting organisations, labour unions and pressure groups (Lester,2007). They are also known as external stakeholders.

2.6.3 Positive Stakeholders

Positive stakeholders are group of people possible to have a positive effect on a project. These individuals or organizations tend to be direct stakeholders and stand to benefit

from the project's success. Examples are the organisations that involved in the work itself and stand to gain financially.

2.6.4 Negative Stakeholders

Negative stakeholders are persons who are likely to have a negative impact on a project. They tend to be people or organisations not directly involved in a project, but who are still affected by it in some way. An example would be local residents with concerns about loss of public areas to new projects.

2.7 Stakeholders in Construction Industry

The stakeholder concept was firstly established from academic research embark on in the US in the 1960s that defined stakeholders as those groups having a great impact on an organization to cause it to stop existing without their (the stakeholders) support (Li *et al.*, 2013; Stoney and Winstanley, 2001). Later, Freeman (1984:52) extends this explanation by describing a stakeholder in an organization as “Any group or individual who can affect or is affected by the achievement of the organization's objectives”. Construction stakeholders can be categorized as primary and secondary stakeholders. Primary stakeholders include client, consultant and project manager (PM). They are considered as directly linked to the project, while secondary stakeholders include investors, suppliers, employees, sub-contractors, third party, banks, governmental authorities, pressure groups, trade associations and communities. They are those who have indirect link to the project.

Primary stakeholders interact on day-to-day basis over major events, therefore allowing them to exert direct influence on the policy making procedure. Additionally, secondary

stakeholder's relationship with the project is depending on the stages of the project. Construction primary stakeholders enforce direct effect while secondary stakeholders exert indirect impact on the project. The checklist of stakeholders in a construction project is often large and would include the owners and users of facilities, project managers, facilities managers, designers, shareholders, legal authorities, employees, sub-contractors, suppliers, process, suppliers, process and service providers, contestants, banks, insurance companies, media, community representatives, neighbours, the general public, government establishments, visitors, customers, regional development agencies, the natural environment, the press, pressure groups, civic institutions etc. (Newcombe, 2003; Smith and Love, 2004).

2.8 Construction Stakeholder Management

Stakeholder management is a segment of project management that requires good communication and relationship linkages. The possibilities of influencing project success and value creation are perceived as the best during the early stages of the project. Early decisions reduce needless variations during later development phases and even the total costs of the life-cycle. However, influencing demands that the project management identify and involve the project's main stakeholders immediately at the commencement of the project.

The organizations in the construction sector operate these days in a globalized market with large project teams and joint projects with intercontinental companies in which they exhibit cultural differences, professional ethics and different concepts about how to do business. To conduct a successful project, it is necessary to address the requests of the projects' stakeholder, effectively predicting how the project affects them and how they

affect the project. The effective management of project stakeholders is considered as very vital to project success (Olomolaiye and Chiniyo, 2010). Nevertheless, ineffective stakeholder management as enlightened by Olomolaiye and Chiniyo (2010) results in displeasure with the end product and undesirable effects on the projects' schedule and budget. However, to accomplish a more successful project desired outcome, the project executive must be competent in the management of the different stakeholders throughout the whole development of the project. Regular interaction with various stakeholders would inform their management of different element of danger. According to Love *et al.* (1999) there are many features that contribute to the success of a project, and these are influenced by the kind of decisions made by various personalities, entities and groups. Figure 2.2 showed that project managers have to deal with people externally to the organization as well as the internal environment, indeed more complex than what a manager in an internal environment faces. For instance, suppliers who are not on time in supplying important quantities of materials could delay the project programme. Normally, when project managers have little or no direct control over any of these persons, it compounds the problem. Problems with any of these members can disorganize the project.

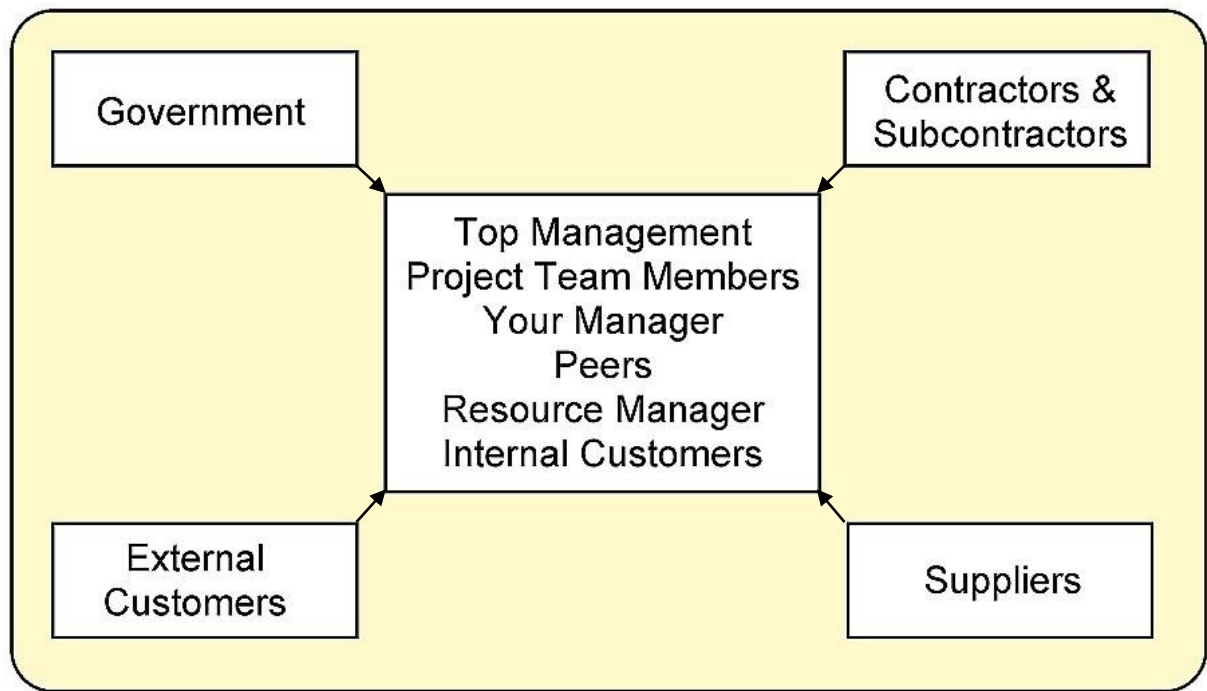


Figure 2.2: Project Stakeholders: Illustrations from Barron and Barron

Management for Scientist and Engineers.

Source: <http://cnx.org/content/col11120/1.4/>

2.9 Effective Stakeholder Management

Given the growing number of stakeholders and their numerous unpredictable expectations, it would be seen that there is a theory consensus collected by Olomolaiye and Chiniyo (2010) affirming that “When the different expectations of stakeholders cannot be achieved at the same time, negotiations become valuable”. As risks are not fixed but dynamic, there is the need to manage the persistently shifting balance between the interests of stakeholders. The stakeholder management should include the management of their relation with the project and the organization in order to support their objectives. In this regard, there should be a creation of a positive environment to develop a firm trust in one another. To be able to manage the expectations, stakeholders

and the business needs, the organizations could opt from three approaches or three types of relation with the stakeholders (Goodpaster, 1991):

- **Strategic Approach** – this approach gives more priority to the shareholders over the stakeholders or management.
- **Multi - Fiduciary Approach** – this undertakes a fiduciary responsibility to stakeholders, it allocates them equal stakes with shareholders.
- **Stakeholder Synthesis Approach** – this method adopts a moral but non-obligatory responsibility to stakeholders, e.g. dealing with them ethically.

2.10 Stakeholder Management Processes in Construction

The pre-design stage of construction projects is seen to be the main point of construction project development. In line with this opinion, Love *et al.*, (1999) emphasize that decisions made during the formative and initial design stages in the life of a project is critical factors that must be taken into account if a project is to be delivered on time, and to budget to the expected quality. It is during these early stages that most of the critical decisions that affect the budget, productivity, scheduling, practical content, appearance and the actual value of the project are finalized and modernized. Indeed, many academics (Atkinson *et al.*, 1997; Wateridge, 1998) have agreed that successful construction project performance is realized when stakeholders meet their requirements collectively or individually. Additionally, Jergeas *et al.*, (2000) propose a model of stakeholder management for construction projects. To them, improving stakeholder management, communication, common objectives and project's main concern is to be thoroughly planned earlier before getting on the project. In developing a more formalized process, do away with assumptions arising from the fact that the projects are very similar to one another. However, the limitation of this model is that the sample is too small and the

results obtained might not be statistically valid. But it provides some guiding principle for important elements in managing construction stakeholder's project.

Again, Young (2006) puts forward similar process model involving on identifying stakeholders, putting facts about stakeholders and examining the effect of stakeholders. But from Bourne and Walker's (2006) point of view, the process could be managed in the following three steps: identifying stakeholders, prioritizing stakeholders and developing a stakeholder engagement strategy. Walker *et al.*, (2008) consider identifying stakeholders, prioritizing stakeholders, and visualizing stakeholders, engaging stakeholders and observing efficiency of communication as the basic steps for stakeholders' management. Jepsen and Eskerod (2009) also spell out the premises underlying project stakeholder management which includes managing stakeholders with responsibilities, outlining and expressing a clear statement of project missions, formulating the right approaches to manage stakeholders, build trust between project top management and the most engaged stakeholders in the project, exploring stakeholders' needs and constraints in projects, ensuring effective interaction for all project stakeholders, identifying stakeholders, promoting good relationship with stakeholders, understanding the areas of stakeholders' interests and prioritize stakeholders by their power and influence on the project.

2.11 Managing Stakeholders' Needs and Expectations

In order to incorporate the needs of stakeholders into the formative stage of a project, it is important to allow the stakeholders to express their desires, opinions and expectations in an appropriate environment. In relation to this approach, Smith *et al.*, (2001) suggest a model called Strategic Need Analysis (SNA) to help clients, participants and their design

teams in determining their strategic needs for a given project. The SNA method is centered on the involvement of various important stakeholders. The group consist of client, managers/executives, facility managers, project managers, employees, end-users, consultants and other design team members.

The structure of the SNA process is established on the involvement of stakeholders at three levels which consists of briefing, seminars and workshops. Level 1 is the briefing stage, where briefing is conducted in the form of seminars and workshops. At level 2, members are involved in developing alternative strategies for the achievement of corporate operations, while in level 3, members develop a comprehensive presentation brief for the project implementation. The result of SNA is to develop a comprehensive performance brief to guide project team members to progress the project within acceptable parameters.

According to Freeman *et al.*, (2007), exploring stakeholders' needs and expectations in projects is to anatomize stakeholders' areas of interests and list the detailed issues concerned about stakeholders. During the project development, all stakeholders' needs ought to be assessed so that a suitable and practical solution to the problem is addressed. Homoplastically, Kocak (2003) explains that stakeholders' needs can provide an indication of the stakeholder groups' disquiets the difficulties the project team faces and stakeholders' requirements of the project.

2.12 Impact of Stakeholders on Projects

Other potential difficulties associated to unproductive management are poor scope of description of work, problems coming from allocated sources to the project, supervisory

modifications that affect the project or undesirable reactions from the community against the project. All these problems put together with lack of participation of the stakeholders in the project affect the financial plan and schedules.

The stakeholder management is closely associated to Corporate Social Responsibility (CSR) which could also be understood as a voluntary social environmental concern in the business transactions and interactions with the stakeholders (Enquist, 2006). The organizations assume that they have a social duty that goes much further than their responsibilities with the shareholders (Dohy Guay, 2006). Olander (2007) also makes impact/probability matrix where the project stakeholders are classified depending on their level of impact and probability of impact on the project in figure 2.3 below.

This was used to analyze the following questions:

- How interested (probability to impact) is each stakeholder group in expressing their interest, expectations or contributions to the project?
- Do they have sufficient influence (level of impact) to do so?

The matrix indicates the types of relationship that project management might usually establish with stakeholders in the different quadrants.



Figure 2.3: The stakeholder impact/probability matrix (Olander, 2007)

2.12.1 Keep Satisfied

Stakeholders are often national governments, authorities or other similar organizations that have requirements and even the authority to discontinue the project, but then do not usually have a particular interest in it.

2.12.2 Key Players

They are usually individuals with responsibility for the project.

2.12.3 Minimal Effort

The project management does not regard them as prominent or important; but this does not mean ignoring the stakeholders. However, these stakeholders can try to advance salience through other stakeholders if they have some desires of the project.

2.12.4 Keep Informed

Stakeholders comprise of different interest groups such as local residents, non-governmental organizations or organizations with little effect.

2.13 Stakeholder Salience and Position

Stakeholder salience is the degree to which managers give importance to challenging stakeholder privileges. In further words, the model recognizes the stakeholders which managers must pay attention to. It is divided into three features – power, legitimacy and urgency. Salience depends normally on the amount of characteristics that a stakeholder owns. Salience can vary during a project, which means that some stakeholders may try to shape their salience attributes in order to make their voices heard.

2.13.1 Stakeholders' Power

Power is the likelihood that one stakeholder within a social relationship would be in a position to carry out his/her own will in spite of resistance. In other words some stakeholders can get a different stakeholder to do something that would not otherwise have done. The power of stakeholders may arise from their capacity to organize social and political powers or to pull out funds from the project.

Power is the stakeholders' ability to influence the project and the parties involved, whether financially, legally or by some other form of pressure (Olomolaiye and Chiniyo, 2010). Though they generally do not initiate action, government agencies and courts have a special kind of formal power. The level of power depends on knowledge and expertise of a stakeholder relating to aspects of the project, the legal/contractual authority spent on a stakeholder and status of a stakeholder in terms of ownership. The power of stakeholders could be high or low based on their involvement in the project and what they are expected to contribute.

2.13.2 Stakeholders' Legitimacy

Legitimacy is a view or a notion that the actions of an entity are desirable, appropriate or suitable within a socially created system of standards, principles, beliefs and descriptions. Project managers are usually more willing to pay attention to stakeholders whose privileges they see as legitimate. Legitimacy can be held by persons, organizations and the society as a whole. However, it should be noted that although a stakeholder has a legitimate claim, if he/she does not have the power to enforce it, it will not be relevant in the eyes of the project manager. For instance, contractual relationships with the project strengthening the power of the stakeholder; therefore, external stakeholders who does not have a contractual relationship can be ignored.

2.13.3 Stakeholders' Urgency

Stakeholders' Urgency is the level to which a stakeholder entitlements call for close consideration. It is established on two structures – time sensitivity and criticality. Time sensitivity is the degree to which a management delay in responding to a claim or relationship which is unacceptable to the stakeholder. Also, criticality signifies the relevance of the claim to the stakeholder. Urgency can be understood as a concern of the stakeholder. In the construction industry, the likelihood of undesirable results of the project objective and execution increase the urgency of the claim. Even though urgency is not as compelling attribute as power and legitimacy are, its magnitude is not diminished. It finds out both the dynamics of stakeholder salience and the interactions between stakeholders.

Stakeholders are therefore divided into eight classes depending on the attributes of power, legitimacy and urgency.

1. If the stakeholder does not possess any of the three attributes, they cannot be counted as a project stakeholder.
2. Demanding stakeholders have an urgent claim, but have no power or legitimate relationship. They can be annoying but not dangerous, so, management can disregard them.
3. Discretionary stakeholders possess the quality of legitimacy but do not have power or urgent entitlements. Although there is no pressure on managers to engage in an active relationship with such stakeholders, they can choose to do so.
4. Dormant stakeholders possess the power to impose their will but do not have any legitimate relationship or urgent claim, and thus their power remains unused.
5. Dependent stakeholders possess urgent and legitimate claims, but no power. These stakeholders depend on others for the power to carry out their will.

6. Dominant stakeholders are both powerful and legitimate. Their influence is assured, and it is clear that the expectations of any dominant stakeholders will matter.
7. Dangerous stakeholders are not legitimate but possess power and urgency. They can be coercive and possibly violent, hence, they can be ‘dangerous’.
8. Definitive stakeholders possess all the features. They will already be members of an organization’s dominant coalition. When their claims are urgent, managers have a clear and immediate mandate to consider and give priority to that claim.

2.14 Stakeholders’ Interests

There are several stakeholders’ interests due to the complex nature of construction projects (Cleland, 1999). Similarly, Freeman *et al.*, (2007) believe that identifying stakeholders’ interests is a main task to evaluate stakeholders, and the listed stakeholders’ interests including product safety, reliability of fiscal reporting new product services, and financial proceeds. Also, Karlsen (2002) also presents one possible concern to evaluate stakeholders – his/her area of interest in the project.

Stakeholder interest in a project is considered by many academics to be an element affecting the successful outcome of a project. Several researchers even show the ‘interest’ term in their stakeholder’s definitions of McElroy and Mill (2000); PMI (2008) and Bourne (2005). Additionally, the concern of stakeholders in a project is encompassed in the power/interest matrix that Johnson *et al.*, (2005) put together that matrix, help project managers ascertain which approach should be applied in communiqué and management of project stakeholders as shown in figure 2.4 below.

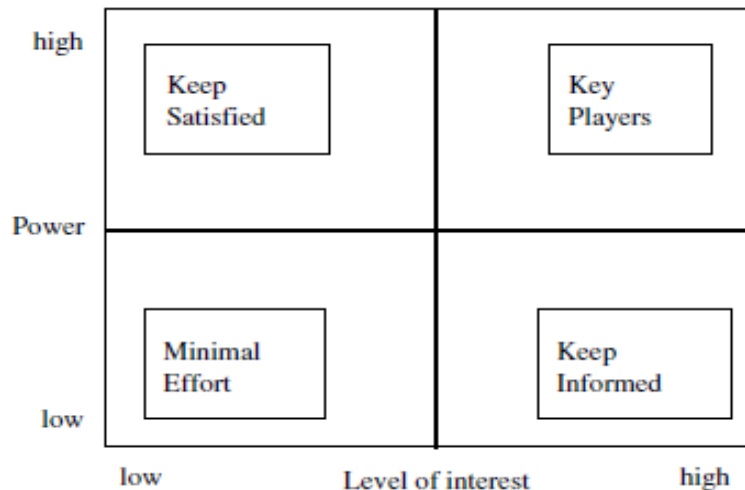


Figure 2.4: Power/Interest Matrix

Source: Johnson Et Al., 2005

2.15 Stakeholders' Attitude

The ability and readiness of stakeholders to threaten or collaborate with project teams should be measured during stakeholder management process (Savage *et al.*, 1991). Because participants may have negative or positive impact on projects, there is the need to find out opponent and supporters. Stakeholder attitude refers to whether the stakeholder aid or oppose the project (McElroy and Mills, 2000). In other words, this aspect gives a 'clue' for managers to be alert that stakeholders have positive or negative impacts on project outcomes.

Freeman *et al.*, (2007) also state that stakeholders' viewpoint can be arranged into three groups – perceived behaviour, supportive potential and competitive threat, a project manager needs to openly comprehend the range of stakeholder responses and behaviours. According to McElroy and Mills (2000), participant attitude consist of five levels – energetic opposition, inactive opposition, no assurance, passive support and active support.

2.16 Stakeholders' Influence

According to Olander (2007) project management process is influenced by project stakeholders. He developed “stakeholder impact index”, and considered that investigative of the potential impact of stakeholders determine the nature and impact of stakeholders' influence, the likelihood of stakeholders using their influence and each stakeholder's position in relation to the project. Therefore recognizing the stakeholders' influence as an important factor to “plan and execute a sufficiently rigorous stakeholder management process” (Olander and Landin, 2005).

2.17 Stakeholders' Knowledge

Yang *et al.*, (2007) argue that due to technological expansion, participants can look for a collection of information from several sources. Indeed, the more intelligence the stakeholder is on the project, the more he/she is capable to impact on the project.

Again, Walker *et al.*, (2008) point out the significance of interest and knowledge each stakeholder has to gain about the project. McElroy and Mills (2000) also suggest that stakeholders' knowledge ranges from full awareness to complete oblivious. The former refers to the intention of stakeholders to gain knowledge of the project by finding the facts to assist them attain their individual objectives. The latter, on the other hand, refers to the fact that stakeholders have knowledge of the project by rumor and assumptions rather than facts. The stakeholders' awareness is considered a driving force and can have influence on the jobs positively or otherwise.

2.18 Stakeholders' Involvement

To intensify success and productivity of decisions that are made during construction project lifecycle, project executives must develop comprehensive stakeholder

participation plans (Saghatforoush *et al.*, 2010). Earlier research in the construction sector by many academics (Bal *et al.*, 2013; Bosher *et al.*, 2007; Olander and Landin, 2005a) underscore the fact that stakeholder participation is necessary in improving the effectiveness of project outcomes (Yang, 2010). The quality of a construction project is mainly dependent on the applicable performance management of various stakeholders. As noted by PMI (2013), in order to attain project success, a project manager has to facilitate the input of stakeholders in various project stages.

In addition, as indicated by Atkin and Skitmore (2008), improved stakeholder participation can assist in managing their requests, reducing unexpected risk and decreasing unnecessary activities or responses that have potential to impact on the project success. This can be related to the re-construction of Kumasi Kejetia Lorry Station by Government of Ghana in partnership with Government of Brazil which was met with strong opposition from the stakeholders. Therefore, to achieve project success, stakeholder participation is very imperative in enhancing the efficiency of project results. This helps to avoid actions or reactions that can possibly delay the project.

2.19 Predicting Stakeholders' Reactions

This is an important factor to consider by project managers. Contemporary projects are implemented in highly demanding and complex built environments. They are executed by coalitions of multiple stakeholders that have divergent interests, objectives and socio-cultural backgrounds.

Bourne (2006) defines project stakeholder as an “individual or a group who has an interest or some aspect of rights or ownership in the project, and can contribute in the form of knowledge, support, can impact on or be impacted on by the project”. Moreover,

projects always interrelate with their location and environment which may necessitate the consideration of special features (e.g. specific rules, norms or stakeholders). So, “stakeholders’ reactions to the strategies” is an important factor when project managers make decisions about strategies to deal with stakeholders (Freeman *et al.*, 2007). Also, Dias (1999) has paid attention to stakeholders’ response by applying unclear set method; he underscored his studies on the feasibility and acceptability of strategies for stakeholders. Therefore, a project team should proceed to predict stakeholder behaviour in implementing strategy (Cleland and Ireland, 2002).

2.20 Evaluating Stakeholders’ Satisfaction

According to comprehensive statement by Project Management Body of Knowledge (PMBOK) guide published by the Project Management Institute (PMI, 2013), project success criteria consist of the golden triangle (time, cost and quality) and key project stakeholders’ satisfaction and their incorporation to the project. Some studies have extended project success criteria into new aspects such as stakeholders’ participation and satisfaction, customers’ benefit and upcoming prospective to organization (Shenhar *et al.*, 2001). The key point is that both of these success components must meet stakeholders’ satisfaction where there is a link between their interest and these components (Baccarini, 1999). More importantly, it has been emphasized that if the projects’ stakeholders are not satisfied with the quality of the ongoing project management or project outcomes, the project team will as a result be required to adjust scope, time and cost in order to meet the stakeholders’ expectations on quality issues.

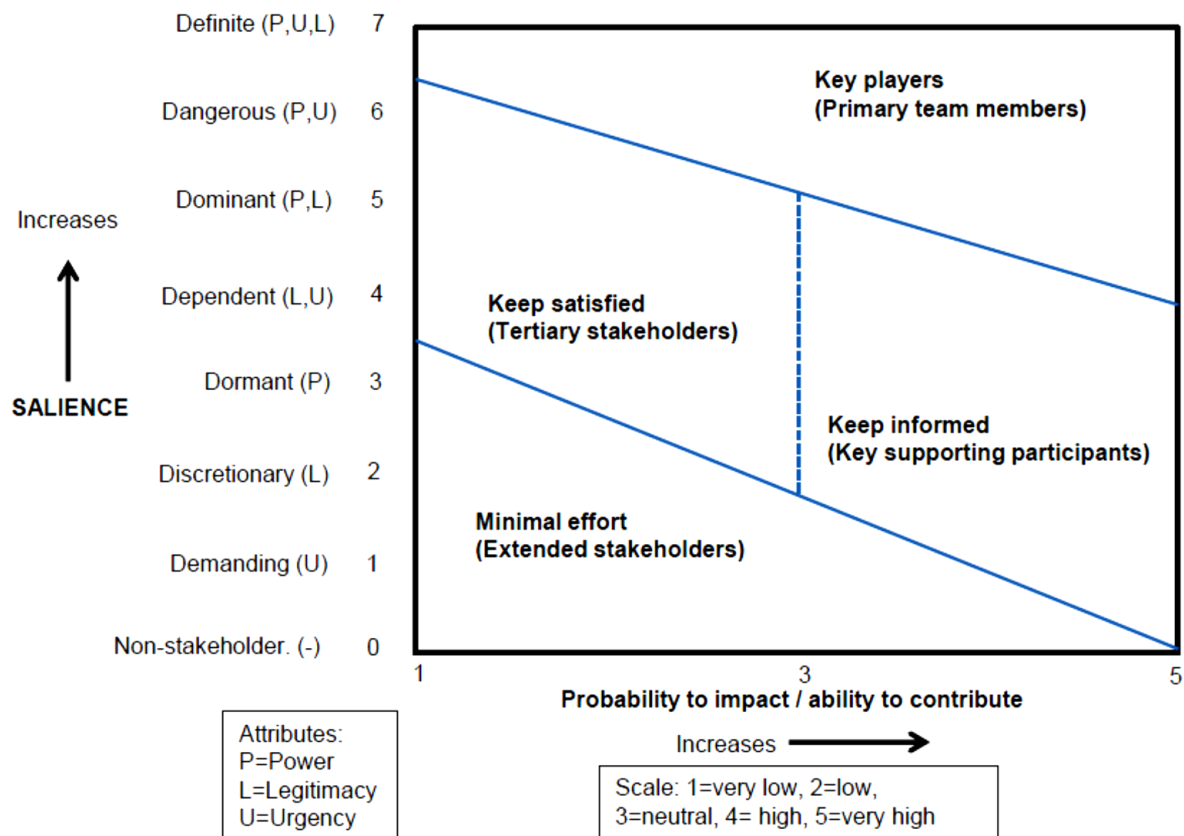
2.21 Ensuring Effective Stakeholders' Communications

Communication plays an important role in leading, integrating people and taking decisions to make a project a success. There must be common project vision where the project manager identifies the interests of all relevant stakeholders and ensures that there is buy-in to the project (Yang, Shen and Ho, 2009:166).

According to Zwikael (2009:385), once the project objectives are set and the scope clarified, there must be constant update as the project progresses. Progress on activities assigned to individuals or groups needs to be monitored with a view of achieving overall goals. These updates must be communicated to the relevant parties. Newton (2005:38) believes that a detailed communication plan is necessary for the effective dissemination of information. To this end, frequent project meetings are necessary.

2.22 Stakeholders' Assessment

The assessment can be done using the matrix shown in figure 2.5 below, this is an adaptation of the impact/probability matrix modified by Olander (2007). In this matrix, the level of impact is changed to salience (Y-axis) because the more salient the stakeholder is, the higher the level of impact. Therefore, these two concepts can be considered parallel. The 'Y' axis describes the stakeholder groups in order of importance while the 'X' axis describes stakeholder's probability to impact/ability to contribute to the project.



**Figure 2.5: Stakeholder Assessment Matrix - The impact/probability matrix
modified by Olander (2007)**

Examining Olander's matrix, the order of stakeholder positions is changed to improve the reflection of stakeholder salience. The stakeholder cannot be a 'key player' if he/she does not possess at least two attributes. Due to high salience, the 'key players' can also be regarded as 'primary team members' of the project. The stakeholder possessing only one attribute can be considered 'minimal effort' or 'extended stakeholders'.

2.22.1 Definitive Stakeholders

These people possess all the attributes. They are already members of an organization's dominant coalition. When their claims are urgent, managers have a clear and immediate mandate to consider and give priority to that claim.

2.22.2 Dangerous Stakeholders

They are not legitimate but possess power and urgency. These stakeholders can be coercive and possibly violent, hence, they can be very 'dangerous'.

2.22.3 Dominant Stakeholders

These stakeholders are powerful and legitimate. Their influence is assured and it is clear that the expectations of any dominant stakeholders will matter.

2.22.4 Dependent Stakeholders

They possess urgent and legitimate claims but no power. These stakeholders depend on others for the power to carry out their will.

2.22.5 Dormant Stakeholders

These people have the power to impose their will but do not have any legitimate relationship or urgent claim, and thus, their power remain unused.

2.22.6 Discretionary Stakeholders

They possess the attribute of legitimacy but do not have power or urgent claims. Although there is no pressure on the managers to engage in an active relationship with such stakeholders, they can choose to do so.

2.22.7 Demanding Stakeholders

These stakeholders have an urgent claim but have no power or legitimate relationship. They can be irritating but not dangerous, so, management can ignore them.

2.22.8 Non-Stakeholders

These people, who do not possess any of the three attributes, therefore cannot be counted as project stakeholders.

2.22.9 Primary Team Members (PTM)

Primary Team Members (PTM) as well as Key Supporting Participants (KSP) represents internal stakeholders while the external stakeholders include tertiary and extended stakeholders. The interests of PTMs, key supporting participants and tertiary stakeholders must be dealt with so that the project may achieve its goals. Primary Team Members have substantial involvement and responsibilities throughout the project. PTMs usually include the customer, architect and the main contractor but can include other stakeholders as well. PTMs also form a core group within the project which makes unanimous decisions and resolves conflicts.

2.22.10 Tertiary Stakeholders

Tertiary stakeholders provide inputs (regulations) and some resources (financial and logistically) that have to be considered so that the project can be implemented.

2.22.11 Extended Stakeholders

Extended stakeholders such as media, NGOs and local residents do not have direct control over resources, but they may have an interest in the project.

2.23 Change in Stakeholders

The concept of change and dynamics of stakeholders was acknowledged by Freeman (1984). According to him, in reality stakeholders and their influence change over time,

and this depends on the strategic issue under consideration. Dynamics of stakeholder is a very interesting and important aspect of the stakeholder concept (Elias *et al.*, 2002). The uncertainty caused by stakeholders includes who the stakeholders are, their influence, their needs and the implications of relationships among stakeholders (Ward and Chapman, 2008).

2.24 Promoting Good Relationship with Stakeholders

Successful relationships between the project and its stakeholders are vital for successful delivery of projects and meeting stakeholders' expectations (Cleland, 1986; Savage *et al.*, 1991; Jergeas *et al.*, 2000; Hartmann, 2002). Trust and commitment among stakeholders can be built and maintained by an efficient relationship management (Pinto, 1998; Bourne, 2005 and Karlsen *et al.*, 2008).

2.25 Critical Success Factors (CSFs) of Construction Projects

Critical success factors are a set of project variables or factors that are strongly correlated to project success and whose maximization or minimization depending on whether they are favourable or unfavourable will lead to project success. The term 'Critical Success Factors' in the context of management of projects was first used by Rockart (1981), and it is defined as those factors predicting success on projects. According to him, critical success factors are the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization. They are the few key areas where things must go right for the business to flourish. If results in these areas are not adequate, the organization's effort for the period will be less than desired. Frese and Sauter (2003) conclude that good planning, clear responsibility and accountability, and schedule control as well as project leadership governance and

communications are key areas of successful projects. This implies that a clear project plan, a plan for risk management and the commitment and support from stakeholders are the critical success factors for construction project management.

Kerzner (1987) also defines critical success factors as those components that are required to establish an environment where projects are managed consistently with excellence. Usually, the satisfaction of clients is identified as the main factor of project success. Construction projects are frequently influenced by success factors which can help project parties reach their intended goals with greater efficiency in Ghana.

Many critical success factors such as factors related to project manager's performance, factors related to organization, factors related to project, and factors related to external environment influence the project success. Then, project success can be defined as meeting the required expectation of the stakeholders and achieving its intended purpose. This can be attained by understanding what the end result would be, and then stating the deliverables of the project. Certain factors are more critical to a project's success than others. These factors are called critical project success factors. Various project success factors have been identified by different researchers in different projects around the world. Community involvement, project objectives, technical innovation, uncertainty, politics, schedule duration urgency, financial contract and implementation process were established as the critical success factors in project.

Furthermore, Lim and Mohamed (1999) suggest that construction success can be related to customer stakeholders by 'macro' evaluation of the building's social acceptance and performance and to practitioner stakeholders by 'micro' evaluation of functional, physical or financial objectives. Both stakeholder types judge success in response to the

project's fulfilment of agreed criteria, articulated as success factors. Success has been the ultimate goal of every business activity. Hence, the construction industry is changing constantly with the developments of new business methods and technologies. For a project to be successful, it is important to understand the project requirements right from the start and go for project planning which provides the right direction to project managers and their teams and execute the project accordingly. A successful project is one that is delivered on time and managed within the budget, time, cost and quality have been reorganized as 'triple constraint' or important elements of project success.

2.26 Project Success Classifications

Project success-related factors are put into two groups: 'Project Success Criteria' (PSCs) and 'Project Success Factors' (PSFs). It is important to differentiate between these two groups. Success criteria are used to measure success whilst success factors facilitate the achievement of success.

2.27 General Project Success Criteria (PSCs) and General Project Success Factors (PSFs)

These criteria and factors are generic and can influence most forms of construction projects which are given below:

2.27.1 Project Management Success against Product Success

Project Success Criteria consists of Project Management Success and Product Success. Project Management Success covers meeting time, cost and quality objectives. On the other hand, Product Success deals with the ability of the project's final product to meet

the product owner's strategic organizational objectives; satisfaction of users' needs and satisfaction of stakeholders' needs where they relate to the product.

2.27.2 Project Success and Project Management Success

Project Success is measured against the overall objectives of the project while Project Management Success is measured mostly against cost, time and quality (so called performance). Delivering project success is necessarily more difficult than delivering project management success since it involves second order control.

2.28 Project Success Criteria

Success Criteria often changes from project to project depending on participants, scope of service, project size, complexity of the owner related to the design of facilities, technological implications and a variety of other factors. On the other hand, common trends relating to success criteria often develop not only with an individual project but across the industry as we relate success to the perceptions and expectations of the owner, designer or contractor. These success criteria according to owners, designers and contractors are as follows.

2.28.1 Owner's Criteria

Owner's criteria for measuring success are: on schedule, budget, function for intended use (satisfied users and customers), end result as envisioned, quality (workmanship, products), aesthetically pleasing, returns on investment (responsiveness to audience), building must be marketable (image and financial) and minimize aggravation in producing a building.

2.28.2 Designer's Criteria

Designer's criteria for measuring success are: satisfied client (obtain or develop the potential to obtain repeat work), quality architectural product, met design fee and profit goal, professional staff fulfilment (gain experience, learn new skills), met project budget and schedule, marketable product/process (selling tool, reputation with peers and clients), minimal construction problems (easy to operate, constructible design), no liability, claims (building functions as intended), socially accepted (community response), client pays (reliability), and well defined scope of work (contract, scope and compensation match).

2.28.3 Contractor's Criteria

Contractor's criteria for measuring success are: meet schedule (pre-construction, construction and design), profit, under budget (savings obtained for owner and/or contractor), quality specification met or exceeded, no claims (owners, subcontractors), safety, client satisfaction (personal relationships), good subcontractor buy out, good direct communication (expectations of all parties clearly defined) and minimal or no surprises during the project.

2.28.4 Common Criteria

It is a priority item and one that appears in all three lists (designer, owner and contractor) in some form is the financial reality of doing business. The owner wants the project completed on time and on budget, and the designer and contractor both expect to meet certain profit or fee goals. All three viewpoints also recognize the absence of any legal claims or proceedings on a project as a desirable outcome. In other words this is a major criteria for measuring success. Another common development among the three groups

involves meeting an appropriate schedule as a way of measuring or determining if a project is successful.

2.28.5 Unique Criteria

It is unique factors associated with each of the three groups. The designer for instance is looking for a project that will increase his level of professional development and professional satisfaction among his employees. Safety is a high-priority issue for the contractor that would not normally be an issue with the other two groups because their employees are at much less risk during the design or operation of a building than the contractor's workers during the construction of a building. The owner is extremely interested in knowing that the building project functions properly for the intended use and is free from long-term defects or persistent maintenance problems. The factors of importance range from meeting internal budgets to professional satisfaction and on to producing a job that will help the firm obtain repeat business or serve as a marketing tool for similar projects with different clients.

2.29 Project Success Factors

Project success factors are the elements of a project that can be influenced to increase the likelihood of success; these are dependent variables that make success more likely. Project success is characterized by stakeholder views of the extent to which the goals they seek have been realized (Cooke-Davies, 2007; Liu and Walker, 1998). Success factors are those inputs to the management system that lead directly or indirectly to the success of the project or business. So, project factors are not universal for all projects since different projects and different people prioritize different sets of success factors.

According to Turner and Zolin (2012), project success is measured not just by completion of the scope of work to time, cost and quality, but also by performance of the project's output, outcomes and impacts, and thereby the achievement of the desired business objectives as assessed by different stakeholders over different timescales. Baker, Murphy and Fisher (1983) note that what is really important is whether project stakeholders are fully satisfied by its results. Good schedules and correctly utilized budgets will not matter if the final project outcomes do not meet the expectations and goals.

2.30 Stakeholders' Satisfaction

Stakeholders whether they are directly or indirectly involved in projects and have different views about success, play crucial roles in every project. Stakeholders' satisfaction, both internally and externally (including clients, customers, contractors, managers and etc.) with the final product as a project success criterion is given special importance. Stakeholder satisfaction is the most important success criterion in projects. Satisfying the needs of the client, users and other stakeholders is one of the criteria for project success, and failure to manage their needs and expectations may contribute to project failure (Turner, 1999; Smith *et al.*, 2001).

Customer satisfaction can be seen either as a goal or as a measurement tool in the development of construction quality. Stakeholders' satisfaction describes the level of 'happiness' of people affected by a project (Chan *et al.*, 2002). According to Bititici (1994), a client is satisfied when the project is delivered to quality, reliability, on-time deliveries, high service levels and minimum cost of ownership. Atkinson (1999) also cites that two possible criteria which could be used to measure project success from

effectiveness dimension are the resultant system (i.e. the product) which meets customers' satisfaction and benefits many stakeholders such as users. End-users will not be happy if the end product does not meet their requirements in terms of functionality and quality of service. Meanwhile, Liu and Walker (1998) consider client satisfaction as an attribute of project success, while Torbica and Stroh (2001) reckon that if the end-users are satisfied, the product can be considered successfully completed in the long run. Traditionally within the construction industry, performance has been measured in terms of cost, time and quality (Xiao and Proverbs, 2003).

2.30.1 Time

'Time' or 'schedule' is one of the most important project success criteria for any project. Time has been addressed as a criterion by which to evaluate a project's degree of success. It has also been cited as a factor which can help the other factors/criteria be met.

2.30.2 Cost

Every project is dependent on its cost or budget. Cost has been noted as a very important success criterion where an intellectual budget plan and proper cost estimation have been mentioned as prominent success factors in some studies.

2.30.3 Quality

'Quality' has been considered as both a project success criterion and factor. Some researchers named it quality performance and considered it as a major project success criterion. In addition, some other researchers addressed quality as a criterion under the name of product's quality. On the other hand, some researchers considered quality

management process as a project success factor which facilitates the success of other criteria and factors.

2.30.4 Project Team

Almost all project activities are dependent on human resources. In other words, it is fast becoming accepted knowledge that it is people who deliver projects and who are directly involved in a project, facilitate achieving project goals and consequently 'Project Success'. A project team and its members are a key part of human resource list of a project. Different researchers have introduced some project success factors which are all related to having a competent project team.

2.30.5 Top Management Support

Project management is deemed of high importance in project success. However, the most important factor for successful completion of a construction project is introduced as 'Top Management Support'.

2.30.6 Project Control

Time, cost and quality are usually grouped together and it is known as the 'Project Control Mechanism'. This is because they allow a project manager or project team to monitor and control the project, leading it to success. In fact, 'Project control' which is introduced by some researchers as a project success factor, directly controls and monitors some key project success criteria such as the project's time, cost, quality, change and especially scope.

2.30.7 Project Scope

The preparation of a detailed project scope statement is critical to project success. Scope, as a measurable concept, has been considered as either a criterion or factor. In fact, a project scope with clearly defined goals and objectives has been verified as a dimension for project success by some researchers. They consider it to be the most important criterion in a software project's success. On the other hand, it is considered a rigorous scope and a factor which is necessary for meeting the owner's needs and thus achieving success.

2.30.8 Project Change

Change, which directly influences project scope, goals and consequently project planning, has been underlined by researchers as they have called it “Everything” for a project. Scope change through a mature scope change control process is also considered as a project success factor.

2.31 Success Factors in a Construction Project

Increasing uncertainties in technology, budgets and development processes create a dynamic construction industry. Building projects are now much more complex and difficult and the building project team faces unprecedented changes. The study of project success/failure and critical success factors (CSFs) is a means of understanding and thereby improving the effectiveness of construction projects. Several success factors for the construction process are as follows:

2.31.1 Definition of Project Objective

- To state clearly the expected end result, with consultation with the related parties.
Although each party might have different specific goals in mind for the project, they must spell out their goals.
- To state the communicated and defined goal to all parties.
- To state the clarified time and cost objectives.

2.31.2 Scope of Project

- To state the general direction and define the client's requirement.
- To present a clear design brief with minimal subsequent changes. A brief must be exact and owned by the client at the highest (strategic) level within the client and project organizations.

2.31.3 Project Manager

- The Project Manager is the key person in the project. He/she must demonstrate multi-dimensional abilities including interpersonal, technical and administrative skills.
- The most important element is that the project manager must clearly understand his/her roles as a project leader, clearly defines the extent of involvement, and the authority and control he/she exercises over personnel.
- Personality – the project manager must have a personality which encourages respect from team players, associates and peers.
- Leadership – the project manager should have leadership skills and be able to apply competent managerial skills. The project manager should have the

ability to persuade other members of the group to his/her views, and be able to resolve conflict between parties.

- Organizing – the project manager should be responsible for organizing, selecting and defining the responsibilities of the project team.
- Coordinating – the project manager should identify interfaces between the activities of the functional departments, subcontractors, and other project contributors.
- Controlling – the project manager should be responsible for monitoring progress, identifying problems, communicating the status of interfaces to contributors, and initiating and co-coordinating corrective action.
- Motivating – the project manager should motivate the project team to perform their duties, and also convince the project team to co-operate with each other.
- Technical knowledge and experience – the project manager must possess good technical knowledge and experience, since most of the project is highly technical.

2.31.4 Project Team Commitment

- All participants must understand and be dedicated and strongly committed to achieve, maintain and fulfill project goals.
- All participants must be committed to the concept of project planning and control and must be able to put the concept into practice. They must understand the project management process, its purpose and values, and be committed to following the steps and necessary procedures.

2.32 Factors Affecting Project Success

A number of variables influencing the success of project implementation were identified following a thorough literature review. A careful study of previous literature suggests that CSFs can be grouped under seven main categories. These include:

- ❖ Project Management Factors
- ❖ Procurement-Related Factors
- ❖ Client-Related Factors
- ❖ Design Team-Related Factors
- ❖ Contractor-Related factors
- ❖ Project Manager-Related Factors
- ❖ Business and Work Environment-Related Factors.

2.32.1 Project Management Factors

Project management action is a key for project success (Hubbard 1990). Jaselskis and Ashley (1991) suggest that by using the management tools, the project managers would be able to plan and execute their construction projects to maximize the project's chances of success. Then, the variables in project management include adequate communication, control mechanisms, feedback capabilities, troubleshooting, coordination effectiveness, decision making effectiveness, monitoring, project organization structure, plan and schedule followed, and related previous management experience (Belout, 1998; Chua *et al.*, 1999; Walker and Vines, 2000). A number of attributes affect this factor, including the communication system, control mechanism, feedback capabilities, planning effort, organization structure, safety and quality assurance program, control of subcontractors' works, and finally the overall managerial actions.

2.32.2 Procurement-Related Factors

A number of researchers have identified the importance of procurement factors (Pocock *et al.*, 1997a, 1997b; Walker, 1997; Kumaraswamy and Chan, 1999; Walker and Vines, 2000). Dissanayaka and Kumaraswamy (1999) define the scope of procurement as the framework within which construction is brought about, acquired or obtained. Therefore, two attributes are used to measure this factor; they are procurement method (selection of the organization for the design and construction of the project) and tendering method (procedures adopted for the selection of the project team and in particular the main contractor).

2.32.3 Client-Related Factors

Chua *et al.*, (1999) define project participants as the key players, including project manager, client, contractor, consultants, subcontractor, supplier, and manufacturers. Walker (1995) considers the influence of client and client's representative as a significant factor on construction time performance. The client related factors are concerned with client characteristics, client type and experience, knowledge of construction project organization, project financing, client confidence in the construction team, owner's construction complexity, well-defined scope, owner's risk aversion, client project management (Chan and Kumaraswamy 1997; Songer and Molenaar 1997; Dissanayaka and Kumaraswamy 1999).

2.32.4 Design Team-Related Factors

Designers play a vital role as their work involves from inception to completion on a project. Chan and Kumaraswamy (1997) point out that design team-related factors

consist of design team experience, project design complexity, and mistakes/delays in producing design documents.

2.32.5 Contractor-Related Factors

The main contractor and subcontractors start their main duties when the project reaches the construction stage. The variables include contractor experience, site management, supervision and involvement of subcontracting, contractor's cash flow, effectiveness of cost control system, and speed of information flow (Chan and Kumaraswamy 1997; Dissanayaka and Kumaraswamy 1999).

2.32.6 Project Manager-Related Factors

The project manager is another key stakeholder in a construction project and his competence is a critical factor affecting project planning, scheduling, and communication (Belassi and Tukel 1996). Variables under this factor consist of the skills and characteristics of project managers, their commitment, competence, experience, and authority (Chua *et al.*, 1999).

A construction project requires team spirit. Therefore team building is important among different parties. Team effort by all parties to a contract-owner, architect, construction manager, contractor, and subcontractors - is a crucial ingredient for the successful completion of a project (Hassan 1995).

2.32.7 Business and Work Environment-Related Factors

Various researchers support “environment” as a factor affecting the project success (Akinsola *et al.*, 1997; Kaming *et al.*, 1997; Songer and Molenaar, 1997; Chua *et al.*,

1999; Walker and Vines, 2000). Akinsola *et al.*, (1997) further describe “environment” as all external influences on the construction process, including social, political, and technical systems. The attributes used to measure this factor are economic environment, social environment, political environment, physical environment, industrial relation environment, and level of technology advanced.

2.33 Conclusion

Review of literature indicates that there are important gaps concerning critical success factors, stakeholder management in construction projects, procedures for stakeholder management and stakeholder relationship management. The gaps are:

1. A comprehensive list of the factors affecting the success of stakeholder management is yet to be fully developed;
2. A systematic framework for stakeholder management needs to be further developed;
3. A range of practical approaches that can be used for stakeholder management is yet to be consolidated; and
4. Most studies focus only on issues of promotion of relationships themselves, but few focus on analyzing the impact on the project resulting from those stakeholder relationship links.

Construction projects involve a diverse range of stakeholders and the success of the project depends very much on fulfilling their needs and expectations. Therefore, it is important to recognize project stakeholders and develop a meticulous stakeholder management process. There is a need for competency to ensure effective communication within the project environment. These competencies include clear and effective problem-

solving strategies, awareness and sensitivity of the partner's demands. There is also the need for communication management process to be dynamic enough to accommodate environmental factors, stakeholders' needs, organizational objectives and personal expectations and aspirations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research adopted the ideas proposed by Smith *et al.*, (2001) and Jergeas *et al.*, (2000). The methodology adopted was based on a structured questionnaire-survey of five principal target groups within the Ghanaian construction industry focusing on the Ashanti Region of Ghana. The study was confined to commercial projects, hence excluding residential construction. This chapter delved into the methodology aspect of the research. It also documented the research approach, design and methods as well as the collection, analysis and presentation of primary data collected for the purpose of addressing the key issues raised by the specific objectives. It described how the data was collected on critical success factors for stakeholder management in construction projects in Ghana. It also explained data analysis method used in analyzing the data, and how the sampling of the population and the sample size was determined.

3.2 Research Design

This research employed a quantitative research design to examine the objectives and establish the relationships which exist between the client and construction practitioners. Quantitative research was adopted to gather factual data and study between facts and relationships in accordance with theory, existing works were recycled to develop an extensive list of Critical Success Factors affecting the stakeholder management in construction projects. Sixty-six (66) factors affecting stakeholder management in construction projects were selected. These factors were grouped into eight (8) based on the literature review.

The feedback form comprised two (2) sections: general information of the respondents and crucial issues about stakeholder management (i.e. sections A & B). The survey was undertaken in Kumasi and its environs in April, 2016. The targets of this survey were project managers, architects, building contractors, quantity surveyors and consultants from different firms in the construction industry. According to Saunders et al. (2007) there are two major types of sampling designs: probability and non-probability sampling; in probability sampling, fundamentals of the population have some known chance of being selected as sample subjects; and in non-probability sampling, the elements do not have a known or determined chance of being selected as subjects which fit into the broad groups of convenience and purposive sampling. Convenience sampling is where information or statistics for the research are gathered from participants of the population who are conveniently accessible to the researcher. However, purposive sampling is where the required information is gathered from specific targets or groups of people on some rational bases. In view of this, purposive sampling was employed for this research since it was considered more suitable for the studies located within the interpretive-qualitative framework. This suggests that the participants were selected based on their particular understanding of the phenomenon, for the purpose of sharing their knowledge and experiences with the researcher. Again, purposive sampling was used because the researcher wanted to focus on few firms in order to have appreciable number for effective study and also for comprehensibility. Owing to this, the researcher selected practitioners randomly from thirteen (13) construction sites out of fifty-four (54) registered construction firms in Ashanti Region. These selected practitioners were visited for the collection of primary data.

3.3 Sampling

Sampling is a process of selecting a section of the population to represent the entire population, the findings from the sample representing the entire group (Burns and Grove, 2001). The selected sample should therefore, have similar characteristics to the population under study to allow generalization of the results to represent the population (Polit and Hungler, 2006). There are two types of sampling, namely probability and non-probability sampling. In this study, non-probability sampling is used. The respondents were purposively selected from stakeholders and practitioners residing in Ashanti Region, to be precise Kumasi and its environs.

3.4 Sample Size

The population for the study consisted of six construction stakeholders namely: the government, architect or designer, private clients, consultants, contractors and Project managers. All-in-all thirteen (13) construction sites were visited including Consar Construction Limited. In all Respondents were conveniently selected based on their annual volume of work and number of employees.

3.5 Data Collection

The questionnaire was selected to be the technique of collecting data in this research, since the questionnaire is probably the most widely used data collection technique for conducting surveys. Questionnaires have been widely used for descriptive and analytical surveys in order to find out the facts, opinions and views (Naoum, 2007). It enhances confidentiality, supports internal and external validity, facilitates analysis, and saves resources. The data was analysis through descriptive statistics and findings were

presented in form of frequency tables and percentages. A total of 94 questionnaires were duly filled and returned out of the 130 distributed.

Data are collected in a standardized form from samples of the population. The standardized form allows the researcher to carry out statistical inferences on the data, often with the help of computers. The questionnaires were personally administered to the various sites and in most cases the researcher stayed behind to help respondents go through the questionnaire. However, in a few cases, the researcher had to leave the questionnaires behind and return later to retrieve them. A total of 130 questionnaires were sent out for data collection.

3.6 Sources of Data

The study made use of primary data source. The primary function of the survey is to collect information that can be analyzed, to facilitate inferences, and to assist the researcher to get original information through personal observations and visits to the various sites to administer questionnaires.

3.7 Questionnaire Design and Development

Questionnaire may be defined as a set of carefully structured questions prepared to elicit reliable and statistically useful information from respondents about the research topic. According to Saunders *et al.*, (2003) cited in Neville (2007), questionnaires facilitate the collection of data by asking the sample to respond to the same questions.

The structure of the questionnaire and format of the interviews was broken down into the following major sections:

Section A –Respondent personal data, basic knowledge and/or perception about stakeholders’ management

Section B – critical success factors of stakeholder management, challenges to effective stakeholder management mitigation measures.

Respondents were asked to rank on a scale of 5-1; 5= ‘Strongly agree’, 4= ‘Agree’, 3= ‘Fairly agree’, 2= ‘Disagree’, and 1= ‘Don’t know’, the stakeholder management practices in use in the various sites. For each challenge to stakeholder management, the respondents were asked to score the level of importance on a scale of 1 to 5 where 1= ‘Strongly agree’, 2= ‘Agree’, 3= ‘Fairly agree’, 4= ‘Disagree’, and 5= ‘Don’t know’. Respondents were further asked the importance of stakeholder management in construction projects. The respondents were finally asked to score the management mitigation measures according to their level of significance on a scale of 5 to 1 where 5= ‘Strongly agree’, 4= ‘Agree’, 3= ‘Fairly agree’, 2= ‘Disagree’, and 1= ‘Don’t know’. A sample of the questionnaire has been provided in the Appendix.

3.8 Data Analysis

According to Saunders *et al.*, (2007), very little meaning can be derived from quantitative data until it is processed and analyzed. The completed questionnaires were edited to ensure completeness, consistency and readability. Once the data had been checked, they were arranged in a format that enabled easy analysis. The retrieved questionnaires were aggregated into larger units and were processed and entered into the Statistical Packages for Social Sciences (SPSS) version 17. To elucidate the discussion in this discipline, the results obtained were presented graphically and in tabular form. Information involving the background of respondents are presented in pie charts and bar

graphs. Non-parametric statistical testing such as descriptive statistics and mean score were employed.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the summary of the analyzed data. The results are presented based on the objectives of the study, which aimed at determining the critical success factors for stakeholder management in construction projects, exploring the role and impact of project stakeholders and to determine and evaluate critical success factors of stakeholder management in project delivery in Ghanaian construction industry, regarding project cost, time, performance and delivery with the view of coming up with recommendations on how to manage stakeholders. The analysis was done through descriptive statistics and findings were presented in form of frequency tables and percentages. The discussion of the outcomes is based on the outputs from Statistical Package for Social Sciences (SPSS) version 17. A total of 94 questionnaires were duly filled and returned out of the 130 distributed. This represents response rate of 72.31 % which falls within accepted limits.

4.2 General Information of the Respondents

The questionnaire was based on the four main objectives, namely; identification of the various project stakeholders, the roles of project stakeholders, and the impact of stakeholders on project and finally the critical success factors of stakeholder management in project delivery in Ghanaian construction industry. The purpose was to provide an understanding of the background of the targeted respondents. The profile of the respondents is to generate confidence in the reliability of data collected.

4.3 Gender Distribution of Respondents

This question sought to know the gender distribution of respondents. Figure 4.1 below, showed that the vast majority of respondents are males representing 96.8% while the remaining 3.2% are females; this clearly indicates the dominance of males in the sector.

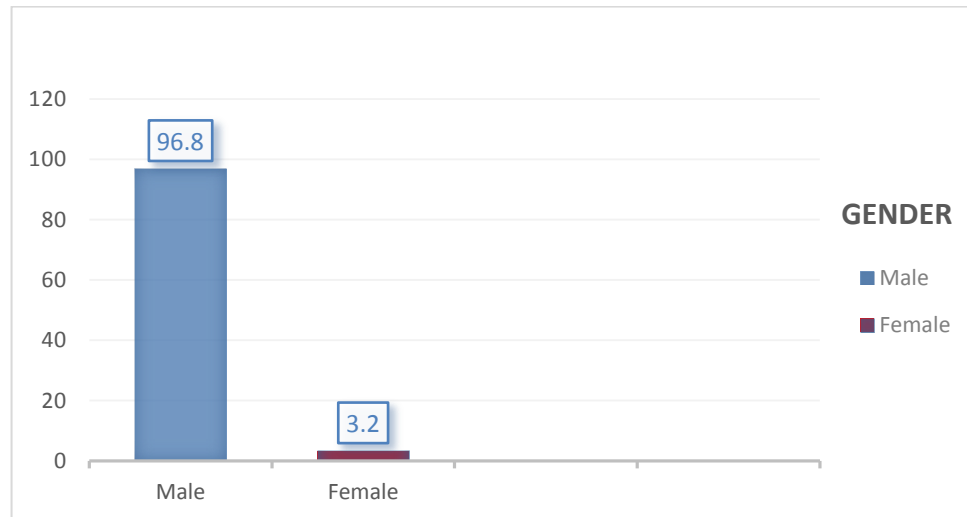


Figure 4.1: Gender Distribution of Respondents Represented in Bar Chart

Source: field survey, 2016.

4.4 Age Distribution of Respondents

This question sought to identify the age distribution of respondents in the industry. From figure 4.2, 18.1% are below 29 years of age, 45.7% are between 30-39 years of age. Furthermore, 27.7% are between 40-49 years of age, also the respondents representing minority are above 60 years of age. This suggests a need for capacity replacement in the long term, as the 8.5% group is expected to retire in a few years' time. The ages of the respondents in the context of this research determines the age categories in the industry. The idea here is that a person's age is likely to have a direct influence on his knowledge of experience.

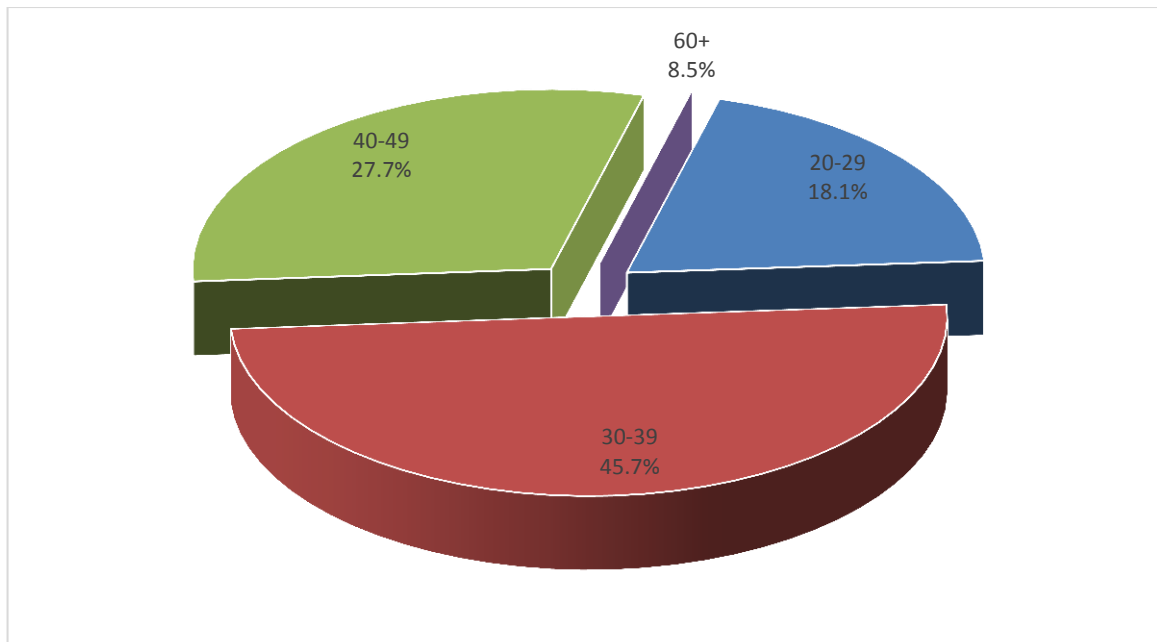


Figure 4.2: Age Distribution of Respondents Represented in Pie Chart

Source; field survey, 2016.

4.5 Academic Qualification Distribution of Respondents

From Figure 4.1 below, 40.4 % (38 out of 94) of the respondents holds HND, 43.6 % (41 out of 94) of the respondents holds BSc. Furthermore, 4.3 % (4 out of 94) of the respondents holds MSc, but no one holds Ph.D. Finally, respondents with other qualifications are made up of 11.7% (11 out of 94) of the respondents. The educational level of the respondents is important since it has an influence on the way to manage construction activities.

Table 4.1: Academic Qualification Distribution of Respondents

Qualification	Frequency	Percentage	Cumulative Percentage
HND	38	40.4	40.4
BSc	41	43.6	84.0
MSc	4	4.3	88.3
PhD	-	-	88.3
Others	11	11.7	100.0

Total	94	100.0	
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Source: field survey, 2016.

4.6 Job Title Distribution of Respondents

Table 4.2 below shows that 5.3 % (5 out of 94) are Architects, 8.5 % (8 out of 94) of the respondents are building contractors, and 28.7 % (27 out of 94) of the respondents are Project Managers, 24.5 % (23 out of 94) of the respondents are also quantity surveyors, and 33.0% (31 out of 94) of the respondents are consultants, it can be seen that significant experienced experts occupy the various levels in the construction industry. This result suggests that consultants play very important roles in achieving quality final product in the construction industry.

Table 4.2: Job Title Distribution of Respondents

Job Title	Frequency	Percentage (%)	Cumulative (%)
Architect	5	5.3	5.3
Building Contractor	8	8.5	13.8
Project Manager	27	28.7	42.5
Quantity Surveyor	23	24.5	67
Consultant	31	33.0	100.0
Total	94	100.0	

Source: field survey, 2016.

4.7 Respondent's Years of Experience

Table 4.3 below shows 18.1 % (17 out of 94) of the respondents have less than five years of experience, 22.4% (21 out of 94) of the respondents have experience between

six (6) and ten (10) years. Also 34 % (32 out of 94) of the respondents from the total sample have years of experience between eleven (11) and fifteen (15) years, 20.2 % (19 out of 94) of the respondents have between sixteen (16) and twenty (20) years of experience. The rest 5.3 % (5 out of 94) of the respondents have more than twenty years of experience. This profile signifies the high levels of experience on which the results of this survey was based. It gives a good indication that the respondents had at least a minimal level of experience with stakeholder management issue. Moreover, the variety of experiences between each group enriched the research with different knowledge and information.

Table 4.3: Respondent's Years of Experience

Years in industry	Frequency	Percentage	Cumulative Percentage
Less than 5 years	17	18.1	18.1
6-10 years	21	22.4	40.5
11-15 years	32	34.0	74.5
16-20 years	19	20.2	94.7
Over 20 years	5	5.3	100.0
Total	94	100.0	

Source: field survey, 2016.

4.8 The Type of Construction Project

From Figure 4.4 below shows, 27.7 % (26 out of 94) of the individual respondents involved in project management activities in construction industry base their answers on civil engineering projects. The remaining 72.3 % (68 out of 94) of the respondents' answers are based on building projects. The relation between civil and building work

depicts the number of workers employed at site, and also, it shows the level of skills required for the job.

Table 4.4: The Type of Construction Project

The of Project	Frequency	Percentage
Civil work	26	27.7
Building work	68	72.3
Total	94	100.0

Source: field survey, 2016.

4.9 Organization Distribution of Respondents

Table 4.5 below shows 43.6 % (41 out of 94) of the respondents are governmental and municipal institutions, 28.7% (27 out of 94) of the respondents are estate developers, 20.2% (19 out of 94) of the respondents are investors like NGO's and international institutions, and 7.5 % (7 out of 94) of the respondents are owner occupiers. The result implies that governmental institutions are the most dominated influential factor in the project environment.

Table 4.5: Organization Distribution of Respondents

Type of Organization	Frequency	Percentage (%)	Cumulative (%)
Government	41	43.6	43.6
Estate Developers	27	28.7	72.3
Investors	19	20.2	92.5
Owner Occupiers	7	7.5	100.0
Total	94	100.0	

Source: field survey, 2016.

4.10 Relative Importance Index

The Relative Importance Index (RII) was used to rank factors for the analysis. Retrieved questionnaires were analyzed using the Relative Importance Index (RII) to rank the critical success factors for stakeholder management in construction projects in Ghana. The respondents were required to rate the importance of each factor on a 5-point scale using 5 for strongly agree, 4 for agree, 3 for fairly agree, 2 for disagree and 1 for don't know. Then, the Relative Importance Index was computed using the following equation:

$$RII = \sum W/A * N$$

Use a scale of 5= Strongly agree, 4= Agree, 3= Fairly agree, 2= Disagree, 1= Don't know

Where:

W - Scale for rating a factor (ranges from 5 to 1);

A - The highest weight in the scale;

N - Total number of respondents.

The analysis of the survey response data produced the means for the 9 CSFs ranging from 2.9362 to 4.7872, which indicated that all respondents consider these 66 factors critical for stakeholder management in construction projects.

4.11 Identification of Stakeholders

Table 4:6 below shows nine (9) Stakeholders identified that can influence the critical success of construction project. Among these are the 'Government Authorities' which was ranked first (1st) with the mean value of 4.5319. This was followed by 'Subcontractor' ranked 2nd with mean of 4.0957, 'Suppliers' ranked 3rd of the mean value of 4.0745. Client and Consultant and Designing Team were ranked fourth (4th) and fifth (5th) with mean values of 4.0638 and 4.0426 respectively. 'Funding Bodies' ranked

6th with overall mean of 3.9362, ‘Project Management Team’ and Employees were also ranked seventh (7th) and eighth (8th) with mean values of 3.8936 and 3.7872 respectively, and finally Contractor ranked (9th) with the mean value of 4.0426.

All these show full agreement of respondents regarding the importance of identification of the stakeholders and their vital contribution in construction projects.

Table 4.6: Mean Score Ranking for Identification of Stakeholders

Identification of Stakeholders	Total(N)	$\sum W$	Mean($\sum W/N$)	RII	Ranking
Client	94	382	4.0638	0.8128	4th
Project Management Team	94	366	3.8936	0.7787	7th
Consultant and Designing Team	94	380	4.0426	0.8085	5th
Contractor	94	346	3.6809	0.7362	9th
Subcontractor	94	385	4.0957	0.8191	2nd
Supplier	94	383	4.0745	0.8149	3rd
Employees	94	356	3.7872	0.7574	8th
Funding Bodies	94	370	3.9362	0.7872	6th
Government Authorities	94	426	4.5319	0.9064	1st

Source: field survey: 2016.

4.12 Factors of Stakeholder Management in Project Delivery

4.12.1 Factors that Influence Stakeholders

From Table 4.7 below, sixteen (16) elements were identified to be ‘Factors that Influence Stakeholders’ that affect the success of construction projects. Among these factors are, ‘Stakeholders’ Involvement in Decision Making’ showed the highest rank (ranked 1st) with the overall mean score value of 4.5106, which was considered as an extremely

influential factor to the success of stakeholder management. This was followed by ‘Team Work,’ ranked 2nd with a mean of 4.4894, the second most influential factor, ‘Assessing Attributes (power, urgency, and proximity) of Stakeholders’, ranked 3rd with mean of 4.4787, ‘Predicting Stakeholders’ Reactions for Implementing the Strategies,’ ranked 4th with overall mean of 4.4468, Communicating with and Engaging Stakeholders Properly Frequently and Evaluating the Stakeholder Legitimacy were ranked fifth (5th) and sixth (6th) with the mean values of 4.3511 and 4.2872 respectively. This was followed by ‘Identifying Stakeholders Properly’ ranked 7th with mean 4.2766, ‘Keeping and Promoting Good Relationships’, ranked 8th with mean of 4.2128, ‘Project Manager Competences,’ ranked 9th with mean 4.1915, ‘Project Organization,’ ranked 10th with a mean of 4.1702. Good Leadership and Maintaining Alignment between Stakeholders were ranked eleventh (11th) and twelfth (12th) with mean values of 4.1170 and 4.0638 respectively. This was followed by ‘Formulating Appropriate Strategies to Manage Stakeholders’, ranked 13th with overall mean of 4.0426, ‘Formulating a Clear Statement of Project Mission’, ranked 14th with a mean value of 3.9894, and finally ‘Understanding Area of Stakeholders’ Interests,’ and ‘Managing Stakeholders with Social Responsibilities with mean values of 3.9787 and 3.9468 respectively.

This result depicts the fact that stakeholders’ involvement of project in decision making throughout the process is very important to reduce reactive action against the progress of the project.

Table 4.7: Mean Score Ranking of Factors that Influences Stakeholders

Factors that Influences Stakeholders	Total(N)	ΣW	Mean ($\Sigma W/N$)	RII	Ranking
Team Work	94	422	4.4894	0.8979	2 nd
Managing Stakeholders with Social Responsibilities	94	371	3.9468	0.7894	16 th

Project Manager Competences	94	394	4.1915	0.8383	9 th
Project Organization	94	392	4.1702	0.8340	10 th
Formulating a Clear Statement of Project Missions	94	375	3.9894	0.7979	14 th
Identifying Stakeholders Properly	94	402	4.2766	0.8553	7 th
Understanding Area of Stakeholders' Interests	94	374	3.9787	0.7957	15 th
Assessing Attributes (power, urgency, and proximity) of Stakeholders	94	421	4.4787	0.8957	3 rd
Evaluating the Stakeholder Legitimacy	94	403	4.2872	0.8574	6 th
Keeping and Promoting Good Relationships	94	396	4.2128	0.8426	8 th
Formulating Appropriate Strategies to Manage Stakeholders	94	380	4.0426	0.8085	13 th
Predicting Stakeholders' Reactions for Implementing the Strategies	94	418	4.4468	0.8894	4 th
Stakeholders' Involvement in Decision Making	94	424	4.5106	0.9021	1 st
Maintaining Alignment between Stakeholders	94	382	4.0638	0.8128	12 th
Communicating with and Engaging Stakeholders Properly and Frequently	94	409	4.3511	0.8702	5 th
Good Leadership	94	387	4.1170	0.8234	11 th

Source: field survey, 2016.

4.13 Critical Success Factors – Client Related

From Table 4.8 below, six (6) factors were identified to be client related elements that affect the success of construction projects in Ghana. Client's Emphasis on High Quality of Construction was ranked first (1st) with a mean value of 4.2021. This was followed by Client's Knowledge of construction Project Organization ranked (2nd) which had a mean of 4.1170. The third (3rd) client related factor affecting success as ranked by respondents was Client's Confidence in Construction Team with a mean value of 4.0426.

Interestingly, Influence of Client/ Client's Representative and Client's Ability to Make Decision were ranked fourth (4th) and fifth (5th) with mean values of 4.0319 and 3.6596 respectively. Finally, Timely Decision by Owner/ Owner's was ranked sixth (6th) with a mean value of 2.9362.

The result implies that the highest respondents agreed that high quality must be the hallmark of every construction project which will satisfy the client.

Table 4.8: Mean Score ranking of Critical Success Factors – Client Related

Critical Success Factors – Client Related	Total(N)	ΣW	Mean ($\Sigma W/N$)	RII	Ranking
Influence of Client/ Client's Representative	94	379	4.0319	0.8064	4 th
Client's Knowledge of Construction Project Organization	94	389	4.1170	0.8234	2 nd
Client's Confidence in Construction Team	94	380	4.0426	0.8085	3 rd
Timely Decision by Owner/ Owner's Representative	94	276	2.9362	0.5872	6 th
Client's Emphasis on High Quality of Construction	94	395	4.2021	0.8404	1 st
Client's Ability to Make Decision	94	344	3.6596	0.7319	5 th

Source: field survey, 2016.

4.14 Critical Success Factors – Procurement Related

From table 4.9 below, four (4) factors were identified to be Procurement Related elements that affect the success of construction projects. Among these factors, 'Form of Procurement and Contractual Arrangement' showed the highest rank (ranked 1st) with

the overall mean score of 4.6277. This was followed by ‘Effective Resource Management in each Project,’ ranked 2nd with mean of 4.1277, ‘Project Bidding Method (e.g. negotiated bidding),’ ranked 3rd with mean value of 3.8298, ‘Project Delivery System (e.g. design-bid-build)’ ranked 4th with mean of 3.5319.

This result implies that “Form of Procurement and Contractual Arrangement” is very vital for any successful execution of every project. Hence stakeholders in construction industry in Ghana need to pay particular attention to this area to save cost.

The importance of procurement factor is a tool for management that project managers use to execute the project to control cost.

Table 4.9: Mean Score ranking of Critical Success Factors – Procurement Related

Critical Success Factors – Procurement Related	Total (N)	ΣW	Mean (ΣW/N)	RII	Ranking
Form of Procurement and Contractual Arrangement	94	435	4.6277	0.9255	1 st
Effective Resource Management in each Project	94	388	4.1277	0.8255	2 nd
Project Delivery System (e.g. design-bid-build)	94	332	3.5319	0.7064	4 th
Project Bidding Method (e.g. negotiated bidding)	94	360	3.8298	0.7660	3 rd

Source: field survey, 2016.

4.15 Critical Success Factors – Design Team Related

From table 4.10 below, five (5) factors were identified to be Design Team Related elements that affect the success of construction projects. Among these factors, ‘Project Design Complexity’ showed the highest rank (ranked 1st) with the overall mean score of

4.5106. This was followed by ‘Mistakes/ Delays in Producing Design Documents,’ ranked 2nd with mean of value of 4.4255, ‘Adequacy of Plans and Specifications,’ ranked 3rd with mean value of 4.2234, ‘Design Team Experience ’, ranked 4th with mean of 4.2021 and finally, factors related to ‘Strong/Detailed Plan Kept up to Date for each Project’ was ranked 5th with mean of 4.1809.

The result shows the important roles the designers play from the inception of the project to its completion by the respondents. Any mistake in the design can affect the whole project.

Table 4.10: Mean Score Ranking of Critical Success Factors – Design Team Related

Critical Success Factors – Design Team Related	Total(N)	ΣW	Mean ($\Sigma W/N$)	RII	Ranking
Design Team Experience	94	395	4.2021	0.8404	4 th
Project Design Complexity	94	424	4.5106	0.9021	1 st
Mistakes/ Delays in Producing Design Documents	94	416	4.4255	0.8851	2 nd
Adequacy of Plans and Specifications	94	397	4.2234	0.8447	3 rd
Strong/Detailed Plan Kept up to Date for each Project	94	393	4.1809	0.8362	5 th

Source: field survey,

4.16 Critical Success Factors – Contractor Related

From table 4.11 below, seven (7) factors were identified to be Contractor Related elements that affect the success of construction projects. Among these factors, ‘Effective Program Time Management’ was ranked first (1st) with the overall mean score of 4.7872. This was followed by ‘Contractor Experience,’ ranked (2nd) with mean of 4.4574,

‘Contractor’s Cash Flow’, ranked 3rd with mean value of 4.4149, ‘Speed of Information Flow,’ ranked 4th with mean of 4.2660, Effectiveness of Cost Control System and Site Management were ranked fifth (5th) and sixth (6th) with mean values of 4.2340 and 4.0638 respectively. And finally Supervision was ranked 7th with mean value of 3.9894. The experience of the main contractor and the site management with good cash flow are good factors for the contractor’s early execution of the work.

Table 4.11: Mean Score Ranking of Critical Success Factors – Contractor Related

Critical Success Factors – Contractor Related	Total(N)	ΣW	Mean ($\Sigma W/N$)	RII	Ranking
Contractor Experience	94	419	4.4574	0.8915	2 nd
Site Management	94	382	4.0638	0.8128	6 th
Supervision	94	375	3.9894	0.7979	7 th
Contractor’s Cash Flow	94	415	4.4149	0.8830	3 rd
Effectiveness of Cost Control System	94	398	4.2340	0.8468	5 th
Speed of Information Flow	94	401	4.2660	0.8532	4 th
Effective Program Time Management	94	450	4.7872	0.9574	1 st

Source: field survey, 2016.

4.17 Critical Success Factors – Project Manager Related

From table 4.12 below, Twelve (12) factors were identified to be Project Manager Related elements that affect the success of construction projects. Among these factors, ‘Project Manager’s Authority to Take Day-to-day Decisions’ was ranked first (1st) with the overall mean score of 4.4574. This was followed by ‘Project Manager’s Competence,’ ranked 2nd with mean value of 4.3830, ‘Organizing Skills of Project

Manager’, ranked 3rd with the mean value of 4.3511, ‘Project Manager’s Commitment to Meet Quality, Cost and Time,’ ranked 4th with mean value of 4.1277, Project Manager’s Experience was ranked fifth (5th) with a mean value of 4.0851. Leadership Skills of Project Manager and Coordinating Ability and Rapport of Project Manager with Owner/ Owner Representatives were ranked sixth (6th) and seventh (7th) with mean values of 4.0319 and 4.0106 respectively. Project Manager’s Authority to Take Financial Decision ranked 8th with mean value of 3.9149, ‘Project Manager’s Adaptability to Changes in Project Plan,’ ranked 9th with mean value of 3.8402, ‘Motivating Skills of Project Manager’, ranked tenth (10th) with the mean value of 3.8296. Finally, Coordinating Ability and Rapport of Project Manager with Owner/ Owner Representatives and Technical Capability of Project Manager were ranked eleventh (11th) and twelfth (12th) with mean values of 3.7979 and 3.6596 respectively.

This indicates that project manager factors are crucial ingredients for the successful completion of a project, his competence affects planning and scheduling of the work.

Table 4.12: Mean Score Ranking of Critical Success Factors – Project Manager Related

Critical Success Factors – Project Manager Related	Total(N)	ΣW	Mean ($\Sigma W/N$)	RII	Ranking
Project Manager’s Competence	94	412	4.3830	0.8766	2nd
Project Manager’s Experience	94	384	4.0851	0.8170	5th
Project Manager’s Authority to Take Day-to-day Decisions	94	419	4.4574	0.8915	1st
Technical Capability of Project Manager	94	344	3.6596	0.7319	12th
Leadership Skills of Project Manager	94	379	4.0319	0.8064	6th
Organizing Skills of Project Manager	94	409	4.3511	0.8702	3rd
Project Manager’s Authority to Take Financial Decision, Selecting Key Team Members, etc.	94	368	3.9149	0.7830	8th
Coordinating Ability and Rapport of	94	357	3.7979	0.7595	11th

Project Manager with Contractors/ Subcontractors					
Coordinating Ability and Rapport of Project Manager with Owner/ Owner Representatives	94	377	4.0106	0.8021	7th
Motivating Skills of Project Manager	94	360	3.8296	0.7659	10th
Project Manager's Commitment to Meet Quality, Cost and Time	94	388	4.1277	0.8255	4th
Project Manager's Adaptability to Changes in Project Plan	94	361	3.8402	0.7680	9th

Source: field survey, 2016.

4.18 Critical Success Factors – Business and Work Environment Related

From table 4.13 below, Seven (7) factors were identified to be Business and Work Environment Related elements that affect the success of construction projects. Among these factors, 'Political Environment' was ranked first (1st) with the overall mean score of 4.2979. This was followed by 'Commitment of all Parties to the Project,' ranked second (2nd) with a mean value of 4.2234, 'Economic Environment,' ranked third (3rd) with mean value of 4.1064, 'Physical Work Environment ', ranked fourth (4th) with mean value of 4.0745, 'Adequacy of Funding ', ranked fifth (5th) with mean value of 4.0638. Technology Availability and Human Skill Availability were ranked sixth (6th) and seventh (7th) with mean values of 3.9362 and 3.7234 respectively.

The environmental factors affect the project success as well as the level of technology which has external influence on the construction process.

Table 4.13: Mean Score Ranking of Critical Success Factors – Business and Work Environment Related

Critical Success Factors – Business and Work Environment Related	Total(N)	ΣW	Mean ($\Sigma W/N$)	RII	Ranking
Economic Environment	94	386	4.1064	0.8213	3 rd
Political Environment	94	404	4.2979	0.8596	1 st
Physical Work Environment	94	383	4.0745	0.8149	4 th
Commitment of all Parties to the Project	94	397	4.2234	0.8428	2 nd
Adequacy of Funding	94	382	4.0638	0.8128	5 th
Technology Availability	94	370	3.9362	0.7872	6 th
Human Skill Availability	94	350	3.7234	0.7447	7 th

Source: field survey, 2016.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the summary of major findings, conclusions and recommendations which are meant to promote the level of engagement of stakeholders in construction industry in Ghana. Finally the researcher gives suggestions for further research as a pointer to areas of concern as far as construction stakeholder's management is concerned.

5.2 Summary of Findings

The study was aimed at exploring the issue of critical success factors for stakeholder management in construction projects in Ghana that reflect the perspectives of the client and practitioners, with the view of coming up with recommendations on how to improve stakeholder's management in construction projects. This was guided by the following objectives;

1. To identify the various project stakeholders;
2. To examine the roles of project stakeholders in construction industry;
3. To examine the impact of stakeholders on construction project;
4. To determine and evaluate critical success factors of stakeholder management project delivery in the Ghana construction industry.

5.2.1 Identifying Stakeholders

The appropriate stakeholder identification, classification, and management are crucial in order to collect and manage the stakeholder requirements, and any misjudgment in this process could lead to project failure. Therefore, the constructed framework was

presented in this write-up to facilitate the systematic identification, classification and management of project stakeholders in terms of the functional role of project stakeholders, salience and probability to impact or ability to contribute to the project.

This study also contributes to the theoretical understanding of the nature and characteristics of a systematic process for stakeholder prioritization and team formation. It has the potential to assist project management to involve stakeholders and exploit their expertise comprehensively in order to enhance project value creation. The study further emphasizes the view that stakeholders cannot be managed as a homogenous group. The results showed that the approach should be more active and systematically take into account the different roles and responsibilities of stakeholders.

5.2.2 The Role and Impact of Project Stakeholders

Stakeholders have different levels of power with which they can influence the course of a project. They have power to be either a threat or benefit to an organization. The power of stakeholders could be high or low depending on their involvement in the project and what they are expected to contribute.

The objectives of this exploratory study include the identification of any key issues or factors within; finding out the roles and responsibilities of stakeholders and their impact on projects. However, it can be concluded tentatively that power is not perceived to be static but temporary. Even for a particular type of stakeholder, their power could be high on one project and low on another.

Lack of participation from the stakeholders directly affects the project objective. All these problems put together with lack of participation of the stakeholders in the project which affect the budget and schedules.

Evaluate Critical Success Factors of Stakeholder Management Role in Project Delivery Regarding Project Cost, Time, Performance and Delivery.

Success is contributed by critical success factors defining the specific conditions, events, and circumstances that contribute to project results. Based on a questionnaire survey, the ranking of these CSFs were obtained. This helps clarify what the highly prioritized factors are. To be able to determine the CSFs at project outcome and impact level, post project evaluation needs to be conducted. Such evaluation plays a significant role in establishing a means to assess project performance comprehensively at the strategic level. The evaluation determines the causal relationship between project process, outcome and impact as well as the evaluation comparison between planned and actual outcomes. Briefly, these can be summarized as follows:

- Success factors are those inputs to the management system that lead directly or indirectly to the success of the project or business.
- The purpose of this study is to define project success criteria, clarify their difference with success factors and analyses their importance in project management methodology
- Findings in this study asserted that the critical success factors perceived as most influential in avoiding or preventing critical delay factors can lead to better performance within construction industries and they are likely to improve success in building construction projects.
- This study provides a forecasting tool to enable parties to rapidly assess the possibility of a successful project from their point of view.
- Time, cost, quality, risk and finally scope control should be centralized under a general definition of “Project control”, which is considered as a very important success criterion.

5.3 Conclusion

Based on the responses to the questionnaire survey conducted among Ghanaian construction professionals engaged in public projects, a set of most significant success factors have been identified for different project performance criteria. Depending on the nature of projects, for example, public or private projects, the performance criteria vary.

Based on the questionnaire survey, the ranking of these CSFs were obtained. The research has four basic objectives which were achieved through data collection using survey technique and the details were analyzed. Based on the results obtained from the field, the following conclusions were drawn:

1. A total of sixty six (66) factors affecting the stakeholder management in construction industry were created in eight (8) groups in the survey.
2. Data were collected from professional respondents like project managers, quantity surveyors, architects, building contractors etc.
3. The findings from the study showed that forty three (43) factors are regarded critical for the success of the stakeholder management in the construction project by most of the professionals.
4. The most top four (4) variables that affect stakeholder management in construction project in the survey were ranked based on their Relative Importance Index (RII) with their minimum mean not less than 4.5. Hence the following are:
 - Effective Program Time Management with RII of 95.74%;
 - Form of Procurement and Contractual Arrangement with RII of 92.55%;
 - Government Authorities ranked with RII of 90.64%;
 - Finally, Project Design Complexity and Stakeholders' Involvement in decision making ranked with RII of 90.21% respectively.

The degree of variance influence decision making among construction management team and the selection of priority of factors for the successful execution of the project.

These findings could also be used as an assessment tool to evaluate the performance of stakeholder management and thus help identify areas for improvement.

5.4 Recommendations

Project teams must find ways not only to understand who their stakeholders are at any particular time in the project but also what their expectations are, and finally find ways to measure the effectiveness of the team's communication strength. The research findings suggest that stakeholders should be tracked during a project to determine when the level of power changes. Such monitoring will ensure that organizations are aware of the true positions of their stakeholders, which will inform them how to relate and communicate. If this is achieved, stakeholders should relate to each other in a proactive manner but not reactive mode, and many skirmishes between them will diminish.

This study therefore recommends that at every phase of the project life cycle, the critical success factors should be addressed, with probably more dynamism than in other situations where there is better project management experience.

5.5 Direction for Future Research

Based on the limitations of the research, only 24.1% of construction firms were possible to assess. Therefore, further research involving larger sample sizes from these organizations will help increase the generalization of the findings. In future studies, the same research procedure should be conducted in other locations which have different cultures from Ashanti Region, Kumasi to seek the similarities and differences of the CSFs for stakeholder management in construction projects.

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APPENDICES

Appendix A

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND BUILT ENVIRONMENT

DEPARTMENT OF BUILDING TECHNOLOGY

QUESTIONNAIRE

PROGRAMME: MSc. CONSTRUCTION MANAGEMENT

**"EXPLORING CRITICAL SUCCESS FACTORS FOR STAKEHOLDER
MANAGEMENT IN CONSTRUCTION PROJECTS IN GHANA".**

Dear Sir/Madam, Samuel Lloyd Fummey is my name, a student of Kwame Nkrumah University of Science and Technology, Kumasi. In partial fulfillment of my postgraduate study award, I am undertaking a research on critical success factors for stakeholder management in construction projects in Ghana, with the view of understanding the perspectives of the client and practitioners within the Ghanaian context.

I therefore, respectfully need information from project decision makers like you in order to gain understanding of factors for stakeholder management in construction projects in Ghana.

The information provided by you will be treated with high confidentiality and will only be used for academic purposes.

Thank you.

Please provide the correct information by ticking [✓] and fill in the blank spaces where necessary.

SECTION A

GENERAL INFORMATION

1. Gender: Male ☐ Female ☐
2. What is your age?
Below 29 years ☐ 30 – 39 years ☐ 40 – 49years ☐ Above 50 years ☐
3. What is your highest academic qualification?
HND ☐ Bachelor's Degree ☐ Master's Degree ☐
Doctorate degree ☐ other, please specify
4. What is your job title?
Architect ☐ Building Contractor ☐ Project manager ☐
Quantity Surveyor ☐ Consultant ☐
5. Level of experience in years
0-5 ☐ 5-10 ☐ 10-15 ☐ 15-20 ☐ > 20 ☐
6. Which of the following project do you undertake?
Civil work ☐ Building work ☐
7. Sector of the client of the project
Government ☐ Estate Developers ☐ Investors ☐ Owner occupiers ☐

SECTION B

IDENTIFICATION OF STAKEHOLDER MANAGEMENT

Factors relating to critical success for stakeholders management in construction projects in Ghana have been identified as key performance indicators (KPIs) that influence the construction project. With your experience and expertise, kindly indicate the level of influence of each determinant using the scale below.

NOTE: Use a scale of 1= Strongly agree, 2= Agree, 3= Fairly agree, 4= Disagree, 5= Don't know

8. Question: **To what extent do you think the following individuals or organizations are project stakeholders?**

		Levels of Importance				
	Identification of Stakeholders	1	2	3	4	5
	Client					
	Project Management Team					
	Consultant and Designing Team					
	Contractor					
	Subcontractor					
	Supplier					
	Employees					
	Funding Bodies					
	Government Authorities					

9. Question: **To what extent do you think the following individuals or factors influence project stakeholders?**

		Levels of Importance				
		1	2	3	4	5
	Factors that Influences Stakeholder Management					
	Team Work					
	Managing Stakeholders with Social Responsibilities					
	Project Manager Competences					
	Project Organization					
	Formulating a Clear Statement of Project Missions					
	Identifying Stakeholders Properly					
	Understanding Area of Stakeholders' Interests					
	Assessing Attributes (power, urgency, and proximity) of Stakeholders					
	Evaluating the Stakeholder Legitimacy					
	Keeping and Promoting Good Relationships					
	Formulating Appropriate Strategies to Manage Stakeholders					
	Predicting Stakeholders' Reactions for Implementing the Strategies					
	Stakeholders' Involvement in Decision Making					
	Maintaining Alignment between Stakeholders					
	Communicating with and Engaging Stakeholders Properly and Frequently					
	Good Leadership					

10. Question: **To what extent do you think the following Critical Success Factors influence construction project?**

		Levels of Importance				
	Critical Success Factors – Client Related	1	2	3	4	5
	Influence of Client/ Client's Representative					
	Client's Knowledge of Construction Project Organization					
	Client's Confidence in Construction Team					
	Timely Decision by Owner/ Owner's Representative					
	Client's Emphasis on High Quality of Construction					
	Client's Ability to Make Decision					

11. Question: **To what extent do you think the following Critical Success Factors influence construction project?**

		Levels of Importance				
	Critical Success Factors – Procurement Related	1	2	3	4	5
	Form of Procurement and Contractual Arrangement					
	Effective Resource Management in each Project					
	Project Delivery System (e.g. design-bid-build)					
	Project Bidding Method (e.g. negotiated bidding)					

12. Question: **To what extent do you think the following Critical Success Factors influence construction project?**

		Levels of Importance				
	Critical Success Factors – Design Team Related	1	2	3	4	5
	Design Team Experience					
	Project Design Complexity					
	Mistakes/ Delays in Producing Design Documents					
	Adequacy of Plans and Specifications					
	Strong/Detailed Plan Kept up to Date for each Project					

13. Question: **To what extent do you think the following Critical Success Factors influence construction project?**

		Levels of Importance				
	Critical Success Factors – Contractor Related	1	2	3	4	5
	Contractor Experience					
	Site Management					
	Supervision					
	Contractor's Cash Flow					
	Effectiveness of Cost Control System					
	Speed of Information Flow					
	Effective Program Time Management					

14. Question: **To what extent do you think the following Critical Success Factors influence construction project?**

		Levels of Importance				
		1	2	3	4	5
	Critical Success Factors – Project Manager Related					
	Project Manager's Competence					
	Project Manager's Experience					
	Project Manager's Authority to Take Day-to-day Decisions					
	Technical Capability of Project Manager					
	Leadership Skills of Project Manager					
	Organizing Skills of Project Manager					
	Project Manager's Authority to Take Financial Decision, Selecting Key Team Members, etc.					
	Coordinating Ability and Rapport of Project Manager with Contractors/ Subcontractors					
	Coordinating Ability and Rapport of Project Manager with Owner/ Owner Representatives					
	Motivating Skills of Project Manager					
	Project Manager's Commitment to Meet Quality, Cost and Time					
	Project Manager's Adaptability to Changes in Project Plan					

15. Question: **To what extent do you think the following Critical Success Factors influence construction project?**

		Levels of Importance				
	Critical Success Factors – Business and Work Environment Related	1	2	3	4	5
	Economic Environment					
	Political Environment					
	Physical Work Environment					
	Commitment of all Parties to the Project					
	Adequacy of Funding					
	Technology Availability					