

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

**Key Supervision Styles and Effect on Quality Performance of Construction
Projects in Ghana**

by

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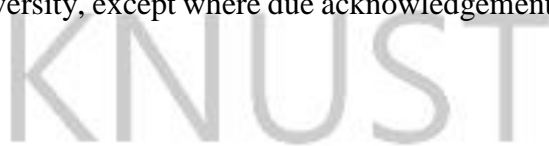
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College of Art and Built Environment
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MASTER OF SCIENCE

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DECLARATION

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



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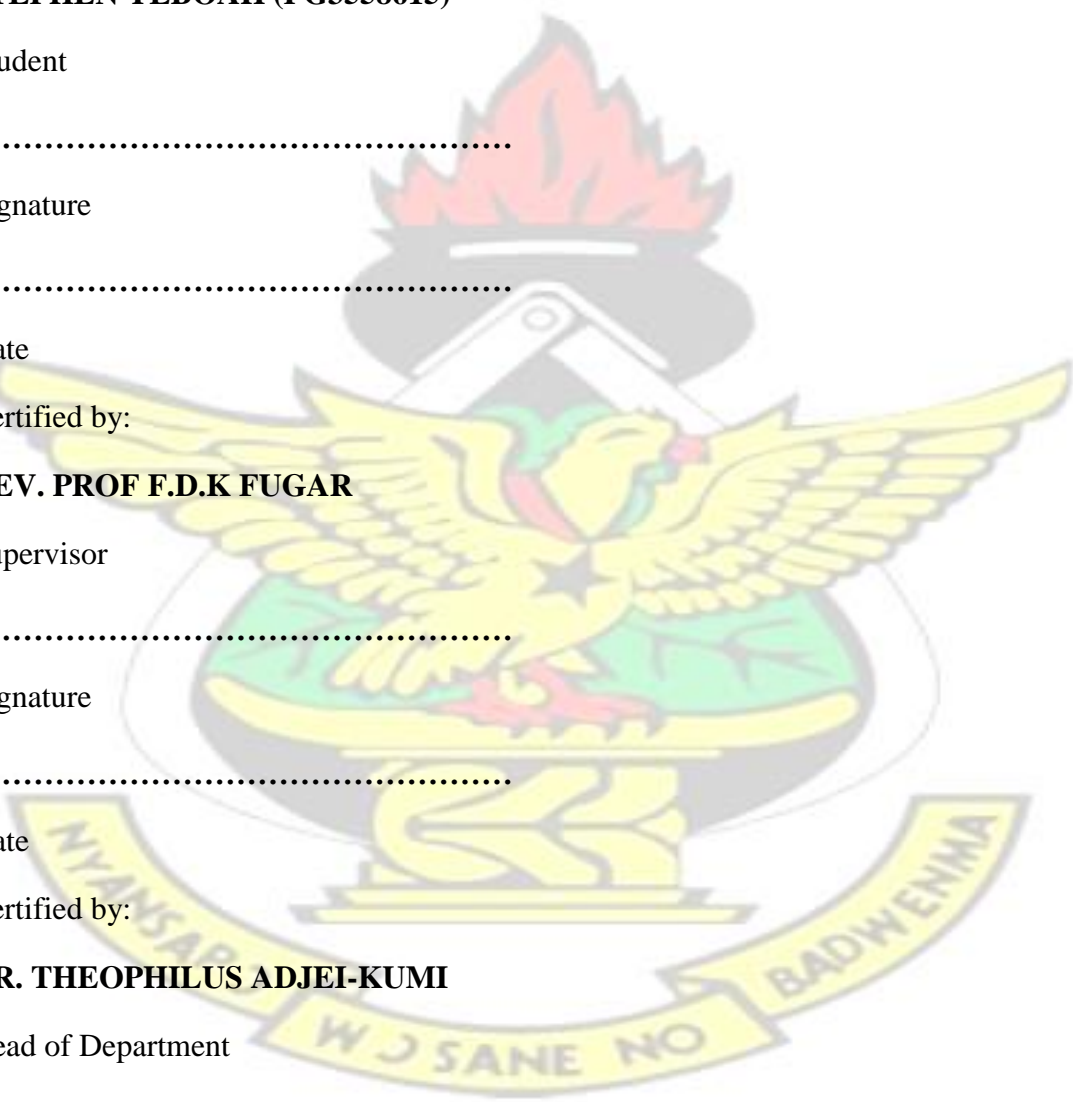
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ABSTRACT

Generally, the success of completing any construction project relies massively on the quality of supervision. Nevertheless, the inability of many supervisors to organize, communicate with workers, and direct activities sufficiently is primarily connected to the quality of the construction. This study sought to determine key supervision styles adopted in the construction industry, identify those used in the Ghanaian Construction industry and their effect on quality performance of construction projects in the Ghanaian construction industry. To do this, 80 questionnaires were sent to site foremen, site managers, site engineers and clerk of works within the Ashanti region. Thirty-three (33) completed questionnaires retrieved from the survey were examined using mean score ranking. The findings revealed Encouraging Teamwork as the most common supervision style used in the Ghanaian construction industry in ensuring quality performance of construction projects. Also, Effective Communication of task to workers was regarded by respondents as the most significant supervision style that has effect on quality performance of construction projects. The findings and recommendations reveal of this study may be useful to construction professionals and policy makers who are seeking innovative ways to improve quality performance of construction projects. It would be highly remarkable if future research could investigate the key performance indices of the quality performance variables so as to evaluate how each component of supervision style affect a particular performance index.

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DEDICATION

I dedicate this piece of research work to the Almighty GOD, who has given me life, protected, guided and seen me through some difficult moments in life.

CHAPTER ONE GENERAL INTRODUCTION

1.1 BACKGROUND OF STUDY

Companies in the construction industry provide infrastructure for the economy of Ghana and constitute an important backbone of many economies, yet they face problems of instability, low productivity, poor quality and lack of standards (Imbeah and Dansoh, 2011, Metri, 2005).

Achieving quality is one of the main objectives in building projects which depends on the content of the original design and specifications, level of workmanship and conformity to the design requirements during construction work. The overall aim in any building project is to design and construct to meet the specific requirements of a client at an optimal quality. Thus when buildings fail to render the function for which they were built, numerous benefits which could have accrued to the nation and society become elusive (Rotimi and Tookey, 2012, Windapo, 2006).

During the construction stage, every effort is made to ensure compliance with design and specification. The activities that takes place within this stage are numerous, and often conflicting with each other. The management of scheduling, materials, human and technical resources is often enormous such that only trained professionals can handle them. Professionals and skilled artisans all have their respective roles at this phase. The quality assurance aspect must not be left out, otherwise the purpose of the whole project will be defeated.

A site supervisor must play good supervisory role during the construction phase to guarantee that the principal structures conform to the approved design. He must certify the starting and the completion of every strategic phase of the construction work as a guarantee that the recommended materials and specifications were adopted (Ede, 2010).

The main scope of a construction supervisors' work is to control the investment in the construction project, its construction period and project quality, to perform construction contract management, and to coordinate the working relations among the relevant units (Yung and Lai, 2008). For the performance of quality jobs in any stage of the building process, a high level of skill and professionalism are needed (Ede, 2010, Ayininuola and Olalusi, 2004). Anytime there is quality failure problem in construction projects, the competencies of the site supervisor and other professionals responsible for designing and monitoring construction works on building sites are questioned (Rotimi and Tookey, 2012, Bates and Kane, 2009).

1.2 PROBLEM STATEMENT

Companies in the construction industry provide infrastructure for the economy and constitute an important backbone of many economies, yet they face problems of instability, low productivity, poor quality and lack of standards (Imbeah and Dansoh, 2011, Metri, 2005).

The Ghana Institution of Engineers (GIE) has attributed the collapse of the Melcom Shopping Mall on the Achimota road in Accra to the lack of supervision and the use of substandard materials (Agbenyega, 2014).

One of the most pathetic issues concerning these collapses is that not all the cases are brought to the knowledge of the public. When they occur in remote areas or in exclusive private environment, the matter often dies off there. Another issue is the quality of information that comes from the journalists after each collapse (Ede 2010).

Potential barriers to the attainment of project quality among construction firms are: lack of effective Supervision, lack of effective Communication, lack of Management's

Commitment to Quality Assurance, lack of Proper Equipment available for use and lack of a Quality Assurance Team to lead the process (Agbenyega, 2014).

According to Shinde et al. (2015), the success of completing any construction project depends heavily on the quality of supervision. They further argued that the inability of many supervisors to plan work, communicate with workers, and direct activities adequately is basically linked with the quality of the construction.

Drawing from the above, it is obvious to say that supervision styles adopted in the Ghanaian Construction Industry by firms have effect on quality performance of Construction projects. It is against this background that this study seeks to establish key supervision styles that have effect on quality performance of construction projects.

1.3 AIM OF STUDY

The aim of this study is to determine the key supervision styles adopted in the construction industry and its effect on quality performance of construction projects.

1.4 RESEARCH OBJECTIVES

The objectives of this study are:

- To determine the various supervision styles adopted in the construction industry.
- To identify the key supervision styles used in the Ghanaian Construction Industry and their effect on quality of construction projects.

1.5 SCOPE OF STUDY

Geographically, the scope of the study was restricted to selected construction sites in the Ashanti region. This was because, apart from the Greater Accra region, majority of contractors primarily operated in the Ashanti region. Hence, it was expected that the data obtained from the study would give a broader perspective of site supervision

information on quality performance in the industry. The targeted respondents included all construction professionals who often assumed the position of site supervision in the likes of site engineers, site foremen, site managers and clerk of works. The figures of construction firms required for the study was obtained purposefully.

1.6 SIGNIFICANCE OF THE STUDY

The complete document of this study identified significant and dominating supervision styles used in the Ghanaian construction industry, challenges which occur during supervision and also identified the dominant supervision styles during construction. This study will benefit the stakeholders in the construction industry in determining the effective styles of supervision when constructing and be able to know what task they are about to take since challenges of supervision was made known in this study.

Clients will also now gain the opportunity to know the various styles of effective supervision thereby making the right choice when it comes to site supervision. It will also enable contractors who will be the largest beneficiaries to this study, identify key supervision styles with its challenges and also factors of supervision. With this knowledge contractors will also be able to adopt the most effective supervision styles. In furtherance, more knowledge has been made accessible to academia to help in further research.

1.7 BRIEF RESEARCH METHODOLOGY

The research process encompassed a two-way approach to gather both qualitative and quantitative data. The data in the first place was acquired mainly through available literature. The full research methodology for conducting the qualitative exploration and review was broken down in Chapter 3. Academic publications on the quality performance and supervision was merged for first hand review and fused into the

literature review. The second stage of the research process was founded on realistic quantitative studies to establish the variables for survey queries development based on non-probability sampling design. Data acquired from the survey questionnaire was analyzed using descriptive statistics.

1.8 STRUCTURE OF THE THESIS

The thesis was presented in a number of chapters that logically developed the matters being addressed in relation to this study. **Chapter One** presented the background to the study. Hence, this chapter outlined the argument and presented the problem within the setting under investigation. **Chapter Two** reviewed the literature in connection to supervision and quality performance in the area and within the framework of the construction industry. Various conceptual explanations to the keywords was reviewed. Probable theories relevant to the area of this study was also considered for discussion. Afterwards, **Chapter Three** set into motion the description of the research methodology on which the study was founded. Descriptions such as the sampling methods, statistical techniques, and research paradigms has been addressed. **Chapter Four** outlines the results obtained from the data gathered. It illustrated the outcomes of the data analysis which was included in the descriptive analyses of demographics of the respondents. Reliability statistics was employed to check the internal consistency of the various identified variables. Finally, **Chapter Five** concludes the study in a brief appraisal of the aims and objectives of the research. Major findings has been summarized, limitations to the study were also acknowledged. In conclusion, further research leads was suggested and recommendations made.

CHAPTER TWO LITERATURE REVIEW

2.1 INTRODUCTION

The object of this chapter is to gather all relevant literature works done in relation to the topic under study thus, the effect of key supervision styles on quality performance of construction projects, which has been indicated as being limited to the Ashanti region of Ghana. This chapter also sought to throw more light on the importance or the need to appraise effective supervision on construction projects since it has effect on the quality performance of construction projects and also ways to improve on the existing supervision styles in the construction industry. Major terms such as supervision and quality are explained to give much understanding in relation to the topic under study as well as the overview of supervision in the Ghanaian construction industry would be touched. The major objectives of this study are also tackled in this very chapter and some factors under each objective explained as well. The chapter finally comes to an end with the summary of related literature review.

2.2 OVERVIEW OF SUPERVISION IN THE GHANAIAN CONSTRUCTION INDUSTRY

According to Mawdesley and Qambar (2000), the complexity and complicated nature of the construction industry within the industries today necessitates effective supervision in construction firms for the attainment of quality performance on project delivery in the construction industry and for that matter Ghana. Supervision on sites in the construction industry in Ghana over the years is now gaining status since it aids in the delivery of quality projects when done effectively, and this has remained underresearched or underdeveloped and the absence of it, leading to high cost of project delivery and the abandonment of most projects in Ghana due to the lack of effective supervision on construction sites (Ahadzie and Amoa, 2010). According to these

authors, poor supervision practices also led to the abandonment of major projects in Ghana such as the Mass House Building Project (MHBP) and the affordable housing projects which was initiated in the year 2001 by the then government of Ghana.

According to Ahadzie (2011), the few researches that are conducted on the need for the appraisal of effective supervision in the construction industry of Ghana is also not given the necessary attention by the various stakeholders involved in the construction industry, thus, the client community, consulting and the construction firms. The current state of construction industry in Ghana is faced with decline in effective supervision therefore leading to poor quality performance on project delivery in Ghana (Pekuri, 2011). The lack of effective supervision in the construction industry in Ghana could be attributed to labor factors which have led to the overrun of many projects in the Ghanaian construction industry. According to Siebers et al. (2008), effective supervision in the construction industry is what distinct the quality performance of most entities, and pose it that factors which affect quality performance on most projects in the Ghanaian construction industry is effective supervision practices.

According to George (2012), studies have shown that the construction industry in developing countries including Ghana is faced with many problems with regards to supervision and the inadequacy of resource to apportion to the industry and many of the firms of these countries do not recognize the impact or benefits associated with effective supervision as far as quality performance on project is concerned and hence do not formulate policies to improve on the level of supervision in the various construction firms for the attainment of quality performance of project delivery in the Ghanaian construction industry. The performance of the construction industry in Ghana pertaining to the above mentioned problems with regards to effective supervision is poor with

respect to time, quality and cost performance (George, 2012). On most construction projects in developing countries such as Ghana, George (2012), pose it that the result with regards to budget (cost), schedule (time) and specification (quality) falls short of target set by participants themselves due to the absence of good supervision on construction activities on the various construction sites in Ghana. Although it is a fact that the construction industry in Ghana contributes a significant proportion of the gross domestic product through infrastructural development of the nation, it however happens to be debatable as to whether the industry has the requisite resources required to achieve the vital quality performance towards the national accelerated development goals with regards to infrastructural development, in terms of quality performance of project delivery in the Ghanaian construction industry (Julius, 2014).

According to Fugar et al (2009), the challenges facing the construction industry in Ghana with regards to effective supervision and professionalism is still rampant on most construction sites in Ghana. The major objective of supervision in the construction industry as far as quality performance on project delivery is concerned, is to guarantee good-quality performance of the construction project with optimal cost pursuant to the contract agreement, technical standard and norms as far as quality performance on project delivery is concerned George (2012). The project supervisor on the construction site is responsible for the successful delivery of the project corresponding to quality performance from the project inception up to the final completion of project. Thus the immense contribution of effective project supervision towards the attainment of quality performance of project cannot be overlooked in the recent construction industry across the globe (Eesti, 2014).

2.3 DEFINITION OF TERMS

2.3.1 Supervision

According to Dainty et al (2006), the term Supervision in itself is multifarious and complex term, which could mean different thing in different context and situation. This is certainly the case with the construction industry, where each project demands effective supervision between diverse participants on a project in ensuring quality performance of construction projects. According to the authors, there seems to be little doubt that construction supervision plays a vital role in the attainment of quality project delivery.

According to Suraj et al (2014), the quality of supervision play a very important role in the construction industry in the quest of attaining quality performance on construction project delivered in Ghana. They again pose it that the unskilled or the improper supervision in the past has been one of the major cause of rework in the construction industry and adding that experienced and skilled supervision play a vital role in optimizing the amount of rework on project delivery due to construction defects. This mission is focus on the style of site supervision adopted in the Ghanaian construction industry which directly relates to supervisor's level of experience and skills. Hence the study seeks to determine construction supervision styles in ensuring quality performance of construction projects.

Druker (2007) emphasizes the importance of effective supervision and points out that supervision is essential for the quality performance of construction project in Ghana.

Supervision which is a subset of management function, thus directing, within the construction industry could imply overseeing the works of the subordinates by qualified supervisor; thus it could be defined as watching and directing works and workers on

site in efficient manner as well as firms which enhances the quality performance of project delivery (Koontz & Heinz, 2012). Supervision could also be defined as part of managerial function which facilitates or enhances firms' method to work efficiently towards the attainment of quality performance on project delivery, thus producing at faster rate with less resource at high quality.

Supervision could also be defined as part of managerial functions which facilitates or enhances firm method to work efficiently towards the attainment of quality performance on project delivery. According to most literatures on construction, it is considered that, supervision act as a back bone to on-site construction activities which sets in motion, the actions of people within the various construction sites since effective supervision would mean effective planning, organizing and preparation for embarking on construction activities in a well-defined form for the attainment of quality performance (Koontz & Heinz, 2012).

Suraj et al (2014) pose it that, India as the largest developing country in the world, engages large number of people in construction industry but due to the absence of quality or effective supervision of works, quality performance on project is mostly not achieved on their construction projects. However, it should be noted that, most of these workers engaged are unqualified and unskilled. According to George (2012), this issue can be streamline down to the current performance in the Ghanaian construction industry as far as quality performance on projects is concerned. He pose it that, the success of completing any construction project critically depends on the quality of supervision with regards to quality performance, for if quality supervision is integrated into any construction, project delivery would be the best in the end results. That notwithstanding, naturally, the quality of site supervision in the quest of quality performance on project is also incumbent on the supervisor's skills.

The supervisors are normally given authority and responsibilities to aid them execute their basic but vital role such as planning and the execution of the work. To this extent, supervisors in the construction industry themselves are managers, whose major activities focus on leading, coordinating and directing the works of others in order to achieve the expected performance in terms of quality. In addition to that, according to Suraj et al (2014), a successful supervisor has to possess several skills in executing his or her work, this include management skills, human relation skills and skills in leadership, motivation, effective communication with workers and the direction of activities adequately. These are fundamentally linked to quality performance on construction project delivered in Ghana. According to most project supervisors, thus, per the preliminary survey conducted, effective training is a fuel for the betterment of supervisors as well as ensuring quality performance on construction projects in Ghana. Most supervisors agreed that formal training would be one of the best methods for the improvement of supervisors' skills. However most of the supervisors argued that it is not clear as to how to quantify such improvement. Project supervisors proposed that training programs and workshops are needed for the attainment of the following in order to achieve quality performance on construction projects:

- To improve self-confidence;
- To improve work efficiency;
- To develop motivational skills;
- To develop leadership skills;
- To improve operational efficiency; and
- To encourage continuous development

According to literature, the following are few but not limited functions which are responsibilities of supervisors on site in ensuring effective supervision towards quality performance of projects:

- Read and understand the drawings from the designer or the architects;
- Help foremen on site and labors to understand problems and give solutions to them;
- Reading and writing reports for the inward and outward of materials as well as maintain labor relations;
- Planning of activities as well as labor;
- Understand quality specification;
- Act as the mediator between designer and workers; and
- Maintain co-ordination between other supervisors and managers

Therefore, in this regard, supervisors must be familiar with all the activities that are carried out on site and should be able to plan effectively, organize, lead, monitor, motivate and control all workers. According to Suraj et al (2014), a supervisor must also have basic technical skills which is essential for quality control on designs and forms.

2.3.2 Quality Performance

In the construction industry, quality performance is nothing but how well a supervisor is able to utilize available resources (Man, Materials and Machines) effectively and efficiently to achieve quality and desired (Suraj et al, 2014). All project supervisors agree that quality of performance is incumbent on the supervisor's efforts and ability and how well the supervisor manages every activity during the construction phase of a project. Quality performance in this context does not depend on the number of

supervisors at hand but how well supervisors are able to coordinate and inspect all aspect of works effectively. In achieving quality performance in the current state of construction in the Ghanaian construction industry, the vital role of supervision should be geared towards close eye on every activity before it is executed. Since works not done to standard are subjected to rework or reconstruction which is to the disadvantage of the construction team especially the contractor, supervisors need to be more proactive in avoiding such issues of rework and maintaining good standard of work on the construction site (Koontz & Heinz, 2012).

According to Landaeta (2008), the complexity and unpredictable nature of construction projects generates serious challenges for supervisors as far as quality performance on project delivery, as a result of this, many researchers have tried to identify key project supervision techniques that is geared towards the attainment of quality performance in the construction industry and to cope with these challenges and improve on them. Furthermore, he poses it that, existing studies have identified various factors that influence project quality performance.

Landaeta (2008) pose it that, for quality performance to be achieved, the body of knowledge obtained from other projects by effective supervision would positively contribute to the quality performance on construction projects. According to Hui et al. (2008), for quality performance on project to be achieved, the issues of outsourcing of very complex projects need to be under serious scrutiny, for sometimes the outsourcing of complex project leads to poor quality performance on construction projects, moreover according to Buettner (2008), essential or communal knowledge mechanism has statistically significant impact on the quality performance outcome.

2.4 IMPORTANCE OF SUPERVISION ON PROJECT DELIVERY

From reviewed literature, Alwi et al (2010) pose it that construction supervision is one of the most crucial factors or elements in the construction process in the attainment of high quality performance on construction projects. Thus, the effective supervision of field labor is critical to the success of any project delivery with quality of performance in mind. This performance in turn requires supervisors who are skilled in communicating with individual workers and in planning and directing the work in a manner which is efficient towards the attainment of quality project delivery. According to most project managers interviewed, the absence of proper supervision on most construction sites has led to or contributed to the continued increase of construction cost.

According to these authors, the inability on the part of supervisors to plan, work, communicate with workers and direct work adequately is believed to be an important factor in increasing cost of construction work and reduction in quality of performance. Having said this, one can understand the contribution of supervision in the construction industry in attaining quality performance and reducing cost of production on projects. According to Suraj et al (2014) the inabilities of the supervisors in this context can be improved by formal training. Most of the projects managers attested to the fact that formal training can be used to improve upon the skills of supervisors, decline rework cost and improve quality performance on construction projects.

In other statement according to Alwi et al (2010), the quality of site supervision on construction project has positive influence on the overall quality performance and efficiency of the project and posed it that inadequate supervision for the past years in the construction industry has been noted as one of the major causes of construction rework increasing cost of production as well as decrease in quality performance

standards. Therefore, experience and well-trained supervisors have important role in ensuring quality performance on construction project in Ghana and minimize the amount of rework due to construction defects in the cause of project delivery. The combination of attention to detailed design and effective supervision could largely improve the current efficiency and quality performance of most construction projects in Ghana and this would be the development direction in the consulting services (George 2012). In effect construction supervision when effectively done could reduce unnecessary cost within the industry and maintain the desirable standard intended to be achieved.

2.5 SITE SUPERVISION STYLES IN ENSURING QUALITY PERFORMANCE IN THE CONSTRUCTION INDUSTRY

According to human resource authors the term supervision in its raw form cannot stand alone but integrated into efficient management practices in the attainment of quality performance on the delivery of construction projects in Ghana (Susan, 2012). That notwithstanding supervision as a function of management practice is a key element in the delivery of quality performance on any project in Ghana. This section of the literature seeks to bring forth all the relevant key supervision styles which when employed, would help towards the attainment of quality performance of construction projects in Ghana. According to Jian (2010), “Code for construction supervision” (GB50319-2000), the central aspect of construction project supervision is classified as “three controls, three managements and one-coordination”.

Furthermore, safety control is also an important aspect of supervision of construction works. The study seek to present construction project supervision work in “four controls, three managements and one- coordination”. The four controls with regards to

construction project supervision meant progress control; cost control; quality control; and safety control since safety practices on site also ensure quality performance on construction projects. The three managements with regards to construction project supervision in this context meant, effective contract management, document management and effective information management as far as effective supervision is concerned in the quest for quality performance of projects and the one coordination meant organization and coordination (Jian, 2010). According to Landaeta (2008), the complexity and unpredictable nature of construction projects generates serious challenges for supervisors as far as quality performance of project delivery is concerned and as a result of this, many researchers have tried to identify key project supervision styles that is geared towards the attainment of quality performance in the construction industry and to cope with these challenges and improve on them. Furthermore, he poses it that, existing studies have identified various factors that influence project quality performance.

Landaeta (2008) again refers that, for quality performance to be achieved, the body of knowledge obtained from other projects by effective supervision would positively contribute to the quality performance on construction projects. According to Hui et al. (2008), for quality performance of project to be achieved, the issues of outsourcing of very complex projects need to be put under serious scrutiny, for sometimes the outsourcing of complex project leads to poor quality performance on construction projects, moreover according to Buettner (2008), essential or communal knowledge mechanism has statistically significant impact on the quality performance outcome. The following from literature reviewed can be presented as key supervision styles which could ensure quality performance of construction projects in the Ghanaian construction industry;

- Listening to subordinates or supervisee
- Being transparent to subordinate
- Mission-focus/ priority-setting
- Performance appraisal
- Delegation ability
- Taking responsibility and giving praises
- Being Realistic or setting achievable targets
- Availability of supervisor
- Allowing room for innovations
- Insisting on accountability
- Encouraging positivity
- Providing room for learning
- Celebrating with employees after achieving milestones
- Practicing good communication skills
- Accepting challenges in the course of execution of work
- Encouraging teamwork

2.5.1 Delegation Ability

Delegation is one of the most important features of supervisory skills in the construction industry in the quest for attainment of quality performance in the construction industry in Ghana, Elisa (2011). These logical rules and styles will help most supervisors' delegate most of the supervisory roles to other responsible members in the construction field in the cause of construction activities on site. In this respect, it broadens the scope of supervision where much supervisory role on a project increases and not just being increased but effectively.

According to Elisa (2011), the ability to delegate by supervisors saves time, grooms a successor and motivates most employees to take up supervisory roles. In doing this employees work very tirelessly and seriously in the attainment of quality performance of construction projects. The author poses it that, delegation in this context should not be taken for granted when it is not done properly, it brings about frustrations of the responsible supervisor when the delegation done is not in favor of the attainment of the quality of performance expected from the employees. This supervisory skill when improved upon, quality performance of construction project delivery would be achieved as expected since there would be much time for the supervisor to do much supervision works since he or she would have representatives at various points of execution of works on site.

According to most human resource practitioners' delegation in its context is a very important supervision technique for succession planning as well as personal development of individual. This according to Susan (2012) facilitate the quality performance on the construction project since most of the employees tend to understand supervisors very well when they are also delegated to supervise others in that regard which helps increase the desirable quality performance of construction projects. Delegation according Susan (2012) is a supervision technique used by management to broaden the experience of subordinate and take on higher responsibility in the form of training by reducing cost of production as well is ensuring high quality performance of the project.

2.5.2 Being Realistic

One of the most important supervision styles is the ability of supervisors to be realistic in terms of delivery in their day-to-day activities, thus, according to Susan

(2012), task assigned to subordinates by supervisors should be something that is achievable as far as ensuring quality performance on project delivery is concerned. If task assigned to subordinates happens to be that which is not achievable within reasonable time the quality performance on work is sometimes an issue of debate since subordinates would find ways to cut corners in ensuring the achievement of assigned task and by so doing quality of work is affected, moreover the supervisors themselves should be realistic to themselves about the limit with which they can deliver. In the quest of the attainment of construction quality performance, realistic and achievable targets should be set for the subordinates which would reduce the utterance of quality performance on construction projects in Ghana (George, 2012)

2.5.3 Allowing Room for Innovations

The construction industry in its form is a complex nature within the industries in Ghana (Susan, 2012), the industry is in the nature that strives for innovation for the improvement of work. Over the past years construction works have been the kind of repetition of previous activities, in the attainment of construction quality performance, the need to appraise innovation to high standard would be as a fuel in the path of bringing new innovation on board. According to Intergraph (2012), this innovation comes as a result of delegating most responsibilities to subordinate to also take up challenges, in so doing these subordinates would figure out new ways of doing something in a better way than it used to be and even improve on it for the attainment of construction quality performance (Susan, 2012). This innovation could lead to ensuring quality project delivery since every innovation leads to problem solving in the construction industry. According to Blayse and Manley (2004), the construction industry is one of the most important in the modern economies of which innovation is needed to increase the output of the construction industry in terms of quality

performance of construction project delivery. Innovation in the world of today is means of reducing cost of production and at the same time ensuring quality performance to meet standards.

Blayse and Manley (2004), pose it that when other related construction industries such as the manufacturing industries, designer industry and the property managers are included, the construction industry account for about 15% of the Gross National Product (GNP) of most nations (Seaden & Manseau, 2010). According to them, the higher the level of innovation in the construction industry, the higher the quality performance on construction projects and this in turn increases its contribution towards the economic growth in the country. They again added that unfortunately, in most countries the industry is generally not innovative due to high level of bureaucracy and that there is room for improvement towards quality project delivery in Ghana as a whole. According to Dulaimi et al. (2007), participants in the industry need to review their capacity and create room for innovation for it is a life line for quality project performance on construction projects in the construction industry, as Twum (2003) point it out that at bottom line, the construction and engineering firms' practices needs to innovate to win projects and improve on the financial result of these projects, they must innovate to compete.

2.5.4 Listening to subordinates or supervisee

This variable brings about the ability of the supervisor to communicate effectively and also involve subordinates in decision making as well for good supervisor is one who could communicate well as well is listen to his or her subordinates in the cause of attaining a common goal, thus quality performance. Communication in the construction industry is essential supervision technique used for the attainment of quality performance in the construction industry (Susan, 2012). According to Koontz and Heinz

(2012), communication as a supervisory function is the passing on of effective information experience, and opinion from one person to another, thus supervisor to subordinates for the accomplishment of a desirable task.

Quality performance is achieved if effective information is conveyed in a manner which allows the subordinate to contribute his or her quota towards the achievement of the desired result expected to be achieved. The authors added that, this serves as bridge between the gap in information in the construction industry, in that when there is no platform or avenue for subordinates to communicate or give proper feedback as to what has been done or what is being done is right or not, the anticipated quality performance of project would be at stake (Dulaimi et al. 2007). With these techniques put in place, it informs subordinates or supervisee how their contribution is important in the decision making process of supervisors and firms and by so doing motivate the employees to increase their performance for the attainment of quality performance on construction project in Ghana (Susan, 2012).

Subordinates feel they are also involved and not just being supervised to deliver but also have a say in supervision process (Koontz & Heinz, 2012). Jerry (2012) also poses it that for the purposes of communication and involvement of subordinates in the supervision practices, when firms are initiating structures for increasing performance and reducing cost of production, they should not overlook the extent to which supervisors organize and define group relationships establishing good communication skills, channels for effective communication and adequately specify job accomplishment. This according to him would keep the subordinate on track to achieve desired quality performance needed on construction project in Ghana. This could basically be based on trust, respect involvement and warmth relationship between supervisor and subordinates (Jerry, 2012).

2.5.5 Encouraging positivity

A positive supervisor is one who is optimist and believes in his subordinates and that is able to inspire to keep workers moving in times of difficulties. The difficulty and complexity nature of construction activity according to Susan (2012) needs supervisors who can inspire to get work going during times of difficulties or when the going gets tough. This supervision technique or skill is very much essential for motivating subordinates in the attainment of quality performance on construction projects. Encouraging positivity from supervisors on construction site is able to bring tranquility and positive emotion is inculcated into the subordinates who turn to yearn or crave for quality performance in the attainment of predetermine result.

Happiness at work place according Elisa (2011), is one element which ensure employee or subordinate commitment to task assigned to them and this comes as a result of creating positivity and encouraging others on the construction to spread or uphold it. From studies this could be seen that groups that are happier and cheerful during the execution of work finds dull task somehow fun and groups which are not happy finds dull task as it is and deliver very slow which lowers production and in turns affect the quality of performance on projects.

2.5.6 Performance appraisal of subordinates

Performance appraisal as a construction site supervision style has been used in many other purposes but for this study, performance appraisal or evaluation of employees on construction projects would mean a formal structured system by which supervisors' measure, evaluate and assess an employee's job related attributes, behavior and outcomes in executing project. This is done to establish the performance of employee as to whether they are up to the task, and this helps to maintain the standards intended to be achieved as far as quality performance is concerned. When this is done, according

to Osea (2012), subordinates who are capable of taking future challenging jobs or tasks are identified. According to her, supervisors use this style to ascertain how productive their employees are performing in order to achieve organizational goal thus quality performance. She poses it that need for performance appraisal in ensuring quality performance on construction projects is a key in establishing individual current job performance individual's strength and weakness to determine future performance on projects. In doing so, appraisal also serves as a supervision style that provides the basis for rewarding employees in relation to their contribution to the firm's output or organizational goal.

Employees in turn, increase their performance for the attainment of quality performance of projects for they believe if they work to the standards, their effort would be recognized accordingly where necessary. It is unfortunate that this style is not practiced frequently unless an employee is due for promotion (Osea, 2012). According to Soomro et al. (2011), appraisal as a supervision style is not used frequently but a study conducted showed that the few firm that uphold appraisal have correlated positively with the performance of employee in the quest for achieving quality performance in the construction industry and also linking appraisal and reward of employees have also been consistently connected with firm's profitability (Soomro et al., 2011).

2.6 THE EFFECTS OF KEY SITE SUPERVISION STYLES ON CONSTRUCTION QUALITY PERFORMANCE IN THE GHANAIAN CONSTRUCTION INDUSTRY

This section being the successor of 2.5 seeks to present the effect of key site supervision on construction projects in Ghana in the quest for quality performance. According to Osea (2012), although the term supervision is very prominent in the day-to-day activities of most firms in Ghana, it has either been ignored or received little attention in the past years. This objective as mentioned earlier seeks to explore much into effects

associated with effective key supervision styles on construction sites in Ghana and how they facilitate in the attainment of quality performance on construction projects.

Moreover, this study is of the view that while the provision of infrastructure and key personnel in the construction outfits is vital for ensuring quality staff performance, the absence of effective key site supervision styles could lead to low quality performance on construction project Osea (2012). Mills (2002) asserted that, supervision has direct effect on the performance of staff or subordinates, thus supervisors assign task and clear responsibilities for executing those tasks and they in turn expects accuracy and punctuality from subordinates which is all geared towards the attainment of quality performance of projects. With this said, the influence of supervisors are highly felt in the attainment of quality construction. Osea (2012) pose it that supervision if incorporated very well in all sphere of production would equip individual subordinates with necessary knowledge, attitude and skills to make themselves useful in the construction industry as well as be beneficial to their immediate community at large.

From the review of literature, the following can be said to be some benefits associated with effective site supervision on construction quality performance in the Ghanaian construction industry:

- Helps to reach project goals
- Ensures that construction projects are executed properly
- Ensures quality, functioning and standard conformity of materials, equipment and systems
- Enhances safety on the site
- Make sure that regulations are followed
- Enhances reduction in employee turnover
- Effective supervision enhances maximization of profit and performance

- Eradication of unethical behaviors on construction site
- Enhances effective coordination of work
- Ensures the development of employees' capacity
- Achievement of quality standard performance
- Enhances effective schedule delivery of needed materials and labor
- Enhances the effective inspection of materials before incorporated into the project
- Enhances the establishment of high staff morale and sound leadership and teamwork
- Meeting operational standards
- Promote effective management of tools and material inventory for projects, and
- Enhances job satisfaction.

2.6.1 Enhances Job Satisfaction

Job satisfaction has emerged as one of the effects of site supervision on construction quality performance in the construction industry. According to Eugene (2005), job satisfaction is associated with how personal expectations at work places are met, thus how employees feel about their compensation in the work environment, benefits, career development and relationship with management. According to Osea (2012), a survey conducted in a study revealed that if all these elements of job satisfaction are satisfied in the work environment, the enthusiasm of employees is increased and this in turn motivate them to work up to the standards set in the purpose of achieving quality construction performances. To this effect, satisfaction in the work environment could be achieved through effective supervision on the construction, when job satisfaction is achieved, thus meeting the need of employees or subordinates as far as career development, effective employee-supervisor relationship and work environment condition is concerned. For job satisfaction to be achieved in the course of site

supervision, this would mean supervision is not only geared towards to exploiting of employees but also ensures the well- being and welfare of employees within the construction industry.

2.6.2 Reduction in Employee Turnover

The impact of supervision of employees in construction on firm's performance is an important employee supervision in industrial relation and industrial and organizational psychology to the attainment of quality performance on construction projects; this can be felt as a positive effect of supervision on construction site

(Kleiner, 2007). An increasing body of knowledge according to Jones & Wright (2007), argue that, the use of high performance site supervision practices, including comprehensive employee recruitment, selection procedures, incentive compensation and performance management system and extensive employee involvement and training can improve on the skills, knowledge of employees which is a step in the right direction in maintaining of firm's potential employees and the long run avoiding high rate of employees turnover on construction projects in Ghana.

Susan (2012) pose it that the longer employees work on construction projects the higher their quality of performance, thus employees become abreast with the construction activities and improve on standards of performance yielding high quality of project delivery. This connote how important efficient site supervision is saving much cost on recruiting new employees since efficient supervision practices is being a cost reduction in employee turnover on the construction site. Quality performance of work would be achieved when employees work for longer period of time with effective supervision which is geared towards the attainment of high quality project delivery (Susan, 2012).

Moreover, issues that trigger the intention of employees' turnover include the presence of a union, compensation level, perceptions of job security; job satisfaction, organizational tenure and organizational commitment all are factors that influence the intention of employees to leave or turnover, having said this, with efficient supervision systems in place such issues would be addressed for the efficient and smooth production firms to continue (Baysinger and Mobley, 2002).

2.6.3 Eradication of Unethical Behavior on Construction Sites

Efficient supervision practice eradicates unethical behavior from the construction site and with the firm itself. According to Baysinger and Mobley (2002), with keen and effective supervision on construction project in the quest of quality performance on the construction project, employees commonly tend to that their work is of value and importance to the firms with which they work and loyalty is built as a result. According to them, without loyalty in the work place craving for quality workmanship would be in vein and that employees would deviate from acceptable norms and standards and turn to involve themselves in unacceptable acts or ethic with the work environment. Such unethical practices that could have arisen if supervision were not effective include theft by employees, drastic decreased in employees' effort, using equipment without the authority of supervisors falsifying of document in their favor without being noticed and among other. Having put effective supervision systems in place and building on employees' loyalty and integrity such unethical practices could be eradicated or reduced to the barest minimum (Suraj et al., 2014).

2.6.4 Ensures the Development of Employees' Capacity

Supervision when practiced well enhances the capacity of employees within the construction industry which in turn improves on the quality performance of project delivery. The skills and knowledge gained by individuals working on projects would

again put in the knowledge they have acquired on previous project (Suraj et al., 2014). The role or responsibility of supervisor on the construction site is to create safe environment which enables the contribution and involvement of employees to be felt towards to the attainment of quality project delivery in the construction industry (Richard 2006). This environment created enables the employees to work through the developmental issues or challenges of each level in order to acquire necessary motivation, development and self-awareness to successfully move to the next level of development as far as capacity building is concerned towards the attainment of quality project performance.

According to Richard (2006), successful supervision on the new entry of employee would lead to a greater sense of confidence and build the capacity of the employee in executing any task assigned to him or her and their ability to understand and complete task as scheduled is achieved for sustainable quality project performance. Moreover, he poses it that, the supervision of the developing employee on the other hand requires greater level of skills and flexibility to help these employees to negotiate the difficult challenges at this developmental stage. For such employees, due to the ability to develop themselves, most of the structure of supervision is provided by themselves toward quality project performance rather than the supervisors as they typically focus on what these employees are capable and not capable of doing (Richard, 2006).

2.6.5 Ensure Safety on Site

According to Victoria (2007), the injuries occurring on construction sites in recent times has become very paramount within most construction sites in Ghana and if no one takes the responsibility of effective supervision of safety on construction sites, most of the workers in the construction outfit would be victims of construction injuries in the cause of executing construction works on site. The principal responsibility of site supervisor

as far as safety is concerned is to make sure every individual on site is well protected and free from dangers. According to Susan (2012), prior to the appointment of a site supervisor it is incumbent to ascertain if the supervisor is acquainted with construction site safety, can draw safety plan for every construction project and should have maintenance culture. In the quest of ensuring safety on construction site it is incumbent on the supervisor to make sure safety policies are communicated and is being stacked to by everyone within the confinement of the construction activity.

Victoria (2007) poses it that necessary inspection on construction site as a function of supervision is also essential in achievement of site safety and ensuring contractors are also doing their part on the attainment of site safety, thus, with site rules and Safe Work Method Statement (SWMS). Moreover, Victoria (2007) added that, works involving high risks construction should employ the use Safe Work Method Statement and make sure it suits the construction site for the work. In furtherance to this, the regulation 25 (2) of the Factories and Machinery (Building Operation and Works of Engineering Construction) (Safety) Regulation 1986 (BOWEC), the contractor shall ensure the safety of his or her workers by appointing a site fire safety officer for the supervision on construction activities within the site and stipulated some basic function of the supervisor as; inspecting and rectifying any unsafe conditions at the construction site; correct any unsafe practices; and checking on sub-contractors' to ensure they comply with the Act and Regulation made thereunder are complied with.

2.6.6 Maximizing Profits and Performance

As in every other profit making organization, the function of construction site supervisor, in as much as is to ensure quality performance on project, is also responsible for implementing methods of construction which seeks to cost down cost of production

and increase profit as well as ensuring the ultimate goal thus, quality performance (Suraj et al., 2014). Susan (2012) poses the unnecessary cost or expenses in the Ghanaian construction industry could be a factor for the reduction cost most construction project for the achievement or attainment of construction quality performance on projects. Profit maximization and performance through efficient site supervision is the combination of quality supervision skills which have been discuss earlier in this section of the study (Mills, 2002). This tells how effective supervision on construction is in important in quality performance of project delivery.

2.7 CHAPTER SUMMARY

The opening part of this chapter directed the reader to the introductory as part of the chapter, the chapter dwelt much on issues pertaining to construction site supervision and major terms or words such as supervision, quality performance as well as the overview of supervision in the Ghanaian construction industry were tackled to throw more light on previous issues with regards to the current state of appraisal of supervision in the construction industry. The importance of supervision in the construction industry and the need to appraise or uphold construction site supervision in the construction industry in Ghana was also presented. A comprehensive literature review was done to gather information pertaining to the objectives of the study thus with regards to key supervision styles employed in ensuring construction projects quality performance, as well as the effects associated with effective site supervision styles on construction quality performance in the Ghanaian construction industry was also presented while some variables were expatiated.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 INTRODUCTION

In the wake of ascertaining the key site supervision styles which have effects on quality performance of construction projects in the Ghanaian construction industry, this chapter as every other research seeks to do, presented the methodology pertaining to the directions and guidance towards the achievement of the study. This chapter presented and discussed research terminologies in the quest of delving into the aim and objectives of the study. The approach adopted for this study was the mix-method, thus the two-phase approach to gather both qualitative data and quantitative data in achieving the purpose of the study. Terminologies such as research strategy, sampling methods, statistical techniques research paradigms among others was discussed as the study was basically founded on the methodology.

3.2 RESEARCH PARADIGM

Mangan et al. (2004) pose it that, in all areas of every research, the concept of paradigm is an important and central to the direction of research and for that matter this study. According to Ahadzie (2014), paradigm could be said to be a shared set of assumptions, value, concept and norms within a community in which researchers' view and understand issues pertaining to reality. These philosophical assumptions as well, influence research beliefs and assumptions about nature and how research is conducted. Ahadzie (2014) further pose it that, in the context of research, the term paradigm would shape the way researchers perceive methodology and techniques in conducting research.

In the quest for establishing the strategies used for this study, the philosophical foundation of various strategies was reviewed, for these philosophical foundations have

influence on the research design (Prempeh, 2010). The philosophical dimensions or approaches to research according to literatures are three, which basically include: Epistemology; Ontology and Axiology and these methodological assumptions should be explicitly addressed since these shape the choice of research instrument (Prempeh, 2010). The research paradigm, epistemology, according to Streubert and Carpenter (2003), is a branch of philosophy concerned with the way individuals (researches) determines what is right; thus, positivism and interpretivism tradition. The concept of this study is to follow the positivist approach to knowledge. The positivist approach of the research seeks to the accommodation and verification of varied facts for the establishment of scientific knowledge (Osei-Hwedie, 2010). This research is of the view of identifying the key site supervision styles that have effect on quality performance of construction projects in the Ghanaian construction industry and for that matter due to the positivist tradition, it must be carried out in an unbiased manner (thus, free from researchers own effects or influences) and is subjected to replicate.

Ontology on the other hand as a guide to this research methodology, adopts the objective approach to data collection. According to Marsh and Stoker (2002), ontology as a guide to research methods is explained as the sequence of enquiry towards the existence of realism and idealism that is sovereign of our knowledge, in order to achieve the specific aims of the study. Ahadzie (2014) pose it that it is a theory of living being. For this study it could be said that the identification of key site supervision styles on quality performance in the Ghanaian construction firms are facts that exists in the “real world” which are beyond the scope and influences of the researcher. Thus, in the quest of answering the research questions towards the attainment of the purpose of the study, the objectivism ontological approach to research was employed to achieve the desirable results.

3.3 RESEARCH STRATEGY

According to Ahadzie (2014), research strategy is one of the greatest fuels towards the methodology of conducting research by researchers. This section was set to depict and explain the direction through which the research was undertaken. Basically, according to Naoum (2006), research strategy is a way or process of enquiry towards the achievement of research objectives. Ahadzie (2014) further poses it that, the three main underpinning philosophies in research strategy are Quantitative; Qualitative; and the mix method (Two-phase approach). However, he poses it that the choice of adopting any research strategy on many parameters such as the purpose of the study, thus, what the study intends to achieve, the type of the study thus, pure or applied research as well as the availability of information for the research to be undertaken.

Hence this study did employ both qualitative and quantitative approach to research. This is due to the fact that, this study was intended to promote knowledge through the pure research approach and solve problem in the Ghanaian construction industry with regards to the effect of site supervision styles on construction quality performance.

By adopting this method, this study allowed the researcher to ask professionals in the construction industry who often assume supervision positions and are the respondent to this study, relevant questions pertaining to construction site supervision styles with responses which allowed objective data to be collected for the study (Quantitative) and also asked of the opinion of the respondents in an open ended questionnaire to ascertain qualitative data from the field surveyed towards the achievement of the purpose of the study. Therefore, being in the positivist stance data collection approach was mainly dependent on structured survey questionnaires.

3.4 RESEARCH DESIGN

In the process of achieving the intended objectives or the hypothesis raised for this research, it was carefully designed for that purpose. According to Yin (2003), research design is described as the structure which guides the data collection procedure and subsequently analyzing the data and the technique for doing so. This facilitates the researcher's ability to interconnect empirical data to its conclusion, thus from the initial research question to the last research question of the study in an orderly and logical sequence (Bryman, 2004, Yin, 2003), towards the attainment of the research objectives.

Also, the historical data obtained from literature also informed the research and aided in the design of the research procedural framework. This research is a typical case study where the key construction site supervision styles which has effect on quality performance was being determined and for that matter both the qualitative and quantitative approach was used as the method for the study. Using the quantitative approach, the researcher seeks to test the variables emanating from the literature reviewed by specifying narrow hypothesis and the collection of data to support or reflect on the hypothesis raised as well as the qualitative approach which seeks to derive other relevant data to support the quantitative data in the analysis of the surveyed data. This provided a better understanding, to exhaust the surveyed question and provided empirical answers for them. Also employing both qualitative and quantitative made the research procedure less expensive to undertake than using only the qualitative method.

3.5 RESEARCH PROCEDURE

Research procedure captured in this section of the research methodology was one of the important guides to research which pertains to the methods employed in order to achieve the objectives of the study and the overall aim of study. This involves issues such as the principles underpinning the choice sampling methods or techniques as well

as the statistical technique and data collection instruments and tools, which was addressed.

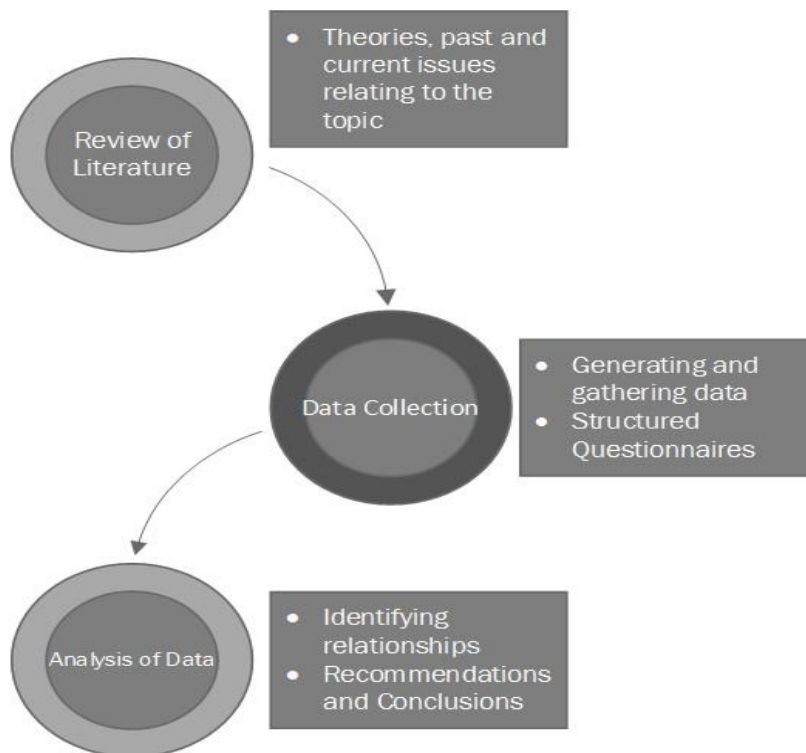


Figure 3.1: Workflow of research procedure Source: Boateng (2015).

3.5.1 Population of the Study

Every research work has specific population that it targets as its respondents. This sample was drawn out of majority termed as population. According to Ahadzie (2014), population could be defined or understood as definite or indefinite larger number of group of many cases or event from which a researcher draws his or her sample and this could be termed as sampling. As afore mentioned earlier, the cases or event here meant objects, subject, phenomenon, event or even activities for the purposes of sampling. Also according to Taylor-Powell (2002), population in the context of research refers to a group or unit of interest to the researcher within which he or she draws sample from.

For the purposes of this study the population was construction professionals in the upfront of construction activities as supervisors in the Ashanti region of Ghana.

The sampling technique employed was the purposive sampling geared towards achieving all the possible cases that are fit for this study by virtue of special conditions prevailing as at the time of the study such as time constraints. Without limiting this study to any particular class of construction firms, according to the registrar general department's records as at December 2015, the number of construction firms in the Ashanti region was approximately 200. Abraham (2010) attested to the fact that getting list of registered construction firm in the region is very difficult and based on this the non-probabilistic purposive sampling technique was used to reach as many construction firms in the Ashanti region as possible.

Based on Central Limit Theory (CLT) of research population, which states that sampling size should not be less than 30% of the population, thus in quantitative research, but in qualitative research the sampling size could be less than 30% however a population slightly above the limit or equal to the limit is accepted when both methods or approaches are used (Ahadzie, 2014). For that matter the non-probabilistic purposive sampling targeted about 15 construction firms in the Ashanti region representing the likely population of construction firms in the Ashanti region for the purpose of this study. The scope of this research study as mentioned earlier is the Ashanti region of Ghana which is the likely second highest hub of construction activities in Ghana and the consideration given was also due to proximity and the availability of information with ease, as compared to the other regions of Ghana.

3.5.2 Data Collection and Source of Data

Thomas (2010) poses it that data collection and source of data as a research methodology deals with processes involved in evaluating and the systematic collection of data that is a true representation of the view and opinions of the respondents to the study or the research stakeholders. According to Ahadzie (2014), for the purposes of data collection and source of data to research, the source of data should be imperative to understanding the basic theoretical background of the research. To this extent, this section of the research methodology was set to depict the processes and presentation of data collection techniques or instrument, methods and procedures.

The strategies adapted to the data collection procedure was field survey (Primary) and the review of literature (Secondary) thus desk study approach. The literature review approach aided the researcher in ascertaining vital off-hand information pertaining to the topic under study, thus, the key supervision styles that have effect on quality performance of construction projects and this was based on journals, thesis, publications and other relevant documents that relates to the study. According to Ahadzie (2014), primary data to research methodology are data in which the researcher himself or herself collect or is collected on the researchers' behalf through structured field surveyed questionnaire.

Neville (2007) poses it that every research work conducted should have some sought of sound empirical data, thus data from the field. For this study, source of empirical data was construction professionals who usually assumed the position of site supervision in the industry such as the Site Engineers (SE), Site Foremen (SF), clerk of works, and Construction Site Managers (CSM) among others. Data collection and questionnaire distribution techniques that was employed for the study was selfadministered questionnaire. These data was used to identify issues that are critical to the site

supervision styles which have effect on quality performance in the Ghanaian construction industry. Such issues include behaviors, attitudes, beliefs and expectation pertaining to the study (Anderson, 2004). Therefore, it was imperative to administer questionnaire for the measurement of individual respondent's opinions on site supervision styles in the construction industry in Ghana.

3.5.3 Questionnaire design and development

According to literature, questionnaire as defined by most researchers in simplest term is defined as a pre-formulated and carefully written set of questions to be answered by respondents of a study, usually with a rather closely defined alternative (Sekaran, 2003). According to him, it is to elucidate reliable, acceptable and scientific statistically useful information about the research under study. Saunders et al. (2003) pose it that questionnaire is an important tool which facilitate data collection for a study by making enquiry from the respondents to answer a given set of same questions at different occasion without any influences on the respondents.

Questionnaire design according to other researchers is considered as the integral part of research design stage (Yin, 2003). Frazer and Lawley (2000) have described the methods of questionnaire administration as four types, which include; mail questionnaire; telephone questionnaire; personally administered questionnaire; and internet or web page questionnaire. For this study, the personally administered questionnaire approach was employed to retrieve data from the respondents and this aid in the fast administration of questionnaires and high response rate. According to Ahadzie (2014) questionnaire design should be concise and simple in form; this informed the basis of the questionnaire design to the study.

3.5.3.1 General Ethics and Consideration

In the quest of enhancing the research process for every study, the concept of ethics and consideration in research development have gained very much importance in the field of research today. According to Welman (2005), ethical consideration and ethical behavior is explained as important in research, as they are in other field of human activities. This aspect of research guides the reservation of the right of the respondents as human being should be respected at all times (Yin, 2003). Base on this, the respondents was assured that their right or privacy would be preserved to facilitate the responses without fear or any intimidations, in furtherance to this, the ethical consideration for the study was shown in table 3.1 below. This was based on the ethical principles in conducting research, in furtherance; the following in table 3.1 was used for this study as far as ethical consideration was concerned.

Table 3.1: Ethical Considerations

Competence	A researcher should embark on research involving the use of skills in which he or she has adequate training in, in doing so this could probably reduce the risk of causing harm to the subject, thus abusing a subject's goodwill, damaging the reputation of the research as well as organizations and may involve wasting time and other resources.
Plagiarism	Ahadzie (2014) explains plagiarism as the use of other researcher's data or idea without the necessary acknowledgement and permission from the author(s), having said this, all necessary acknowledgements were done for the research or this study to be ethical as possible, where necessary citations are made to acknowledge other authors whose ideas were portrayed in this study.
Falsification of results	This unethical conduct in research work is where researcher falsifies results or misleads result in the aim of achieving a research goal. This research stands to be free from all unethical conduct and for that matter results were actual findings from the field survey and were carefully analyzed to produce the results for this study.

Source: Welman (2005).

3.5.3.2 Steps in Designing the Questionnaire

Sekaran (2003) poses it that questionnaire is one of the major tool in research for the collating of information which can be tabulated, discussed and make more meaning out from the discussion. According to Ahadzie (2014), during the design of questionnaire for any study, the two main objectives that should guide the researcher towards questionnaire design are outline as to maximize rate of response as well as ascertaining accurate and valid relevant information for the study. Hence these two objectives informed the decisions to the questionnaire design for this study. In order to achieve this aim and facilitate quick response a good rapport was established with the respondents and contacts of any means of communication were also exchanged with the respondents to consistently remind respondents who were not responding one way or the other.

Ahadzie (2014) further poses it that, questionnaire structure should be well planned with consideration given to how questions would be asked and answered, thus, the wording for question and even the general layout as well as number of questions contained in the questionnaire affects the respondents' enthusiasm to answer or not. In the quest of achieving high response rate for the study, the questionnaire for this study was simple, short, brief and carefully worded to raise the enthusiasm of the respondents. Questionnaires that have vague, ambiguous and confusion questions are mostly not answered and should be avoided to enable critical analysis to be done (Ahadzie, 2014). In view of this the questions for this study were unambiguous and clear to a lay man understanding. Also according to Yin (2003), answering questionnaire should not take more than 10 minutes of respondent's time, thus timing in questionnaire is so much important that it influence the rate of response and due to this the questionnaire was

designed or structured in such a way that it was appealing to the respondents and did not take much of their time to answer.

3.5.4 Sampling Size and Sampling Techniques

According to Bryman (2004), sampling size informs how segment of a population involved in the collation of data would be selected. The population of any research is the universal of units from which a sample is drawn and this is known as sampling (Bryman, 2004). He poses it that the sampling technique for research could be probabilistic or non-probabilistic and in other instances both could be used depending on the situation at hand. According to Ahadzie (2014), the major difference between the two is that, probabilistic uses simple random selection whereas the nonprobabilistic base on selection which suits the situation at hand. Other important issues pertaining to sampling as described by most research methods writer are sampling frame, representative sampling and non-sampling errors as well as response rate.

This study which is a systematic approach to determining the key supervision styles which have effect on quality performance of construction projects in Ashanti region of Ghana, but collecting information from all the construction firms in the Ashanti region would be rare and difficult since the research is within a restricted time frame. Taylor-Powell (2002) has it that selecting a representative part of a population (sample) to validate the characteristics or the parameters of the population is termed as sampling. Researchers should bear in mind as this is guided by certain defined or undefined factors such as, population size, information need for the study and resources available for the researcher to use (Yin, 2003). In view of this, the nature and kind of information needed could not be factored in all construction firms in the Ashanti region.

The sampling technique adopted for this research was the purposive non-probability sampling. According to Ahadzie (2014), purposive sampling is a type of nonprobability sampling which is used to acquire possible cases which fits the criteria by virtue of the use of expertise who have the requisite information to achieve the aim of a study. The target respondents included, clerk of works, Construction Site Managers (CSM), Site Engineers and Site Foremen (SF) in various construction firms to mention but few as indicated earlier. These respondents were the target for the study since these individuals are normally in the forefront of site supervision in construction sites.

3.5.5 Data Presentation and Analysis

Data presentation comprises the need to first identify the type of variables to aid in the determination of analytical tools to be used for the analysis (Bryman, 2004). With this classification, the researcher can appreciate which analytical tools that can be used for the analysis of data when examining variables and their relationships. Yin (2003), noted that, one of the most important stage of any research process is data presentation which thoroughly and effectively portray the idea of the research finding to the audience or readers. Data collected was edited and coded using statistical tools such as the IBM SPSS (International Business Management Statistical Package for Social Sciences) version 21.00 and the Microsoft Excel (2016) (MS 2016).

Analyzed data was presented in tabular form to give meaning to the discussions done in the study. Data obtained from the survey was interpreted by the IBM SPSS V21.00. The discussions was based on the result generated from the statistics as to what pattern and common trends that runs through the respondents with regards to the study. The statistical tool that was employed was the descriptive statistics.

3.6 SUMMARY OF CHAPTER

This section of the research introduced the various techniques available in research methodology and hinted on the reasons for the adoption of each methodology for this research. Moreover, the various research approaches were discussed and the data collection method which was survey questionnaire were also discussed. The conclusion part of this chapter addressed the research issues covered such as; research population, source of data, questionnaire design as well as questionnaire design format, sample size determination, data presentation and analysis. The chapter concluded with the summary of the chapter thus, summarizing all relevant information discussed in this very chapter.

CHAPTER FOUR DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

The primary data collected from eighty (80) respondents within the Ashanti region for analyses are recorded in this chapter. Respondents comprising site foremen, site manager, site engineer and clerk of works were choosing for the study. The study focused concentration on evaluating the effect of key supervision styles on quality performance of construction projects in Ghana. In performing the analysis, descriptive statistics like frequencies and percentiles were used. Also, the mean score ranking was adopted. Data analysis was performed and the outcomes illustrated according to the specific goals of the research namely: to identify supervision styles used in the Ghanaian construction industry in ensuring quality performance of construction projects, and to determine the effects of key supervision styles on quality performance of construction projects in the Ghanaian construction industry. 80 survey questionnaires were administered and 33 completed questionnaires were retrieved and were valid for analysis after data screening. This suggests a response rate of 41.25%.

4.2 RESPONDENT PROFILE

In analyzing the demographic data, descriptive statistics was employed using the IBM SPSS v23. In Table 4.1, the demographic profile of respondents is presented.

Concerning respondents' occupation, 24.2% of the respondents were site foremen, 30.3% were site managers, 33.3% were site engineers and 12.1% were clerk of works.

This suggests that, the study was dominated by site engineers. On respondents' highest academic qualification, HND and BSc holders constituted 42.4% each respectively of the study. Meanwhile CTC and MSc holders comprised 9.1% and

6.1% of the study respectively. None were PhD holders. Regarding respondents experience, 36.4% had 6-10 years of experience, with 27.3% were have worked in the construction industry from 0-5 years. And 18.2% have worked between 10-15 years in the construction industry of Ghana. While 18.2% have over 15 years of experience. Concerning the number of construction projects supervised, 24.2% of the respondents have supervised 0-5 projects, 21.2% have supervised 6-10 construction projects. 15.2% have supervised over 11-15 projects. 15.2% and 24.2% have supervised 16-20 projects and over 20 projected respectively.

The respondents profile in Table 4.1 suggest that the respondents involved in the survey are primarily site engineers either being HND or BSc holders with 6-10 years of experience in the construction industry who have supervised 6-10 projects.

Table 4.1: Demographic profile of the respondents (N=33)

Characteristic	Frequency	Percentage
Occupation		
Site foreman	8	24.2
Site manager	10	30.3
Site engineer	11	33.3
Clerk of works	4	12.1
Highest academic qualification		
CTC (I, II or III)	3	9.1
HND	14	42.4
BSc	14	42.4
MSc	2	6.1
PhD	0	0.0
Number of years worked in the construction industry		
0-5 years	9	27.3
6-10 years	12	36.4
10-15 years	6	18.2
Over 15 years	6	18.2
Number of construction projects supervised		
0-5 projects	8	24.2
6-10 projects	7	21.2
11-15 projects	5	15.2
16-20 projects	5	15.2
Over 20 projects	8	24.2

Source: Researcher's survey (2016)

4.3 SUPERVISION STYLES USED IN THE GHANAIAN CONSTRUCTION INDUSTRY IN ENSURING QUALITY PERFORMANCE OF CONSTRUCTION PROJECTS

In this section, the survey was conducted to identify supervision styles used in the Ghanaian construction industry in ensuring quality performance of construction

projects grounded on the respondents' view. The respondents were therefore inquired to rank their level of agreement on each recognized supervision styles on a Likert scale of 1 to 5, where 1=not common, 2=less common, 3=neutral, 4=common, and 5=very common.

The outputs were then examined and presented in order of significance in the Table 4.2. In determining the relevance of the variables on the five-point Likert scale rating, a success standard was deemed significant if it acquired a mean value of equal to or greater than 3.0. When two or more variables having similar mean scores, the other having the minute deviation is allocated the maximum significance rating (Ahadzie, 2007). Also, the significance scale was leveled at 95% in line with orthodox risk gauges (ibid). The factor of standard deviation measures consistency in responses by acquiring the distinction between the highest value of the standard deviation and the lowest value of standard deviation. If the distinction between them is minute, that is close to zero, the consistency is high as far as the responses are concerned and vice versa.

Table 4.2: Supervision Styles Used in The Ghanaian Construction Industry in Ensuring Quality Performance of Construction Projects

Supervision Styles	N	Mean	Std. Deviation	Ranking
Encouraging teamwork	33	4.0909	.76500	1
Accepting challenges in the course of executing of work	33	3.9394	.70442	2
Listening to subordinates or supervisee	33	3.8182	.84611	3
Practicing good communication skills	33	3.6667	.95743	4
Providing room for learning	33	3.6061	.74747	5
Performance appraisal	33	3.5758	.90244	6

Encouraging positivity	33	3.4848	.79535	7
Mission-focus/ priority-setting	33	3.4545	.93845	8
Insisting on accountability	33	3.3030	.98377	9
Delegation ability	33	3.2424	1.09059	10
Celebrating with employees after achieving milestones	33	3.1818	.98281	11
Being transparent to subordinate	33	3.1212	1.19262	12
Taking responsibility and giving credits	33	2.7879	.99240	13
Allowing room for innovations	33	2.7576	.79177	14
Effective communication of task to workers	33	2.6061	.89928	15
Availability of supervisor	33	2.5455	1.03353	16

As shown in Table 4.2, the results revealed that there are twelve (12) significant supervision styles used in the Ghanaian construction industry in ensuring quality performance of construction projects: Encouraging teamwork, accepting challenges in the course of executing of work, listening to subordinates or supervise, practicing good communication skills, Providing room for learning, Performance appraisal, Encouraging positivity, Mission-focus/ priority-setting, Insisting on accountability, Delegation ability, Celebrating with employees after achieving milestones, and Being transparent to subordinate.

Listening to subordinates or supervisee ranked 3rd with a significant mean value of 3.8182. According to Koontz and Heinz (2012), communication as a supervisory function is the passing on of effective information experience, and opinion from one person to another, thus supervisor to subordinates for the accomplishment of a desirable task. Quality performance is achieved if effective information is conveyed in a manner which allows the subordinate to contribute his or her quota towards the achievement of

the desired result expected to be achieved. The authors added that, this serves as bridge between the gap in information in the construction industry, in that when there is no platform or avenue for subordinates to communicate or give proper feedback as to what has been done or what is being done is right or not, the anticipated quality performance of project would be at stake (Dulaimi et al. 2007).

Encouraging positivity ranked 7th with mean statistic of 3.4848. The difficulty and complexity nature of construction activity according to Susan (2012) needs supervisors who can inspire to get work going during times of difficulties or when the going gets tough. This supervision technique or skill is very much essential for motivating subordinates in the attainment of quality performance on construction projects. Encouraging positivity from supervisors on construction site is able to bring tranquility and positive emotion is inculcated into the subordinates who turn to yearn or crave for quality performance in the attainment of predetermine result.

Allowing room for innovations ranked 15th with mean of 2.7576. The construction industry in its form is a complex nature within the industries in Ghana (Susan, 2012), the industry is in the nature that strives for innovation for the improvement of work.

Over the past years' construction works have been the kind of repetition of previous activities, in the attainment of construction quality performance, the need to appraise innovation to high standard would be as a fuel in the path of bringing new innovation on board. According to Intergraph (2012), this innovation comes as a result of delegating most responsibilities to subordinate to also take up challenges, in so doing these subordinates would figure out new ways of doing something in a better way than it used to be and even improve on it for the attainment of construction quality performance (Susan, 2012).

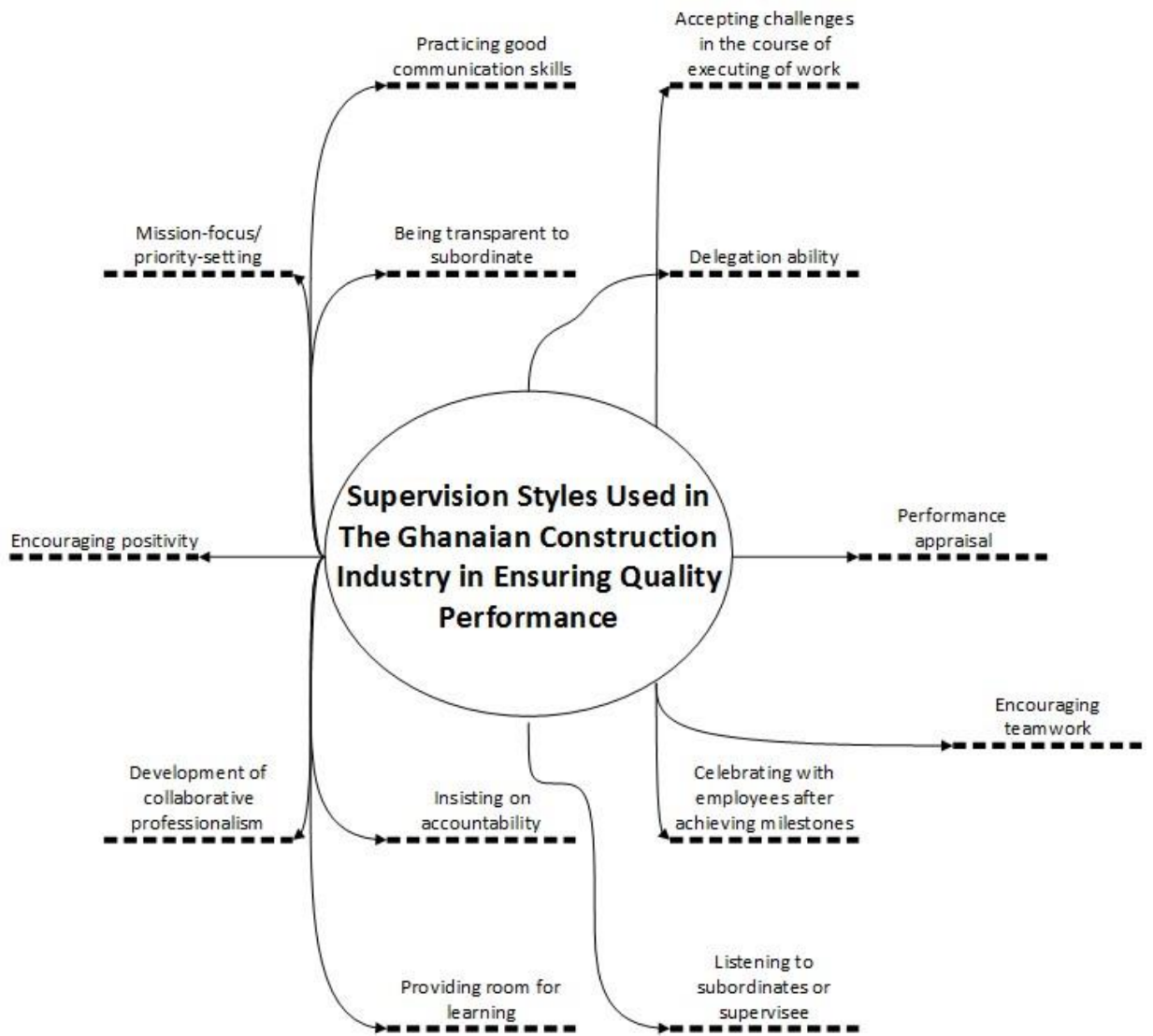


Figure 4.1: Key Supervision Styles Used in the Ghanaian Construction Industry in Ensuring Quality Performance of Construction Projects

4.4 EFFECTS OF KEY SUPERVISION STYLES ON QUALITY PERFORMANCE OF CONSTRUCTION PROJECTS IN THE GHANAIAN CONSTRUCTION INDUSTRY

Descriptive statistics was performed to evaluate the mean statistics and standard deviations of all effect variables. In establishing the relevance of the items on the fivepoint Likert scale of 1 to 5, where 1=not significant, 2=less significant, 3=neutral,

4=significant, 5=very significant. The twelve items in descending order of significance are Effective communication of task to workers

Delegation ability, Performance appraisal, taking responsibility and giving credits, being transparent to subordinate, listening to subordinates or supervise, insisting on accountability, allowing room for innovations, Mission-focus/ priority-setting, Encouraging positivity, Encouraging teamwork, and Availability of supervisor displayed mean scores over 3.0.

Standard deviation statistics of less than 1.0 indicates consistency in agreement among the respondents of the reported level of results (Stevens, 1996). In the standard deviation column, all the standard values are less than 1.0 except Insisting on accountability, allowing room for innovations, Mission-focus/ priority-setting, Encouraging positivity, Encouraging teamwork, Availability of supervisor, and providing room for learning.

Table 4.3: Effects of Key Supervision Styles On Quality Performance of

Construction Projects

Effects	N	Mean	Std. Deviation	Ranking
Effective communication of task to workers	33	4.0000	.79057	1
Delegation ability	33	3.8788	.81997	2
Performance appraisal	33	3.7576	.93643	3
Taking responsibility and giving credits	33	3.7273	.87581	4
Being transparent to subordinate	33	3.6364	.89506	5
Listening to subordinates or supervise	33	3.4848	.87039	6
Insisting on accountability	33	3.4545	1.03353	7
Allowing room for innovations	33	3.3636	1.05529	8

Mission-focus/ priority-setting	33	3.3333	1.05079	9
Encouraging positivity	33	3.2424	1.17341	10
Encouraging teamwork	33	3.1818	1.07397	11
Availability of supervisor	33	3.1212	1.24392	12
Providing room for learning	33	2.8485	1.00378	13
Accepting challenges in the course of executing of work	33	2.7879	.78093	14
Practicing good communication skills	33	2.6364	.99430	15
Celebrating with employees after achieving milestones	33	2.6061	.93339	16

As seen in Table 4.3, *Effective communication of task to workers* ranked first. This could basically be based on trust, respect involvement and warmth relationship between supervisor and subordinates (Jerry, 2012). *Delegation ability* ranked second.

According to most human resource practitioners' delegation in its context is a very important supervision technique for succession planning as well as personal development of individual. This according to Susan (2012) facilitate the quality performance on the construction project since most of the employees tend to understand supervisors very well when they are also delegated to supervise others in that regards this helps increase the desirable quality performance on construction projects. Delegation according Susan (2012) is a supervision technique used by management to broaden the experience of subordinate and take on higher responsibility in the form of training by reducing cost of production as well is ensuring high quality performance on the project. *Performance appraisal* ranked third. Performance appraisal as a construction site supervision technique has been used for many other purposes but for this study, performance appraisal or evaluation of employees on construction projects would mean a formal structured system by which supervisors' measure, evaluate and

assess an employee's job related attributes, behavior and outcomes in executing project. This is done to establish the performance of employee as to whether they are up to the task, and this helps to maintain the standard intended to be achieved as far as quality performance is concerned. When this is done according to Osea (2012), subordinates who are capable of taking future challenging job or task are identified. According to her supervisors use this technique to ascertain how productive his or her employees are performing in order to achieve organizational goal thus quality performance. *Listening to subordinates* ranked sixth This variable brings about the ability of the supervisor to communicate effectively and also involve subordinates in decision making as well for good supervisor is one who could communicate well as well is listen to his or her subordinates in the cause of attaining a common goal, thus quality performance.

Communication in the construction industry is essential supervision styles used for the attainment of quality performance in the construction industry (Susan, 2012). According to Koontz and Heinz (2012), communication as a supervisory function is the passing on of effective information experience, and opinion from one person to another, thus supervisor to subordinates for the accomplishment of a desirable task. *Allowing room for innovations* ranked eighth. Blayse and Manley (2004), pose it that when other related construction industries such as the manufacturing industries, designer industry and the property managers are included, the construction industry account for about 15% of the Gross National Product (GNP) of most nations (Seaden & Manseau, 2010). According to them, the higher the level of innovation in the construction industry, the higher the quality performance on construction projects and this in turns increases its contribution towards the economic growth in the country. They again added that unfortunately, in most countries the industry is generally not innovative due to high level of bureaucracy

and that there is room for improvement towards quality project delivery in Ghana as a whole. According to Dulaimi et al. (2007), participants in the industry need to review their capacity and create room for innovation for it is a life line for quality project performance on construction projects in the construction industry, as Twum (2003) point it that at bottom line, the construction and engineering firms' practices needs to innovate to win projects and improve on the financial results of these projects, they must innovate to compete. *Encouraging positivity* ranked tenth. Happiness at work place according Elisa (2011), is one element which ensures employee or subordinate commitment to task assigned to them and this comes as a result of creating positivity and encouraging others on the construction project to spread or uphold it. From studies this could be seen that groups that are happier and cheerful during the execution of work finds dull task somehow fun and groups which are not happy finds dull task as it is and deliver very slow which lowers production and in turns affect the quality performance of projects.

4.5 CHAPTER SUMMARY

This chapter was dedicated to the analysis and discussions of the outputs acquired from the field survey. It began with a brief discussion of the survey questionnaires and descriptive statistics of the results acquired from the field. The chapter comprised mean score ranking for particulars of the study.

CHAPTER FIVE SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

This chapter finalizes the research. First, the attainment of the objectives and contributions to this research are illustrated. Further, recommendations are drawn and suggestions for future research are outlined. Finally, the conclusion is given.

5.2 ACHIEVEMENT OF RESEARCH OBJECTIVES

The outcomes obtained from the research are summarized in this section.

Identify Supervision Styles Used in The Ghanaian Construction Industry in Ensuring Quality Performance of Construction Projects. In addressing this objective, various parameters were adopted in the survey questionnaire to identify the key supervision styles used in the Ghanaian construction industry in ensuring quality performance of construction projects. A review of extant literature on supervision styles were conducted which aided the researcher to identify sixteen (16) supervision styles worldwide. These 16 variables were formulated into questions on the survey questionnaire inquiring respondents to rank their level of agreement of the supervision styles. Analyzing respondents' responses, it was revealed that 12 out of the 16 variables are significant to the construction industry. These 12 key supervision styles are Encouraging teamwork, accepting challenges in the course of executing of work, listening to subordinates or supervisee, practicing good communication skills, providing room for learning, Performance appraisal, Encouraging positivity, Missionfocus/ priority-setting, insisting on accountability, Delegation ability, celebrating with employees after achieving milestones, and Being transparent to subordinate.

Effects of Key Supervision Styles on Quality Performance of Construction Projects in the Ghanaian Construction Industry. A review of extant literature on effects of key supervision styles on quality performance of construction projects in the Ghanaian construction industry. Sixteen styles were identified and formulated into questions on the survey questionnaire inquiring respondents to rank the level of agreement of their effects. In order of significance, the styles are Effective communication of task to workers, Delegation ability, Performance appraisal, taking responsibility and giving credits, being transparent to subordinate, listening to subordinates or supervise, insisting on accountability, allowing room for innovations, Mission-focus/ priority-setting, Encouraging positivity, Encouraging teamwork, and Availability of supervisor.

5.3 CONCLUSION TO THE STUDY

Supervision has direct effect on the performance of staff or subordinates, thus supervisors assign task and clear responsibilities for executing those tasks and they in turn expects accuracy and punctuality from subordinates which is all geared towards the attainment of quality performance on projects. With this said the influence of supervisors are highly felt in the attainment of quality construction (Mills, 2002). Osea (2012) pose it that supervision if incorporated very well in all spheres of production would equip individual subordinates with necessary knowledge, attitude and skills to make themselves useful in the construction industry as well as be beneficial to their immediate community at large.

After conducting this research on the effects of key supervision styles on quality performance of construction projects in the Ghanaian construction industry, the research would like to make the following conclusion:

The study consents with the views of other construction stakeholders and researchers that the key supervision styles are essential to a firm's quality performance accomplishments.

Like other developing countries, Ghana sees the need to foster more efficient and effective quality performance that permits firms and institutions to adopt optimal alteration situations for perpetual innovation in quality.

5.4 RECOMMENDATIONS

Based on the outcomes of this study, the following recommendations are forwarded to researchers, stakeholders and practitioners in the construction industry to aid foster quality performance of construction projects through the use of key supervision styles:

Construction companies must organize and take the initiative to educate their supervisors on the identified key supervision styles in this study.

Construction stakeholders are expected to encourage teamwork, accept challenges in the course of execution of work, and listen to subordinates to aid foster improvement in the quality performance of construction projects.

5.5 AVENUES FOR FUTURE RESEARCH

Opportunities for further studies still exist in accordance with this study, taking into consideration its limitations. The study focused on the effect of key supervision styles on quality performance of construction projects within the Ashanti region, therefore, further research can be conducted in the following areas:

Further studies on the effect of key supervision styles on quality performance of construction projects in the Ghanaian construction industry could be extended to the other nine regions so as to generalize the outcomes.

The components of the quality performance that is the key performance indices of quality performance could be advanced to examine how each key supervision style affect a specific performance index.

A model could be further developed to help facilitate the successful implementation of the key supervision styles in the Ghanaian construction industry.



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APPENDIX

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND BUILT ENVIRONMENT

DEPARTMENT OF BUILDING TECHNOLOGY

QUESTIONNAIRE

EFFECT OF KEY SUPERVISION STYLES ON QUALITY PERFORMANCE OF CONSTRUCTION PROJECTS IN GHANA

Dear Sir/Madam,

MSC. RESEARCH PROJECT

This study is being conducted as part of an academic requirement for the award of an MSc in Construction Management.

Your participation in this research will be greatly appreciated in order to determine key supervision styles that have effect on quality performance of construction projects in the Ghanaian Construction Industry. Hence, your contribution to this survey will add up to knowledge and help improve supervision in the Ghanaian construction industry.

The information obtained from this survey shall be kept anonymous and completely confidential. Only findings in aggregate form will be submitted to the relevant authorities. Your participation in this survey is much needed and I will be grateful if you could answer these few questions.

Counting on your usual corporation.

Project Student

Mr. Stephen Yeboah

Tel No: 0244839471/0268644675

Email: emildaq@gmail.com

SECTION A:

I. Background Information

Please tick the most appropriate answer or option for each question.

1. Please indicate your occupation.

Site foreman

site manager

site engineer

Clerk of works

2. Kindly indicate your highest academic qualification.

CTC (I, II or III)

HND

BSc

MSc

PhD

Others..... (Please indicate)

3. Number of years you have worked in the Ghanaian Construction Industry

0-5years

6-10 years

10-15 years

Over 15 years

4. Please indicate the number of construction projects you have supervised in Ghana.

0 – 5 projects

6 -10 projects

11-15 projects

16 - 20 projects

Over 20 projects

SECTION B:

II. Supervision Styles Used in the Ghanaian Construction Industry in Ensuring Quality Performance of Construction Projects

In your opinion, how would you rank the following site supervision styles used in the Ghanaian Construction Industry in ensuring quality performance of construction projects?

Rank on a Likert scale of 1-5.

1	2	3	4	5
Not common	Less common	Neutral	common	Very common

No.	Supervision Styles	Rank				
		1	2	3	4	5
1	Being transparent to subordinate					
2	Mission-focus/ priority-setting					
3	Performance appraisal					
4	Delegation ability					
5	Taking responsibility and giving praises					
6	Being Realistic or setting achievable targets					
7	Availability of supervisor					
8	Allowing room for innovations					
9	Insisting on accountability					
10	Encouraging positivity					
11	Providing room for learning					
12	Celebrating with employees after achieving milestones					
13	Practicing good communication skills					
14	Accepting challenges in the course of execution of work					
15	Encouraging teamwork					
16	Listening to subordinates or supervisee					
	<i>If others, please specify and rank</i>					
17						
18						
19						

III. Key Site Supervision Styles on Quality Performance of Construction

Projects in the Ghanaian Construction Industry

In your opinion, how would you rank the effect of the following Key site supervision Styles on Quality Performance of Construction Projects in Ghana?

Rank on a Likert scale of 1-5.

1	2	3	4	5
Not Significant	Less Significant	Neutral	Significant	Very Significant

No.	Supervision Styles	Rank				
		1	2	3	4	5
1	Being transparent to subordinate					
2	Mission-focus/ priority-setting					
3	Performance appraisal					
4	Delegation ability					
5	Taking responsibility and giving credits					
6	Being Realistic or setting achievable targets					
7	Availability of supervisor					
8	Allowing room for innovations					
9	Insisting on accountability					
10	Encouraging positivity					
11	Providing room for learning					
12	Celebrating with employees after achieving milestones					
13	Developing good communication skills					
14	Accepting challenges in the course of executing of work					
15	Encouraging teamwork					
16	Listening to subordinates or supervisee					
	<i>If others, please specify and rank</i>					
17						
18						
19						

Thank you.