EXAMINING THE EFFECT OF DEMOGRAPHICAL FACTORS ON PROJECT PERFORMANCE IN THE GHANAIAN CONSTRUCTION INDUSTRY

By

Gordon Bonney

(BSc. Quantity Surveying and Construction Economics)

A Dissertation submitted to the Department of Construction Technology and Management, Kwame Nkrumah University of Science and Technology, Kumasi in partial fulfilment of the requirement for the award degree of

MASTER OF SCIENCE IN PROJECT MANAGEMENT

November, 2019.

DECLARATION

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

…… …… ……

Name of Student and ID Signature Date

Certified by

…… …… ……

Name of Supervisor Signature Date

Certified by

…… …… ……

Name of Head of Department Signature Date

ABSTRACT

The aim of the study was to assess the effect of demographical factors on construction project performance in Ghanaian construction industry. Based on the aim, three (3) research objectives were set which were to identify the significant demographical factors in construction project management in Ghana, to identify the significant measures of construction project performance in the Ghanaian construction industry and to identify the effect of demographical factors on construction project performance in Ghana. The study adopted a quantitative research method and a survey research technique. Hence an extensive literature review was conducted for each objective and based on it; a structured question was developed to aid in collecting data from the respondents to ascertain their perception on the aim of the study. The questionnaire was distributed to 66 respondents and 52 were retrieved for the analysis. The data collected was analyzed using mean score ranking and percentages. From the analysis, it was realized that, the level of experience is the most significant demographic factor followed by years of experience. Furthermore, the analysis showed that, client satisfaction is the most significant performance criteria followed by quality performance. Finally, the analysis showed that, the level of education has the most effect on project performance followed by years of experience. With these findings, it was recommended that, construction organizations should promote demographic diversity as it can increase creativity and thus provide a wider range of perspectives and construction firms should continually educate their employees as education significantly affect the performance of a project. The study was limited to only construction firms. However, other construction project stakeholders and organizations can be explored to identify their perception of demographic factors and project performance. Hence further studies can explore other stakeholder groups like consultants

Keywords: Demographical factors, project success

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEGDMENT

I would like to acknowledge the Almighty God for giving me the strength to complete this work. I would also like to express my special thanks and gratitude to my Supervisor and all my lecturers and course teaching assistants who gave me this opportunity and fruitful guidance to do this project on the topic. By embarking on this project, I have been enriched with in-depth information which will help me in my field of work today and the future ahead

DEDICATION

I dedicate the entire work to almighty God for seeing me through this program.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

According to Ofori (2012), the construction industry over the years have played significant and vital role in the development of the national economy across the globe. The construction industry contributes massively to Gross Domestic Product (GDP) growth and employment around the world, and for that matter, is very important to the growth agenda of any economy (Takim, 2005). Furthermore, Olawale (2010) indicated that, the activities in the construction industry provides a vital market indicator for growth since this sector employs more materials as well as produces more products compared to other sectors of the economy. The important role of the construction industry in ensuring growth has necessitated improved efficiency in the sector, especially in the areas of cost effectiveness and timeliness. Improving in the effectiveness of cost and timely delivery of projects may have the tendency to save cost for the nation. Hence, it is crucial to enhance the construction industry's performance in other to create substantial benefits for the country.

However, the performance of construction projects in developing countries have generally been poor and a different situation cannot be said about Ghana. Ofori (2012) indicated that the challenges in the construction industry has fallen short in terms of cost, schedules and quality. Furthermore, executed projects are also unsatisfactory in terms of durability and maintainability. Thus, the performance of construction projects in developing countries are poor when compared to projects in the developed economies. Project performance can be measured using a wide range of indicators such as time, quality, cost, customer satisfaction, health, safety, productivity and people factors and business performance (Enshasi et al, 2009). However, time, cost and quality factors are the three areas of project performance that has been widely explored (Cheung et al, 2004; Helen et al, 2015). One important factor that affect project

performance has been the people factors. Conflict, ineptitude contractors and poor workmanship has resulted in poor construction project performance. Mbachu and nkando (2007) also advanced that lack of quality attitude to service has been a vital hindrance to the successful delivery of projects. Hence the characteristics of professionals involved in construction projects affects its performance substantially.

Bell (2008), identified that demographic characteristics directly affects employee performance in construction organizations. Consequently, it affects the performance of construction projects. Demographical factors can be referred to as the bio-graphical characteristics such as education status, race, family related characteristics and personal career objective, which are key in determining the performance achievement among employees. The increasing trend of demographic diversity based on ethnic, racial, gender and age have numerous implications for human resource development, professionals, employees and the overall performance of the organization (Torrington, 2005). For instance, several studies identified that men are favored especially in the construction industry compared to women, and also the level of education is mostly positively related to performance (Williams et al., 1992). Demographic diversity can increase creativity and thus provide a wider range of perspectives, gives better definition of problem and also provides more alternatives as well as better solutions. With regards to demographic factors of participants in the construction industry, Enshssi et al (2009) indicated that the individual characteristics such as employee attitudes, recruitment and competence development, employees' motivation and belonging to work play significant role in the performance of projects.

Based on this background, this study therefore seeks to assess the impact of demographical factors on construction project performance in the Ghanaian construction industry.

1.2 PROBLEM STATEMENT

Empirical evidence on the factors influencing construction project performance have identified poor supervision, shortage of skilled manpower, poor site management, break-down of working equipment and inappropriate leadership as the culprits (Cheng et al., 2011;). Hence, there is a reduction in the effectiveness in the execution of construction projects. According to Olorunsola (2012), the performance of workers in an organization largely depicts the effectiveness of the organization in achieving its objectives. Thus, if the performance of professionals in an organization is improved, it affects the general performance of the firm. Similarly, the performance of construction projects can be enhanced through the improvement of the performance of the workers involved. Studies have shown that, the performance of workers are influenced by demographic factors like work experience, age and gender among others (Schmidt, 1990; Owolabi, 2005; Shultz and Adam, 2007). Therefore, the performance of construction projects is generally influenced by demographic factors.

According to Auden (2009), the importance of demographical diversity on the performance of construction projects cannot be underestimated. He further postulated that, managing demographic characteristics comprises leveraging as well as using the cultural diversities in people's skills, creativity and ideas to enhance the performance and competitiveness of an organization. Ahadzi (2007) indicated that several cases, contractors were blamed for poor performance due to their limited knowledge in the use of the requisite management practice. Thus, without proper human resource management, the construction works will result in challenges, delays and cost overruns even when it was a well-planned and scheduled project. There is therefore the need to improve the performance of workers to enhance the performance of construction projects by studying the influence of various demographic factors

Therefore, this study therefore seeks to assess the impact of demographical factors on construction project performance in the Ghanaian construction industry.

1.3 RESEARCH QUESTIONS

1. What are the significant demographical factors in construction project management in Ghana?
2. What are the significant measures of construction project performance in the Ghanaian construction industry?
3. What are the effects of demographical factors on construction project performance in Ghana?

1.4 AIM OF THE STUDY

The aim of this study is to assess the effect of demographical factors on construction project performance in Ghanaian construction industry.

1.5 OBJECTIVES

The aim of the study was achieved through the following specific objectives;

1. To identify the significant demographical factors in construction project management in Ghana;
2. To identify the significant measures of construction project performance in the Ghanaian construction industry; and
3. To identify the effect of demographical factors on construction project performance in Ghana.

1.6 SIGNIFICANCE OF THE STUDY

According to Tengan et al. (2014), the challenges in the local construction industry are mostly attributed to the poor planning and cost control techniques they adopt. However, the human factor in the construction and delivery of projects may have serious implications on the performance of construction projects. This study is therefore very significant as it presents very important information to professionals in the construction industry with regards to the extent to which demographical characteristics can affect the performance of projects which has not

be explored in extensively in the Ghanaian literature. The study will also present to consultants, contactors, clients and all construction project partners and insight policy formulation with regards to demographic trends in the construction sector being a major consideration in improving project performance across the country. The empirical finding of the study will greatly benefit researchers in both the industry and the academia by adding to the knowledge available in this area of literature. The study will serve as a foundation for further studies in the subject matter.

1.7 SCOPE OF THE STUDY

Geographically, the study is limited to construction firms in the Accra metropolis. A study conducted by Ahadzi (2007) indicated that, there are several cases where contractors are blamed for poor performance due to their limited knowledge in the use of the requisite management practice. Contractors are responsible for the general execution of a construction project to meet client's requirements hence, there were deemed most suitable respondents for the study.

Contextually, the study was limited to seven (7) performance measurement criteria. They are project cost performance, project schedule performance, project quality performance, health and safety performance, client satisfaction, knowledge creation and transfer and environmental performance.

1.8 RESEARCH METHODOLOGY

The study relied on a literature review to aid in the development of a structured questionnaire subsequently used in collecting data from construction firms. The construction firms were reached using the convenient sampling technique. With the nature of the study, the quantitative research method was deemed most appropriate, hence, statistical tools like one sample t-test and multiple regression was utilized in analyzing the data. Generally, the study adopted a

survey research strategy hence, only a sample of the population was chosen to represent the whole population.

1.9 STRUCTURE OF THE STUDY

This study was separated into five chapters. The chapter is the general introduction to the study. Chapter two presents the review of relevant literature related to the study. The third chapter will provide the methodology that is employed in the research. The chapter four will then present the data analysis, results and discussion. Finally, the last chapter concludes the study by providing the key findings and recommendations for policy implications.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews literature pertaining to the subject area of study. The review was based on the objectives of the study which were to identify the significant demographical factors in construction project management in Ghana, to identify the significant measures of construction project performance in the Ghanaian construction industry and to identify the effect of demographical factors on construction project performance in Ghana. The review consisted of conceptual and empirical reviews. They aided in the formulation of an instrument for the study. The review begun with the overview of the construction industry followed by the concept of project success. Finally, the concept of construction demographic factors was discussed and its effect on project success.

2.2 NATURE OF THE CONSTRUCTION INDUSTRY

According to Ghana Statistical Services, (2015) the Ghanaian construction industry experienced a growth rate of 30.6% and a share of 14.8% of nominal GDP. Therefore, the Construction Industry is the largest growing industry in Ghana. According to Agyakwa-Baah (2007), the Ghanaian Construction Industry is directly linked to the Ghanaian economy because the Government of Ghana is the biggest client in the industry. The Ghanaian construction industry has experienced a steady growth from 26.6% in 2014 to 26.9% in 2015 (Ghana Statistical Services, 2015). Even though the construction industry in Ghana has experienced steady growth over the years, there are inherent problems facing the industry.

A report written by the Road sector of the industry in 2000 indicated series of challenges facing the sector. They included considerable maintenance problems, ineffective reporting and management information system, decentralization of the road sector, inability to secure

adequate working capital, poor workmanship and so on. The building segment of the industry also faces similar problems and requires serious attention. Due to these inherent problems, the industry faces performance problems in terms of cost, time, quality, safety and health of the workers. These problems brought out the need to develop national programs to improve the effectiveness and efficiency of the industry. There is a close relationship between economic growth and the construction industry as construction activities aids in the provision of physical infrastructure and asset-based-development upon which growth and development are realized (Songwe, 2014). Therefore, it is very crucial to enhance the performance of the construction industry in other to experience significant economic growth.

2.2 OVERVIEW OF CONSTRUCTION PROJECT MANAGEMENT

Project management literally means the day to day running of a project. The American Society of Civil Engineer (ASCE) quality manual (1987) described project management as "the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost time and participation satisfaction". Project management practices differs for every organization and the performance of the project is what decides if the practice is optimal. Bryde (2003) indicated that the differences in project management practices may be attributed to factors such as the kind of organization, the type and purpose of the project and also the level of performance preferred. Gowan and Mathieu (2005) indicated that the type of project management practices adopted for a project depends largely on the kind of organization. And this subsequently inform the project management team formation. According to PMI (2004), there exist five distinct project management processes; the initiation, planning, execution, monitoring and closing stages. However, in every stage the role of monitoring and controlling is very critical.

The construction industry is one of the significant sectors that helps in the development of an economy of every country. However, the industry is famous for its complexity and multi-

dimensional nature. Furthermore, the construction industry is controlled by physical infrastructure and asset based – lending as a development. The physical infrastructure developed through construction activities help the country in its economic development. This is because, it forms the basis of facilitating productive activity by allowing goods and services to be distributed within and outside the country (Ofori, 2012). The construction industry also creates broad base for employment, capital formation and technological development. Nhabinde et al. (2012) postulated that, the construction industry holds an enormous future prospect. The industry employs approximately 10% of the working population in addition to its 5% - 10% contribution to GDP in all countries (Ofori, 2012). Also, there are a large number of stakeholders involved in the construction industry (Dadzie et al., 2012), who are individuals or group of individuals who can be affected or is affected by the achievement of the objectives of an organization. These characteristics of the construction industry makes its very complex and more susceptible to low performance. However, expediting the processes involved in construction increases the benefits of the industry to the country.

2.3 THEORETICAL REVIEW

This section reviews theoretical models that forms the foundations for this study. This section reviews three main theories; the human capital theory, the goal setting theory and two factor theory.

2.3.1 Human Capital theory

Human capital refers to the "knowledge skills and capabilities of individuals that have economic value to an organization" (Bohlander et al., 2001). The human capital theory is described as the modification of Adam Smith's description of wage differentials resulting from different employments. The theory propounded by Schultz (1961) can be traced to the macroeconomic development theory. It is based on the assumption that people's learning capacities can be compared in value to other resources that are employed in the production of

goods and services (Lucas 1990). The theory thus proposes that people who invest in training and education will enhance their skills and increase their productivity than individuals with less skills, and thus are justified to earn higher wages because of their investment in their human capital (CIPD- Technical Report, 2017).

Hatch and Dyer (2004) indicated that based on the human capital theory, the investment in training and education will enhance the productivity of employees. And thus, linked employee development directly to training. Thus, human capital development involves activities that enhances the quality of employees. Fugar et al (2013) indicated that the long-term sustainability and improved performance of the construction industry in Ghana is dependent on the development of the human capital in the industry with particular emphasis on the human-related problems that the industry has been facing for years. Some of these human related challenges include low workmanship quality, low productivity, lack of managerial and technical competence and cost and time overruns (Ahiaga-Dagbui, 2011, World Bank 2003).

Based on the human capital theory, the effective delivery and improved performance of construction projects depends on the investment in the quality of personnel at the technical, supervisory, professional and worker levels during all the stages of the implementation of the project. Pfeffer (1998) emphasized that organizational success is now dependent on how employees are treated instead of the conventional factors like dominant market share, right market niche, size of the company, being in the right industry, having a unique image and several others.

Fugar et al (2013) however identified some barriers to human capital development within the construction industry in Ghana which hinders their project performance. The study indicated the lack of a central development and regulatory agency to enforce and promote the improvement of skills, experience and professionalism in the industry. Also, the industry is

bedeviled with lack of financial resources which makes it almost impossible for contractors to enhance their human development. Also, the high cost of human capital development, the lack of appreciation of the role of human capital in the construction project performance, low level of education of construction workers, high employee mobility and low technology of the industry (mostly labour intensive) make construction firms reluctant in invest in human capital development (Fisher et al, 2003).

2.3.2 Goal setting theory

The goal setting theory was propounded by Edwin Locke in the 1960s. The theory also known as the Goal Setting theory of motivation is based on the assumption that goal setting is directly linked with task performance. The theory advances that specific and even challenging goals coupled with feedback mechanisms can significantly contribute to improved performance of a task. Thus, organizations who set specific difficult goals tend to perform better than those who set general easy goals.

Goal setting theory is dependent on the idea that people have a drive to achieve a clearly defined objective. Normally, this objective is a reward in itself. The proficiency of a goal is influenced by three factors; specificity, proximity and difficulty (Locke and Latham, 2002). A model goal ought to mirror a circumstance where the time between the inception of conduct and the end state is close in time. A goal ought to be moderate, not very hard or too simple to complete. In both cases, most people are not ideally spurred. And at the same time, individuals need to feel that there is a considerable likelihood that they will succeed. Another worry is specificity identified with the description of the goal. The goal ought to be dispassionately characterized and comprehensible for the person. Anyway, setting unachievable targets has been clear in numerous spots.

In the construction industry, goal setting has been emphasized mainly because project managers are likely to set goals that may be difficult to achieve because of the lack of specificity and motivation (Jayalath, 2009). There is a propensity of some project managers to grumble that the work is not been accomplished due to factors 'out of hand'. They feel that the team members are not all that committed, time taking or excessively occupied. Project managers with many years of experience favor to 'do and oversee' themselves might be based on the fact that they are interested with what is required as opposed to how it is finished.

According to Lock and Latham (1990) goal setting can serve as an efficient motivational technique that can be used to improve construction projects' performance. However, Hadavi and Krizekfl (1993) indicated that goal setting is very difficult in the construction industry because of the complexity and versatility of the different type of works, although goals have always been a part of construction projects.

2.3.3 Two factor theory

The description of project success and failure has been very complex due to the fact that, the two concepts are treated as separate. However, the two-factor theory has the opinion that, the concepts are not totally unrelated. Thus, they can exist together during the duration of a project life cycle. The two-factor theory also know as the Hetzberg's Hygiene motivation factor is a suitable theory to clarify the relationship between project failure and success. According to this theory, the factors the causes satisfaction are totally different from the factors that causes dissatisfaction. This indicates that, satisfaction and dissatisfaction can co-exist because the factors causing them are entirely different and can happen at the same time. Hence Robbins (2005), indicated that, the antonym of satisfaction is not dissatisfaction but rather no satisfaction and the antonym of dissatisfaction is no dissatisfaction. Applying this to the concept of project success and failure as a double band, instead of a dichotomous,

circumstance, it indicates that project performance can be classified as ‘success’, ‘no success’, ‘failure’ and ‘no failure’ within the project cycle depending on the impacting factors.

Based on the impacting factors, De Wit (1988) postulated that: "factors influencing project failure or success are generally great indicators of preconditions of success and failure". He identified them to be similar to Hertzberg's hygiene/motivation factors in that the presence of success factors does not guarantee success but rather not identifying them (their nonappearance) is probably going to result in failure. Thus, in project management, the factors that could result in success of a project could sometimes be distinct and separated from the factors that leads to project failure. In reality this has necessitated the use of multi-measure to assess the performance of projects. This lies in the fact that a project could fail based on certain criteria but perform well in others. Thus, to assess the performance of a construction project the fundamental assumption indicates that the absence of success dos not necessarily suggest the project has failed, and the reverse is also true. This is justified based on the different stakeholders that exist in the construction project who have diverse expectations, focus and what is essential I the life cycle of the project.

2.4 THE CONCEPT OF PROJECT SUCCESS

In every construction project, success is very crucial for all stakeholders. Therefore, in recent times, there are numerous studies conducted into the area of construction project success. Liu (2009) indicated that the performance of a project is measured an organization’s capability to satisfy the expectations based on quality, cost, time. Thus, it involves the totality of time, cost and quality. The performance of a project is mostly tied to the success of the project. Traditionally, the construction industry evaluates project success using three key indicators. These are cost, time and quality of a project. Project success is measured based on some dimensions. To measure project success several studies have try to construct a multidimensional indicator based on empirical findings. For instance, Sadeh et al. (2000),

indicted project success is based on five key dimensions which are meeting the designed goals, its benefit to the end users, benefiting the developing organization, contributing to national infrastructure and finally, the overall success of the project. On the other hand, Shenhar et al (1997) also indicated that the success of a project can be based on the efficiency of the project, the impact of the project on the user, the business success of it and how the project is prepared for the future. Also, the project may be assessed based on the project type; super-high tech, high tech, medium- tech and low-tech projects. Lim and Mohammed (1999) indicated that the success of a construction project can be measured based on completion cost, time, quality, performance, safety, satisfaction, utility and operation. Vandevelde et al (2002) indicated that project performance can be measured based on seven critical areas; timeliness, sticking to budget and technical specification, knowledge transfer and creation, contribution to business success, cost and commercial success. These seven (7) dimensions can be regrouped further into the process, economic and indirect factors. According to Chan and Chan (2004) a consolidated framework that capture the success of a project comprises of eight dimensions; the cost, environmental performance, quality, user satisfaction, time, Commercial (profitable) value, health and safety and the satisfaction of participants. Chan and Chan (2004), also indicated that the success of a project can be attributed to adherence to project budget, time and quality requirements.

These varying views on project success gives the indication that, the concept of project success cannot be adequately described. Hence, Zoltan (2017), opined that, the concept of construction project success is very complex to describe as its description is based on the perception of stakeholders involved. According to Lim and Mohammed (1999), project performance can be categorized into macro and micro viewpoints. The macro viewpoint limits construction project success to end-user satisfaction only as it tries to determine whether the initial project concept was achieved. The micro viewpoint will limit construction project success to the construction

phase only as focus on construction goals like time, cost and quality. Many researchers in determining the success of a project focus on the construction phase as it during this phase that the set goals like time, cost and quality become most significant. Nevertheless, there are various situations where a project takes long time to planned, designed, tendered, adjudicated and awarded. Consequently, during the construction phase, all other various inadequacies will manifest themselves which affects its performance (Lim and Mohamed 1999). The criteria for measuring project success may include project cost performance, project schedule performance, project quality performance, health and safety performance, client satisfaction, project scope and environmental performance. These measurement criteria are discussed below.

2.4.1 Cost performance

Project cost performance is the most used criteria for measuring project success. According to Bubshait and Almohawis (1994), cost performance is the extent to which the general conditions project the completion of a project within budget. This factor that influences the project performance is the cost of the project. The cost factor of project performance captures that extent to which the various conditions enhances the completion of a project within the estimated budget. According to Neamat (2017), the cost of a project covers the general financial cost incurred from the commencement to accomplishment of the project. The cost factor of project performance can be influenced by the manner and times of variation orders given by thee consultants during the implementation of the project as well as the habit of the client agitating for numerous changes in the design prior to its completion. According to Ling et al (2002) the factors that influence the cost factors of project performance include the number of repetitive elements covered in a project, the extent of design completion when bids are invited and the level of paid up capital of contractors engaged. These variables are broadly captured in the procurement process adopted. Mensah et al. (2007) also identified that some features in a

contract also influence the type of contractors that will tender and win the contract. For example, the provision of certain facilities such as advance payment for mobilization in a contract may draw contractors who may have relatively low level of paid up capital or may not be able to pre-finance the project. This further suggest that the level of financial capability of the contractor may also have an influence on the cost performance of a project.

2.4.2 Schedule performance

Schedule/time performance is a measure of the ability of the contractor to meet the stipulate time limits of a project. One of the key factors that influences the performance of construction project is time (Enhansi et al, 2009). Time in construction, refers to the duration for completing a project. A report form Latham (1994) indicated that, timely completion of projects is very crucial for client's assessment of project success. The time factor of project delivery is mostly concerned with the time for preparing the site, the planned time for the construction and the time for post- construction activities. The issues of lateness in the delivery of construction projects mostly results from unrealistic expectations of the client on the duration of the construction projects (Morledge and Sharif., 1996). Client's time expectation is mostly based on advice from specialists or his/her own experiences of similar works (Mensah et al., 2007). Choudhurry and Phatak (2004) also identified that the delay in progress payments is also one of the factors that influence time overrun of construction projects. Austin et al (2005) further indicated that the time factor of project performance is largely influenced by the effectiveness of the clients' representative team, the effectiveness of the construction management team and the scope of works. Bekr (2017) further indicated that the characteristics of the project management team; skills, competence, knowledge and experience can also influence the time factor of project performance.

2.4.3 Quality performance

The concept of quality performance describes the ability to achieve the artistic, legal and operational requirements of a project established by the client and other users of the project (Tang et al., 2005). This is another key factor that influences the performance of construction projects is quality. According to Kashiwagi and Parmar (2004), quality captures the totality of the features that is required to satisfy given need. Quality literally means the fitness for purpose. Mensah et al. (2007), indicated that the degree of monitoring of projects, project consultant's experience, past and quality performance of contractors and the amount of variation orders given have a significant influence on the quality of a construction project performance. The proper coordination of these factors can help achieve the satisfactory performance of the project. More importantly, the project team leader has the sole responsibility to ensure the efficient combination of these factors to enhance the quality of the project performance. Serpell and Alarcon (1998) indicated that the quality performance of a project is measured by the procedures adopted during construction stages of the project. Because of the fragmented characteristic of the construction sector, and the point that every construction project is unique, gives the project team a great responsibility in setting up the construction procedure that will result in a successful execution of the project. Mensah et al. (2007), identified that the quality factor of construction project performance is largely influenced by the procedures and processes employed in the project. Chan and Tam (2000) indicated that the quality performance of construction projects is influenced by the project management decisions of the project team, the effectiveness of the team leader and the clients' emphasis on time and quality.

2.4.4 Health and safety performance

Health and safety performance describe the degree at which the general conditions enhance the completion of a project without accidents and injuries (Bubshait and Almohawis, 1994). The level of achievement of health and safety performance can only be realized during the

construction phase of a project as most accidents occurs at this phase. The construction industry is regarded as one of the most hazardous industries in the World as thousands of people are killed or disabled annually in industrial accidents. The reason for measuring health and safety is to provide information on the progress and current status of the processes and activities used to control health and safety risks. The health and safety of a construction project is affects by the site layout and planning. According to Muiruri and Mulinge (2014), a bad site planed site increases the probability of accident occurrence as many accidents occurs from tripping, slipping or falling over materials which are properly placed. Furthermore, failure to use Personal Protective Equipment (PPEs) leaves workers prone to accidents. The use of PPEs is a basic requirement for every construction project.

2.4.5 Client satisfaction

In evaluating the success of a construction project, client satisfaction is very key. Loked (1970), described satisfaction as the perception of an individual over an outcome versus the expectancy over that outcome. Client satisfaction has remained a very controversial issue in the construction industry. Most often, client's requirements are to get their needs converted into design that specifies characteristics, performance criteria and conformance to specifications (Ahmed and Kangari, 1995). In the construction industry, the assessment of client's satisfaction is often associated with quality assessment in the context of products or services received by the client (Parasuraman et al., 1988). Traditionally, there are two (2) approaches in estimating the quality of a construction project. The first is in relation specifications and requirements of the client, if they have been met. The second one is in connected to the process of creating the product. That is, in terms of the meeting of the goals or requirements of the set-out management processes, as well as for the processes related to the product to be delivered. In particular, the first approach has been used for the assessment of performance (in terms of success or failure) of construction projects (Kagioglou et al., 2001).

2.4.6 Project scope

Project scope describes the totality of all the features and functions included in the product/service (PMI, 2000). Appropriate functionality is seen as a measurement criterion for project success. Kometa et al. (1995), opined that, there is no need for a project if it does not fulfil its intended purpose at the end of a project. Project scope is a good measure of the degree of conformance to all technical specifications. A major contributing factor to the failure of a project is the lack of understanding of the scope of the project (Muhammad et al., 2013). Project stakeholders are mostly responsible for the definition of the scope of a project. Therefore, it is very prudent to solicit for their involvement at the early stages of a project (Muhamad et al., 2013). Effective communication with project stakeholders and frequent monitoring and feedback will eradicate the possibility of scope creep which affects the performance of projects.

2.4.7 Environmental performance

The emergence of the concept of sustainable development has create more awareness on environmental protection during construction. Hence environmental performance is regarded as a criterion for assessing project performance (Chan et al., 2004). The environmental category of sustainability focuses on environmental hazards and degradation. According to Hussain (2011), over concentration on the human own needs will consequently lead to severe outcomes like global warming, depletion of Green lands, destruction of the ozone layer and so on. According to Chan et al. (2004), the construction methods adopted has an impact on the environment. Thus, with the huge awareness creation in sustainability, environmental performance has become a very crucial criterion in measuring project success.

2.5 CONSTRUCTION DEMOGRAPHIC FACTORS AND PROJECT SUCCESS

Demographic factors can be described as the characteristics that define a particular group within a population. These factors are used to describe the features of a person or a population. Demographic characteristics are described by age, gender, marital status, years of experience

and level of education. The various demographic factors and its effects on project success are discussed as follows

2.5.1 Age

Age is a crucial factor that describes the changes an individual undergoes with time. According to Smedley and Whitten (2006), the difference in age can be a potential factor for work performance. Furthermore, they indicated that, the relationship that exists between age and performance has become a significant issue in recent times. The concept of age can be looked at from various perspectives.

Some studies regarded an increase in age as the amassment of knowledge hence, age is a major factor in assessing the ability to perform better. Some other researchers also viewed increase in age as a sign of tiredness and increase in responsibilities. This contributes significantly to low performance. However, Hedge and Borman (2012), opined that, age is not a very good predictor of performance. They indicated that, age is not a good accessor of performance and that, employee decisions made based on age can be regarded as default decision makers who do not ascribe to any coherent form of truth.

Nevertheless, Hedge and Borman (2012), asserted that, the performance of an individual tends to slow down as age goes up. But employers may benefit from aging workforce by capitalizing on their strengths like experience and innovation. Salthouse (1997), had the opinion that, age is associated with the decrease in performance in terms of learning, memory, reasoning, spatial abilities and psychomotor speed. Hence, the increase in age leads to the deterioration in abilities such as speed, adaptability, effectiveness and strength. Locke (1993) indicated that, there is a negative relationship between age, ambition, aspirations and overall motivation. A study conducted by Shultz and Adam (2007) concluded that, there is a significant difference between age groups concerning work performance. Also, Ng and Feldman (2008) conducted a study

which revealed that, age is not significantly related to core task performance but is related positively to citizenship behavior and negatively to counter-productive behavior. Furthermore, they observed that there are no significant age differences between younger and older workers with respect to core task performance. An empirical study by McDaniel and Pesta (2012) showed a U-Shaped relationship between age and job performances. Similarly, Timar (2014), reported a curvilinear relationship between employee's age on a horizontal axis and job performance represented on the vertical axis. Given this position, it is likely that workers' performance decline by age based on the types of job activities.

2.5.2 Gender

Gender can be described as a set of characteristics the distinguish between male and female. The gender of an individual may affect performance and as such there should be some considerations when assigning duties. Jackson (2009), indicated that, there are various stereotypes in existence regarding the differences in abilities between men and women in various organizations. Therefore, it is highly possible for performance evaluation to be done stereotypically. One significant varying feature among men and women are that, men are more aggressive and are geared towards realizing quick results whiles women are better in obeying instructions. However, these are insignificant features and not applicable in the description of the differences between the performance standards among men and women (Murray, 2002).

Researchers have continually argued that, gender is a major factor that affects the performance of organizations and projects. It has been empirically proven that, the role of gender in the performance of project cannot be overlooked. A study conducted by Knudson (1982) concentrated on whether women trained in management were as assertive and as competent in their roles as men with similar training. The study revealed that, women performs equally well as men on jobs. However, Joshi (1993) explored the possible gender-related differences in the determining job performance. The parameters of performance included were absence,

performance evaluations and commitment to the organization. The results showed some similarities as well as crucial differences in the determining factors.

From the studies described, it can be observed that, given equal opportunity and training, both sexes can perform any task effectively to meet performance criteria. Therefore, efficient workers are those who are highly motivated, conscientious, efficient, creative, knowledgeable, and adaptable, committed to societal and organizational goals and have the right attitudes. Notwithstanding, there is the need for workers irrespective of their sex to receive learning opportunities and other in-service training activities towards optimal performance and overall organizational performance.

2.5.3 Marital status

Marital status can be described as the condition of being married or unmarried for a male or a female. Commitment to a project improves the level of performance and studies has shown that, marital status has a large correlation with organizational commitment. Marital status positively affects organizational commitment and consequently organizational performance. They explained that, married people have more family responsibilities and require more stability and security regarding their jobs. Therefore, they are expected to be more committed to their organizational activities than the unmarried. When there are domestic responsibilities, an individual input more into an organization. Hence there is more loyalty shown in the activities of the organization. Consequently, the expectation level among the employee and employer increases. This shows that, marital status is crucial for developing organization commitment and performance. Becker (1981) indicated that, marriage is beneficial economically and make specialization possible. Furthermore Crawly (2005), opined that, employees who are married have greater zeal to effectively perform because of their family commitment compared to employees who are not married.

Further studies conducted by Khurshid et al. (2012) on marital status showed that, married employees exhibit higher level of performance compared to unmarried employees. A quite opposite finding was realized in a study conducted by Lekha and Magesh (2016). They indicated that, unmarried employees perform efficiently that married employees since their commitment towards their family and other circumstances are considerably less when compared to the married employees. Nevertheless, the above discussion shows that, marital status has a considerable effect on the performance of a project.

2.5.4 Years of experience

Job experience describes the accumulation of job-specific knowledge from action, practice and perception of the tasks and duties associated with a specific job. The number of years an individual has spent in an organization has a huge impact on the performance displayed on projects. Yeatts et al. (1998), indicated that, the acquisition of work experience within an organization gives the indication that, the employer and employee relationship is sustainable for the achievement of goals of the organization. This affects the general performance of the organization. They further indicated that, the number of years of experience gives an indication of how the employee relates to the employer. This relationship has an effect on the performance of an organization. Thus, employees who stays longer in a job creates the impression of satisfaction in the job whiles those who quit creates the impression of dissatisfaction.

Campbell (1990), indicated that, work experience leads to the accumulation of significant knowledge, skills and abilities which inevitably improves performance. According to the human capital theory, employees make investments in themselves with regards to experience to enhance their performance hence, their performance changes over time.

A study conducted by Ng and Feldman (2013) indicated that, there is a positive, moderate correlation between tenure and innovative behaviors, which consist of idea generation,

dissemination and implementation. This relationship suggests that workers who stay in a role longer may become more capable of facilitating and implementing change. Experienced employees perform better inexperienced employees who have no previous experience to a work situation. Thus, experience has a direct relationship with the quality of services they offer, worker's stability, seriousness in attitude to work which might lead to the improve performance of individual and organization.

2.5.5 Level of education

Educational level depicts the academic credentials an individual has obtained. The level of education of an individual is a significant factor that enhances the effectiveness of an employee towards work. According to Hunter (1986), the cognitive ability facilitates the learning of relevant knowledge and thereby indirectly improves job performance. Hence, currently, educational level of a prime factor for employment. Most employers insist on a minimum requirement for education before considering for a specific job.

According to Kim and Mohtadi (1992), education has a direct influence on economic development, economic growth, individual ability (potential and work performance). Furthermore, Schmidt and Hunter (1998) found that cognitive ability was strongly related to job performance and was an important contributor to success on virtually every job. According to Sonnentag and Frese (2002) workers' performance is not stable over time. Variability in a workers' performance overtime reflects learning processes other long-term changes.

2.6 SUMMARY OF CHAPTER

This chapter reviewed literature pertinent to the subject area of study. The review begun with an overview of construction project management. From the review, it was realized that project management practices differ for every organization and the success of the project is what decides if the practice is optimal. This led into the review of the concept of project success.

From the review, it was realized that, project success can be measured with regards to project cost performance, project schedule performance, project quality performance, health and safety performance, client satisfaction, knowledge transfer and creation and environmental performance. Each of these indicators were discussed and subsequently, a review on construction demographic factors were conducted in which five features were identified namely; age, gender, marital status, years of experience and level of education. These variables were discussed with regards to its effect on project success.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter deals with the research methodology of the study. The research methodology is a crucial aspect of every study. A research methodology comprises of the techniques that are employed in a research study to collect, assemble and analyze data. From this chapter, the first section entails the research design, which presents the overall strategy adopted by the study to address its objectives. This is followed by the research approach and research strategy. Furthermore, the population and sampling procedure and sample size selection was discussed. The next section captures the mode of data collection and source. And then data analysis, which

captures how the data collected will be analyzed as well as the model specification and the estimation approach used. The final sections are the validity and reliability of the study.

3.2 RESEARCH DESIGN

Adebisi and Oyedijo (2012), states that methodology is a vital process of carrying out empirical study. It forms the background in which the procedures employed in carrying out a research are based. It follows a step after one another of which data gathered for a research is being analysed. According to Labaree (2009), research studies starts with a research design plan. A research design depicts the entire plan selected to execute the research study so as the solve the problem related to the research (De-Vaus, 2001).

The research design may be different across different studies due to the variations in a research problem. The design of a research constitutes collection, organizing and synthesizing data from various construction industry players in Ghana. This study is based on the positivism research philosophy. The positivism philosophy also known as scientific indicates that the reality is free and independent of the observer. Thus, it follows a controlled and structural approach in identifying a problem, construct appropriate hypotheses and also the adoption of an appropriate methodology (Aliyu et al., 2014). This makes the researcher independent of the participants of the research by creating a distance, which is important in remaining emotionally neutral to make clear distinctions between reason and feeling. The goal was to enable the researcher seek objectivity and use consistent rational and logical approach to the research and make time and context free generalizations of the research findings (Saunders et al., 2009).

According to Bryman and Becker (2012) there are five main research designs. The choice of a research method is influenced by the type of design employed to provide a guide and framework for detailed collection and analysis of data. A cross-sectional analysis is an observational study that obtains data from a given population at a given point in time. Cross-sectional studies measure simultaneously an outcome in a specified population in a specified

period of time. Thus, the cross-sectional analysis will aid target a population with certain characteristics at a given period of time.

3.3 RESEARCH APPROACH

There are two (2) fundamental research approaches in research. These are the deductive and inductive research approach. The deductive research approach is aimed at testing theories whiles the indictive approach is focused on the formulation of new theory from data. The deductive research approach basically starts with a hypothesis; however, the inductive research approach utilizes research questions to narrow the scope of the study. Furthermore, deductive research focuses on causality. However, inductive research approach generally aims at exploring a concept.

Based on the descriptions above, it can be realized that, deductive research is mostly associated with quantitative studies whilst inductive research focus on qualitative studies. However, there are no set ground rules as some qualitative studies have deductive orientation. This study utilized the deductive research approach as the study aimed at assessing the effect of demographical factors on construction project performance in Ghanaian construction industry. Hence the establishment of relationship between two concepts makes deductive approach the most suitable.

3.4 POPULATION OF THE STUDY

The study population included contractors in the Greater Accra and Ashanti regions. According to Donkor (2011) more than 60% of contractors in Ghana tend to work formally and authoritatively in the Greater Accra, so contractors regarded for this study was chosen from the region A list of licensed construction firms acquired from Ghana Association of Building Contractors and Civil Engineering Contractors (ABCECG) revealed 125 construction companies in good standing. Hence, the population for this study was one hundred and twenty-five (125).

3.4 SAMPLING AND SAMPLING TECHNIQUE

3.4.1 Sample Size

The researcher will not be able to study the entire population, due to the fact that, most of the construction companies have changed their official address but are yet to rectify the changes with ABCECG and also some indicated they will not be available and unwilling to participate in the study, it will be important to select a sample from the population under study. A very essential issue in sampling is to determine the most suitable size of sample. While a large sample size may be more representative but costly, a small sample size may be convenient but less accurate (Bryman, 2012). The sampling size determines the validity and reliability of most research findings and conclusion (Saunders 2012). The target population comprise all registered and in good standing contractors of the Association of Building Contractors and Civil Engineering Contractors. Using the Yamane formula (1969), the required sample size was sixty-six (66).

$$n = \frac{N}{1+N(e)^2} \qquad n = \frac{125}{1+125\,(0.10)^2} = 56$$

Add 10 for non-responsiveness = 66

Where,

n = the sample size

N= the estimated proportion of characteristics in the population

e = the level of precision desired = 0.10

3.4.2 Sampling Technique

The convenience sampling was employed to select the respondents because each member of the population was deemed qualified to answer the questionnaire. Convenience sampling is a non-probability sampling that involves drawing the sample form the population that is close to hand. Respondents are selected because of their convenient accessibility and availability. The convenience sampling technique was used to select construction firms who are willing and available to provide information on their performance and demographic characteristics. Using the convenient sampling technique, sixty-six (66) questionnaires were distributed however fifty-two (52) were retrieved for the analysis.

3.5 DATA COLLECTION METHOD AND INSTRUMENT DEVELOPMENT

Before data collection, the researcher needs to plan and identify the data collection instruments, how to analyze the collected data, identify the population for the study, and sampling size. Inappropriate data collection instrument can lead to the collection of inaccurate data which can then have a negative impact on the results of a study and ultimately lead to invalid results. Primary data was collected using structured questionnaires as the main data collection instruments. The questionnaires are designed to address specific objective, research question or test hypothesis (Mugenda & Mugenda, 2003).

The primary data enabled the researcher obtained first-hand information which was obtained from a well – structured questionnaire. The questionnaires comprised of closed – ended questions that allowed the respondent to select from various options given. The respective respondents were given the questionnaires to seek their opinion on the subject matter by self-administration supplemented with online survey.

The questionnaire is divided into four (4) sections. The first section identifies the general organizational and background information of the respondents. With the background of the respondents, the respondents were asked to indicate their category in the construction industry,

their highest level of education, their number of years of experience and their designation in the organization. The second section ask questions relating to demographical factors in construction project management. With this, the respondents were asked to indicate the extent of significance of the demographic factors identified using a five-point Likert scale of 1 – Not significant, 2 – Slightly significant, 3 – Neutral,4 – Significant, 5 – Very significant. The third section also identifies the project performance management of the firm. Similarly, the respondents were asked to rate the significance of the performance criteria using a five-point Likert scale of 1 – Not significant, 2 – Slightly significant, 3 – Neutral,4 – Significant, 5 – Very significant. The final section presents the relationship between the demographical characteristics and the project performance of the construction firms. The respondents were asked to rate the extent of effect of the demographic factors on project success criteria using a five-point Likert scale of 1 –No effect, 2 – Slight effect, 3 – Neutral,4 – Strong effect, 5 – Very Strong Effect

3.6 DATA ANALYSIS

The study employed quantitative approaches for analysis in order to have a depth knowledge of variables identified. As such the data from questionnaires administered were gathered, were well-coded, counted and categorized in various frequencies and percentages to give a clear visual presentation of data. Hence charts and figures were used to present the results with regards to the demographic data.

The study used the mean score ranking to analyze the objectives of the study. The mean score ranking was used to assess the significance of the various demographical factors and project performance indicators, using a five-point Likert's-scale ranging from 1 (not significant) to 5 (very significant). The mean values were given by the SPSS software in conjunction with standard deviation values. In ascertaining the significance of the variables, those with high mean values were deemed most significant. In a rare case where two (2) mean values were

equal, the standard deviation value was used as the separating agents. Standard deviation values depict the level of variability among variables. Thus, standard deviations above 1 depicted higher variability whiles below 1 shows lower variability.

3.7 RELIABILITY AND VALIDITY

To ensure validity and reliability of results, the questionnaires was first pre-tested. Administrators of the questionnaire as well as respondents will be also well-educated on the relevance of the exercise before they were administered in order to avoid biasness in data collected. Also, questions which were asked ensured anonymity in order to enhance confidentiality of information. Misleading questions were also avoided. Again, follow – ups were done continuously to ensure clarity of data from the field study. Aside all these, the questionnaires were coded accurately using the Statistical Package for Social Sciences (SPSS). The quantitative data was also tested for reliability and validity using a mathematical approach called the Cronbach's Alpha. Studies have shown acceptable values of Cronbach to range between 0.700 to 0.950 (DeVellis, 2003).

3.8 ETHICS

Participants were voluntarily allowed to participate in the survey. Again, the consent of the respondents will be sought prior to the administration of the survey instrument. Participants of the survey will be assured of anonymity and confidentiality with regard to the provided information on the questionnaire. There will be no issues of conflict of interest.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

This chapter analyze and discuss data collected from the respondents. The respondents for this study were construction firms in the Accra metropolis. A total of 52 questionnaires were used in the analysis for this study. The analysis aided in making inferences about the objectives of the study which were to identify the significant demographical factors in construction project management in Ghana, to identify the significant measures of construction project performance in the Ghanaian construction industry and to identify the effect of demographical factors on construction project performance in Ghana.

A review of literature was conducted on the set objectives and subsequently, a structured questionnaire was developed to aid in the collection of data. The questionnaire had four

separate sections. The first section concentrated on the background of the respondents whiles the remaining sections concentrated on the three (3) objectives of the study. The background of the respondents was analyzed using percentages and displayed using figures. The three objectives were analyzed with the aid of the mean score ranking in conjunction with standard deviations. The analysis aided in making inference on the most significant demographic factor in the construction industry, the most significant success criteria in the construction industry and the demographic factor with the most effect on project performance. The data were presented with tables. At the end of the analysis, a summary of the findings was discussed.

4.2 BACKGROUND OF RESPONDENTS

The background of the respondents is a crucial aspect of every data analysis. It helps in assessing the reliability of the responses given by the respondents based on their knowledge levels. With the background data, the respondents were asked to indicate the category of their firm, their academic qualification, their practical years of experience and their role in the firm. A summary of their responses is displayed in Figure 4.1, 4.2, 4.3,4.4 and subsequently discussed in subsequent sections.

4.2.1 Firms category

In Ghana firms are classified as D1K1, D2K2, D3K3 and D4K4. Their categorization is based on their financial and technical capabilities. The respondents were asked to indicate their category in the construction industry. From Figure 4.1, it was realized that majority of the firms were D1K1 forming 39% of the respondents whiles the least were D3K3 and D4K4 forming 19% of the respondents. 23% of the respondents were D2K2. A summary of the response is shown in Figure 4.1. With regards to the reliability of the responses, this data was deemed satisfactory for getting reliable responses.

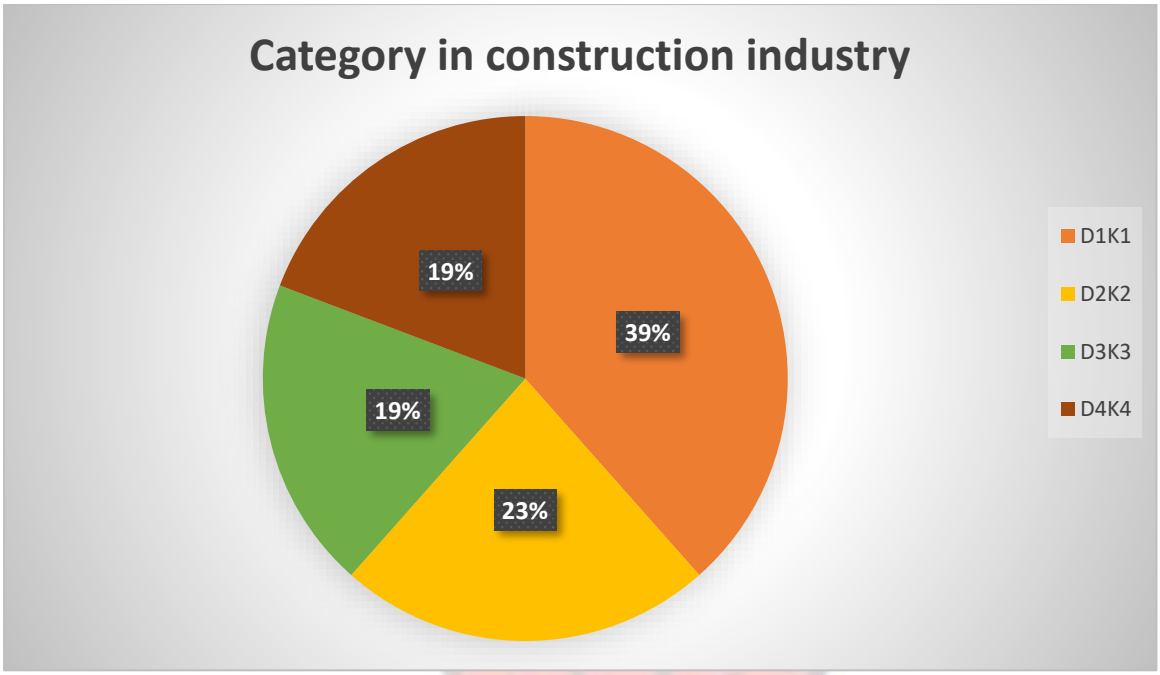

Figure 4.1: Category in construction industry

Source: Field survey, 2019

4.2.2 Education level

The second question on the background of the respondents wanted to ascertain the level of education the respondents. This is a significant background data as it gives an indication of the knowledge of the respondent accumulated through education. From Figure 4.2, majority of the respondents had BSC qualifications forming 42%. Whiles the least had PHD forming 6% of the respondents. 23% had Msc/Mphil and 29% had HND qualification. Generally, over 70% of the respondents had Bsc qualification and above which is very satisfactory for the study.

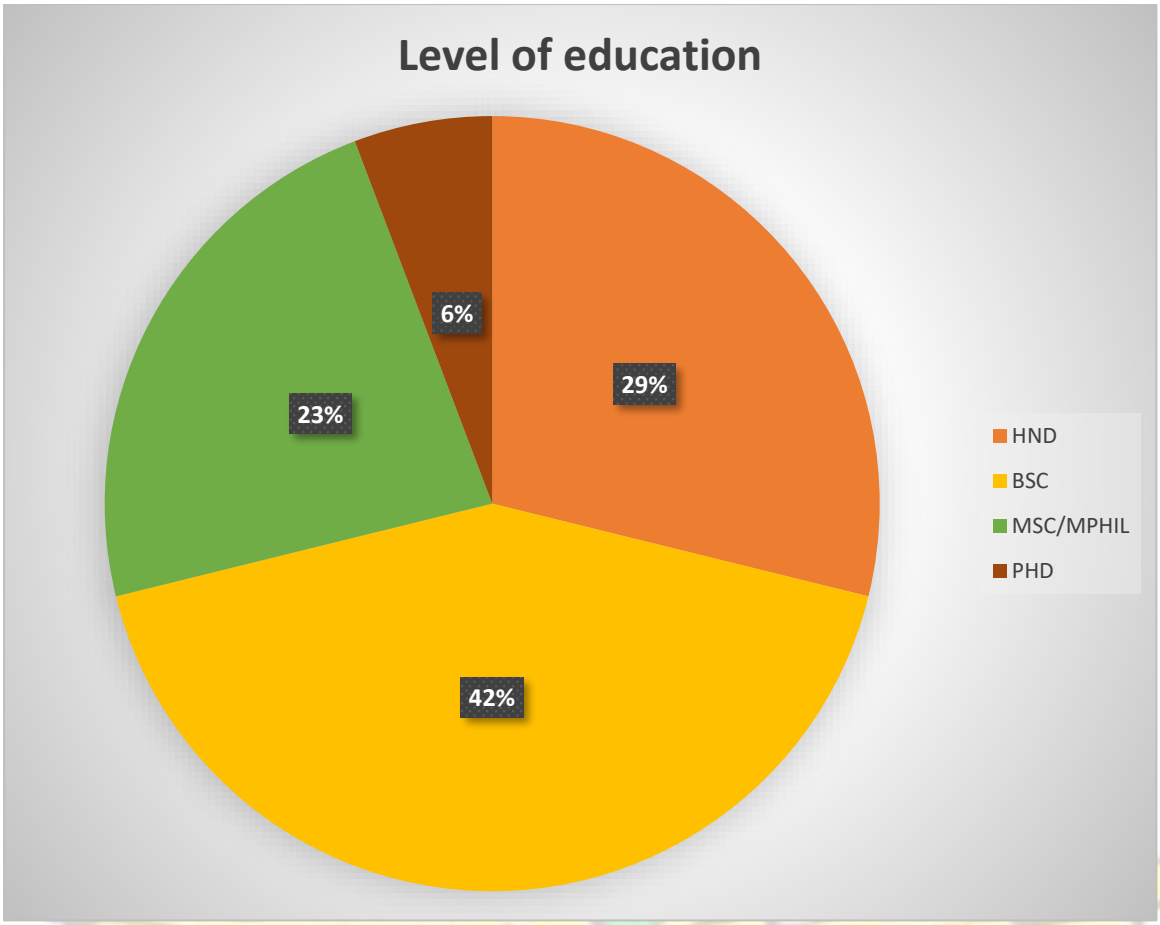

Figure 4.2: Level of education

Source: Field survey, 2019

4.2.3 Level of experience

The third question on the background of the respondents concentrated on the number of years of experience. This was a significant question to the researcher, as it aided in ascertaining the knowledge level of the respondent accumulated through practice. Based on the Figure 4.3, the majority of the respondents had over 15 years of experience forming 37%. This followed by 11-15 years forming 25%. 19% indicated 1-5years whiles another 19% indicated 6-10 years.

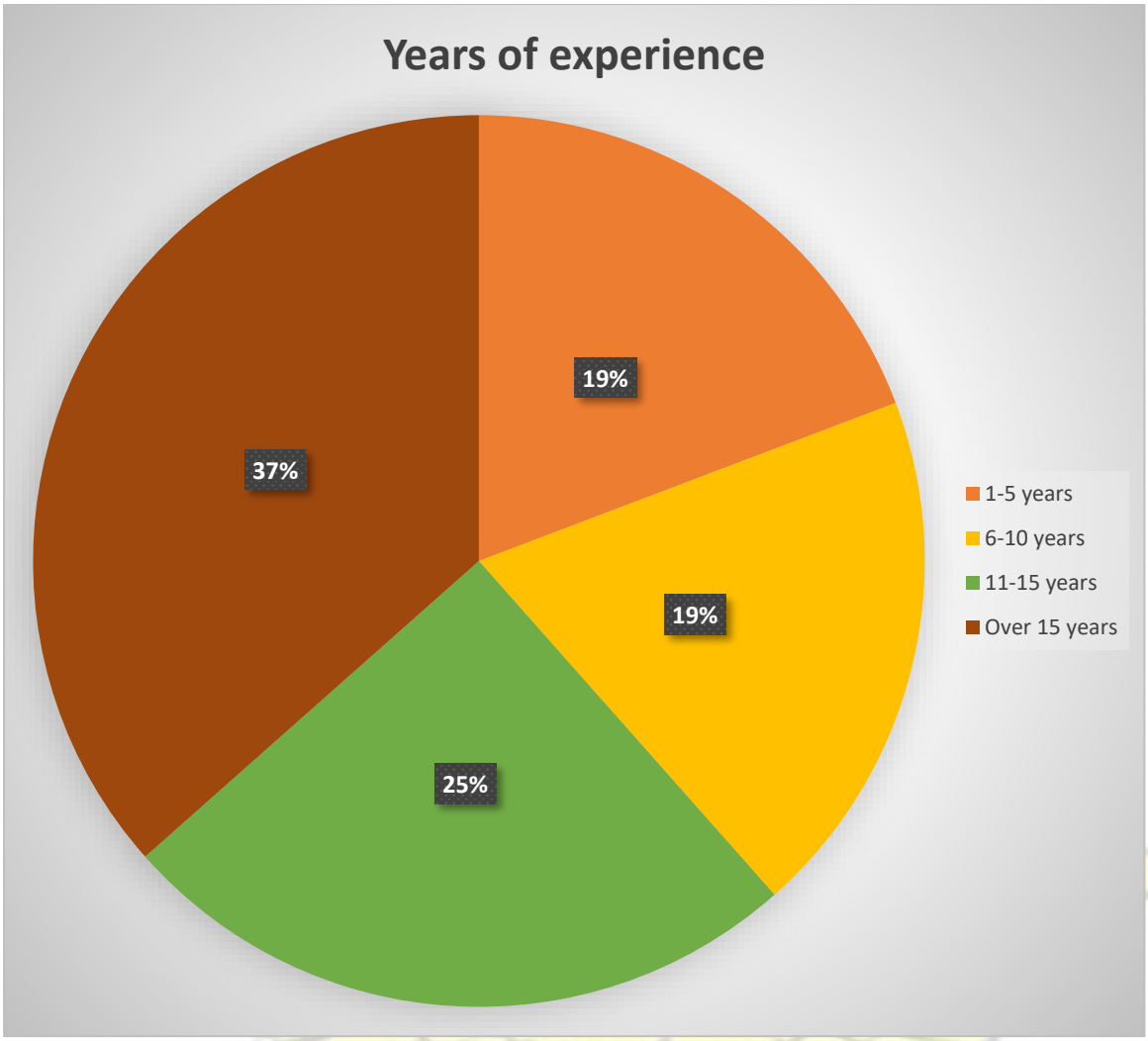

Figure 4.3: Years of experience

Source: Field survey, 2019

4.4.4 Job title

The final question was designed the ascertain the job title of the respondents. Figure 4.4 shows a summary of the responses. 37% were head of the organizations, 19% were office engineer, 23% were project managers, 13% were site supervisors and 8% were site engineers.

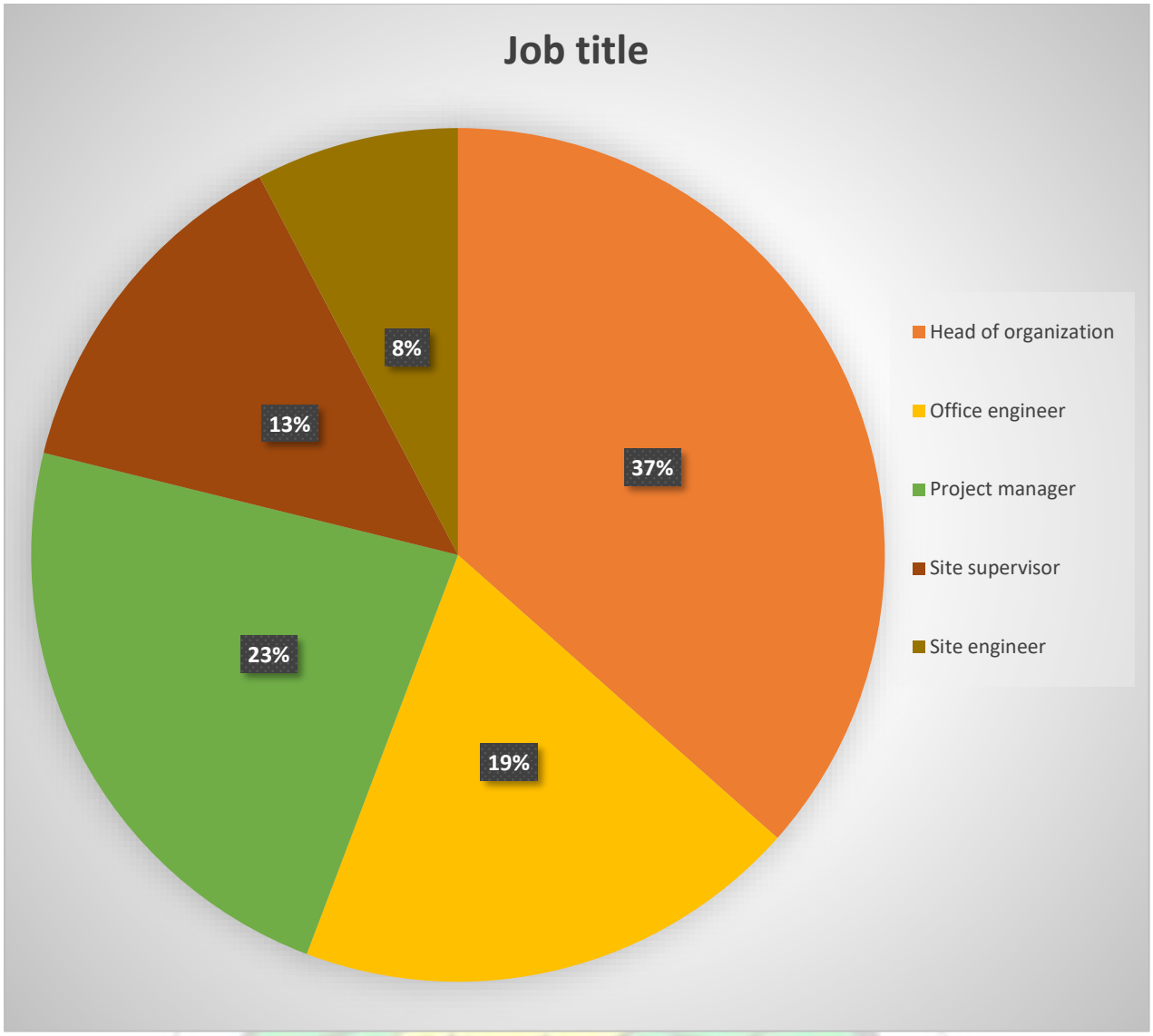

Figure 4.4: Job title

Source: Field survey, 2019

4.3 RELIABILITY AND VALIDITY

Kelly (1927) came out with the concept of validity and stated that a test is said to be valid if it measures what it claims to measure. Taking precautionary measures to confirm areas of validity within any research study is the sole responsibility of the researcher (Strauss and Corbin, 2008).

The Cronbach's Alpha value was used in assessing the validity and reliability of the data. Studies have shown that, the acceptable ranges of Cronbach values are 0.700 0.950 (Bland and Altman 1997; DeVellis, 2003). For this study the Cronbach Alpha value was 0.877 which is satisfactory as depicted by numerous researchers.

4.4 MEAN SCORE RANKING

The study used the mean score ranking to analyze the objectives of the study. The mean score ranking was used to assess the significance of the various demographical factors, project performance indicators and the effect of demographical factors on project performance using a five-point Likert's-scale ranging from 1 (not significant) to 5 (very significant). The mean values were given by the SPSS software in conjunction with standard deviation values. In ascertaining the significance of the variables, those with high mean values were deemed most significant. In a rare case where two (2) mean values were equal, the standard deviation value was used as the separating agents. Standard deviation values depict the level of variability among variables. Thus, standard deviations above 1 depicted higher variability whiles below 1 shows lower variability. A summary of the results is shown in Table 4.1, 4.2 and 4.3.

4.4.1 Demographic factors

Demographic factors can be described as the characteristics that define a particular group within a population. These factors are used to describe the features of a person or a population. Demographic characteristics are described by age, gender, marital status, years of experience and level of education.

Table 4.1: Ranking of demographic factors

Demographic factors	Mean	Std. Dev	Rank
Years of experience	4.06	0.826	1ST

Level of education	3.87	0.991	2ND
Possession of professional certificate	3.31	0.986	3RD
Age	3.00	1.314	4TH
Gender	2.98	1.129	5TH
Marital status	2.75	1.203	6TH

Source: Field survey, 2019

The respondents were asked to rate the extent of significance of the demographic factors using a five-point Likert scale. The data were analyzed the results summarized in Table 4.1. From the analysis, the most significant demographic factor was years of experience. It had a mean value of 4.06 and standard deviation of 0.826. Yeatts et al. (1998), indicated that, the acquisition of work experience within an organization gives the indication that, the employer and employee relationship is sustainable for the achievement of goals of the organization. This affects the general performance of the organization. They further indicated that, the number of years of experience gives an indication of how the employee relates to the employer. This relationship has an effect on the performance of an organization. Thus, employees who stays longer in a job creates the impression of satisfaction in the job whiles those who quit creates the impression of dissatisfaction.

The second ranked factor was level of education. It had a mean score of 3.87 and standard deviation of 0.991. According to Hunter (1986), the cognitive ability facilitates the learning of relevant knowledge and thereby indirectly improves job performance. Hence, currently, educational level of a prime factor for employment. Most employers insist on a minimum requirement for education before considering for a specific job. Hence, their studies showed that, the level of education is a very significant demographic factor in the Ghanaian construction industry.

The third rankled factor was possession of a professional certificate followed by age, gender and marital status.

4.4.2 Performance factors

The criteria for measuring project success may include project cost performance, project schedule performance, project quality performance, health and safety performance, client satisfaction, project scope and environmental performance. Based on this, the respondents were asked to rate the significance of the performance factors using a five-point Likert scale. The data were analyzed and a summary of the results is shown in Table 4.2.

From the analysis, the most significant performance factor was client satisfaction. Client satisfaction is very crucial in assessing the success of a construction projects. Loked (1970), described satisfaction as the perception of an individual over an outcome versus the expectancy over that outcome. Client satisfaction has remained a very controversial issue in the construction industry. Most often, client's requirements are to get their needs converted into design that specifies characteristics, performance criteria and conformance to specifications (Ahmed and Kangari, 1995).

The second ranked factor was quality performance. In the construction industry, the assessment of client's satisfaction is often associated with quality assessment in the context of products or services received by the client (Parasuraman et al., 1988). Hence clients mostly seek satisfaction through the meeting to their requirements which encompass the description of quality. According to Kashiwagi and Parmar (2004), quality captures the totality of the features that is required to satisfy given need. Quality literally means the fitness for purpose. Mensah et al. (2007), indicated that the degree of monitoring of projects, project consultant's experience, past and quality performance of contractors and the amount of variation orders given have a significant influence on the quality of a construction project performance. The

proper coordination of these factors can help achieve the satisfactory performance of the project. More importantly, the project team leader has the sole responsibility to ensure the efficient combination of these factors to enhance the quality of the project performance.

The third ranked factor was environmental performance followed by project scope, cost performance, health and safety performance and project schedule.

Table 4.2: Ranking of performance factors

Performance factors	Mean	Std. Dev	Rank
Client satisfaction	4.04	0.992	1ST
Project quality	3.96	0.949	2ND
Environmental performance	3.96	1.084	3RD
Project scope	3.92	0.904	4TH
Cost performance	3.73	1.012	5TH
Health and safety performance	3.62	1.286	6TH
Project schedule	3.56	1.037	7th

Source: Field survey, 2019

There are varying views on project success and this gives the indication that, the concept of project success cannot be adequately described. Hence, Zoltan (2017), opined that, the concept of construction project success is very complex to describe as its description is based on the perception of stakeholders involved. This explains the general higher or closeness of the standard deviation values to one (1).

4.4.3 Effect of demographical factors on project performance

Studies have shown that, the demographic factors of an individual have an effect on performance. The respondents were asked to rate the effect of demographic factors on project

performance using a five-point Likert scale. The data was analyzed and a summary shown in Table 4.3

From the analysis, level of education had the most significant effect of project performance. Schmidt and Hunter (1998) found that cognitive ability was strongly related to job performance and was an important contributor to success on virtually every job. According to Sonnentag and Frese (2002) workers' performance is not stable over time. Variability in a workers' performance overtime reflects learning processes other long-term changes.

The second ranked factor was years of experience. A study conducted by Ng and Feldman (2013) indicated that, there is a positive, moderate correlation between tenure and innovative behaviors, which consist of idea generation, dissemination and implementation. This relationship suggests that workers who stay in a role longer may become more capable of facilitating and implementing change. Experienced employees perform better inexperienced employees who have no previous experience to a work situation. Thus, experience has a direct relationship with the quality of services they offer, worker's stability, seriousness in attitude to work which might lead to the improve performance of individual and organization.

The third ranked factor was age followed by gender, marital status and possession of professional certificate.

Table 4.3: Ranking of performance factors

Demographic factors	Mean	Std. Dev	Rank
Level of education	4.19	0.951	1ST
Years of experience	3.90	0.955	2ND

Age	3.12	1.263	3RD
Gender	3.04	1.047	4TH
Marital status	2.94	0.958	5TH
Possession of professional certificate	2.88	0.758	6TH

Source: Field survey, 2019

4.5 SUMMARY OF FINDINGS

This chapter analyzed and discussed the data collected from the respondents. The respondents for this study were construction firms in the Accra metropolis. A total of 52 questionnaires were used in the analysis for this study. The background of the respondents was analyzed using percentages and displayed using figures. The three objectives were analyzed with the aid of the mean score ranking in conjunction with standard deviations. The analysis aided in making inference on the most significant demographic factor in the construction industry, the most significant success criteria in the construction industry and the demographic factor with the most effect on project performance. The data were presented with tables.

From the analysis, it was realized that, the level of experience is the most significant demographic factor followed by years of experience. Furthermore, the analysis showed that, client satisfaction is the most significant performance criteria followed by quality performance. Finally, the analysis showed that, the level of education has the most effect on project performance followed by years of experience.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The performance of workers in an organization largely depicts the effectiveness of the organization in achieving its objectives. Thus, if the performance of professionals in an

organization is improved, it affects the general performance of the firm. Hence, this study aimed at assessing the effect of demographical factors on construction project performance in Ghanaian construction industry. With this aim, three (3) objectives were set which were to identify the significant demographical factors in construction project management in Ghana, to identify the significant measures of construction project performance in the Ghanaian construction industry and to identify the effect of demographical factors on construction project performance in Ghana. The study adopted a quantitative research method and a survey research technique. Hence an extensive literature review was conducted for each objective and based on it; a structured question was developed to aid in collecting data from the respondents to ascertain their perception on the aim of the study. The questionnaire was distributed to 66 respondents and 52 were retrieved for the analysis. The data collected was analyzed using mean score ranking and percentages. The summary of the findings is discussed in subsequent section.

5.2 SUMMARY OF FINDINGS

This section discusses the summary of findings of the study. With the summary of findings, a brief description of how each objective was achieved will be discussed followed by the outcome for the specific objective

5.2.1 Objective one: To identify the significant demographical factors in construction project management in Ghana

With the objective one, an extensive literature review was conducted in which six demographical factors were identified. They were age, gender, marital status, years of experience and level of education. A structured questionnaire was designed based on the findings of the literature where the respondents were asked to indicate the extent of significance of the demographic factors identified using a five-point Likert scale. The mean score ranking technique in conjunction with standard deviation was used to analyze the data. From the

analysis, it was realized that, the level of experience is the most significant demographic factor followed by years of experience.

5.2.2 Objective two: To identify the significant measures of construction project performance in the Ghanaian construction industry

With the objective two, an extensive literature review was conducted in which the criteria for measuring project success were identified. They included cost performance, project schedule performance, project quality performance, health and safety performance, client satisfaction, project scope and environmental performance. A structured questionnaire was designed based on the findings of the literature where the respondents were asked to rate the significance of the performance criteria using a five-point Likert scale. The mean score ranking technique in conjunction with standard deviation was used to analyze the data. From the analysis, it was realized that, client satisfaction is the most significant performance criteria followed by quality performance.

5.2.3 Objective three: To identify the effect of demographical factors on construction project performance in Ghana.

With the objective three, an extensive literature review was conducted on the effects of demographical factors on project performance. A structured questionnaire was designed based on the findings of the literature where the respondents were asked to rate the extent of effect of the demographic factors on project success criteria using a five-point Likert scale. The mean score ranking technique in conjunction with standard deviation was used to analyze the data. For the objective three, the analysis showed that, the level of education has the most effect on project performance followed by years of experience.

5.3 CONCLUSION

Demographic factors like age, gender, level of experience among others are very critical to an organization. From this study, it was realized that, the most significant demographic factor was the level of experience Work experience within an organization gives the indication that, the employer and employee relationship is sustainable for the achievement of goals of the organization. Studies showed that, demographical factors have significant effect on project performance. From the study, it was realized that, client satisfaction and quality performance are the most significant performance criteria in the construction industry. However, there are varying views on project success and this gives the indication that, the concept of project success cannot be adequately described therefore, the standard deviation values for the success criteria were relatively high. The study also showed that, the level of education has the most significant effect on project performance. The level of education of an individual is a significant factor that enhances the effectiveness of an employee towards work. With the achievement of the aim and objectives of the study, it was realized that, demographical factors are crucial to the performance of an organization. Therefore, Demographic diversity can increase creativity and thus provide a wider range of perspectives, gives better definition of problem and also provides more alternatives as well as better solutions.

5.4 LIMITATIONS OF THE STUDY

Every study has some aspects of limitations that can be addressed in further studies. The limitations for this study are as follows;

1. The study was limited to only construction firms. However, other construction project stakeholders and organizations can be explored to identify their perception of

demographic factors and project performance. Hence further studies can explore other stakeholder groups like consultants; and

2. The study was limited to only construction firms in the Greater Accra region.

5.5 RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made;

1. Construction organizations should promote demographic diversity as it can increase creativity and thus provide a wider range of perspectives;
2. Construction firms should continually educate their employees as education significantly affect the performance of a project
3. Construction firms should also endeavor to retain their highly experienced staff and have a good succession plan so as to adequately retain performance level.

REFERENCE

Adebisi, S.A. and Oyedijo, A., 2012. Strategic Importance of Credit Risk Management to Shareholders' Wealth-Sustenance in Nigerian Banks: An Empirical Analysis. *Acta Universitatis Danubius: Oeconomica*, *8*(1).

Agyakwa-Baah A., (2007), Stakeholders' perceptions of the causes of delay on construction projects, Vol. 1, pp.1-27.

Ahadzi M. 2007 Public -Private Participation in Infrastructure and Contracts negotiations: An empirical study, *Construction Management and Economics*, (22), pp. 967-978.

Ahmed, S.M. and Kangari, R., 1995. Analysis of client-satisfaction factors in construction industry. Journal of Management in Engineering, 11(2), pp.36-44.

Ajayi, O. M., Ogunsami, O. E., Ajayi, A. K and Ofili, C.M. 2010. Factors Affecting Performance of Contractors on Construction Projects in Lagos State. Proceedings of the Construction, Building and Real estate Research Conference of the Royal Institute of Chartered Surveyors, Paris 2-3 September 2010.

Ali, M. and Min, Y. C. 2017. Simulation techniques for cost management and performances in construction projects in Malaysia, *Built Environment project and Assessment Management*. Vol. 7(5), pp. 534-545

Aliyu, A.A., Bello, M.U., Kasim, R. and Martin, D., 2014. Positivist and non-positivist paradigm in social science research: Conflicting paradigms or perfect partners. J. Mgmt. & Sustainability, 4, p.79.

Auden, W. 2009. Top Management Team and Firm Performance: Empirical Study Based on Companies. LAP Lambert Academics.

Austin, E.J., Saklofske, D.H. and Egan, V., 2005. Personality, well-being and health correlates of trait emotional intelligence. Personality and Individual differences, 38(3), pp.547-558.

Becker, G.S., 1981. Altruism in the Family and Selfishness in the Market Place. Economica, 48(189), pp.1-15.

Bekr, G.A., 2017. Exploring barriers in implementing building information modeling: a preliminary study.

Bell, A.J., 2008. The design and construction of the beam scintillation counter for CMS.

Bryde, D.J., 2003. Modelling project management performance. International Journal of Quality & Reliability Management, 20(2), pp.229-254.

Bryman, A. and Becker, S., 2012. Qualitative research.

Bubshait, A.A. and Almohawis, S.A., 1994. Evaluating the general conditions of a construction contract. International Journal of Project Management, 12(3), pp.133-136.

Campbell, J. P. (1990). Modeling the Performance Prediction Problem in Industrial and Organizational Psychology. In M.D. Dunnette & L. M. Hough (Eds.). Handbook of industrial and organizational psychology. Palo Alto, CA: Consulting Psychologists Press.

Chan, A. and Chan, A.P.L. 2004, Key performance indicators for measuring construction success, "*Benchmarking: An International Journal",* Vol. 2, pp.203–216.

Chan, A.P. and Tam, C.M., 2000. Factors affecting the quality of building projects in Hong Kong. International Journal of Quality & Reliability Management, 17(4/5), pp.423-442.

Cheng, M.Y. Tsai, H.C. and Sudjono, E. 2011. Evaluating Subcontractors Performance Using Evolutionary Fuzzy Hybrid Neural network. International Journal of Project Management. 29(2011):249-356.

Cheung, S.-O., Suen, H. C. H. and Cheung, K. K. W. 2004. PPMS: a Web-based construction project performance monitoring system, *Automation in Construction* 13(3), pp. 361–376

Choudhury, I. and Phatak, O., 2004, April. Correlates of time overrun in commercial construction. In ASC proceeding of 4th Annual Conference, Brigham Young University-provo-Utah, April (pp. 8-10).

Crawley, V., (2005). Juggling Family, Work Can Prompt Separation, Panel Says. Navy Times.

Dadzie, C.A., Winston, E.M. and Dadzie, K.Q., 2012. Organizational culture, competitive strategy, and performance in Ghana. Journal of African Business, 13(3), pp.172-182.

De Vaus A. D., (2001), Research Design in Social Research, pp.1-52.

DeVellis R., (2003), Scale development: theory and applications: theory and application. Thousand Okas, CA: Sage;.

Donkor, S., 2011. Determinants of business failure: the perspective of SMEs building contractors in the Ghanaian construction industry (Doctoral dissertation).

Easterlin, R.A. ed., 2007. Population and economic change in developing countries (Vol. 30). University of Chicago Press.

Enshassi, A., Mohamed, S., Abu Mustafa, Z. and Mayer, P. E. 2007. Factors affecting labor productivity in building projects in the Gaza Strip, *Journal of Civil Engineering and Management* 13(4), pp. 245–254.

Ghana. Statistical Service, (2015), Annual Gross Domestic Product.pp.1-9.

Giddens, A. (2010) Sociologia. Lisboa: Fundação Calouste Gulbenkian.

Gowan Jr, J.A. and Mathieu, R.G., 2005. IS project management: Project characteristics and management practices. Journal of Enterprise Information Management, 18(1/2), pp.235-255.

Hafez, N (2001): Residential Projects Obstacles and problems in Kuwait MSc Project. Department of Civil Engineering, Kuwait University

Hedge, J.W. (2009). The Oxford Handbook of Work and Aging. London: Oxford University Press.

Helen, B.I., Emmanuel, O.O., Lawal, A. and Elkanah, A. 2015. Factors influencing the performance of construction projects in Akure, Nigeria. International Journal of Civil Engineering, Construction and Estate Management, 3(4):57-67.

Hunter, J. E. (1986). Cognitive ability, Cognitive aptitudes, Job Knowledge and Job Performance. Journal of Vocational Behavior, 29, 340–362.

Hussain, D., 2011, Spirituality, religion, and health: Reflections and issues. "*Europe's Journal of Psychology"*, Vol. 1, pp.187-197.

Jackson, T., 2009. Prosperity without growth: Economics for a finite planet. Routledge.

Joshi, R. J. (1993), Gender Differences in Determinants of Job Performance. Indian Journal of Industrial Relations 28(3), 238247.

Judge, T. A. and Locke, E. A. 1993. Effects of dysfunctional thought processes on subjective well-being and job satisfaction. Journal of Applied Psychology. 78, 475-490.

Kagioglou, M., Cooper, R. and Aouad, G., 2001. Performance management in construction: a conceptual framework. Construction management and economics, 19(1), pp.85-95.

Kashiwagi, T. and Parmar, D., 2004. Past performance information in the construction industry. In ASC Proceedings of the 40th Annual Conference (pp. 8-10).

Khurshid, F., Qasmi, F. N. & Ashraf, N. (2012). The Relationship between Teachers' Self Efficacy and their Perceived Job Performance. Interdisciplinary Journal of Contemporary Research in Business, 3 (10), pp. 204-223.

Kim, S. & Mohtadi, H. (1992). Education, Job Signaling, and Dual Labor Markets in Developing Countries. St Paul: Economic Development Center, University of Minnesota. Bulletin, 92-100.

Knudson, A.D. (1982), Young Management Women: A new look. Journal of NAWDAC, 45, 2, 3-9.

Kometa, S.T., Olomolaiye, P.O. and Harris, F.C., 1995. An evaluation of clients' needs and responsibilities in the construction process. Engineering, construction and Architectural management, 2(1), pp.57-76.

Labaree, R.V., 2009. Research Guides: Organizing Your Social Sciences Research Paper: Types of Research Designs.

Larcher, P., 1998. Labour-based road construction. Intermediate Technology Publications.

Lee, A., Cooper, R. and Aouad, G. 2001. A methodology for designing performance measures for the UK construction industry. Salford University.

Lekha, P. and Magesh, R., 2016. Influence of Spiritual Quotient (SQ) Dimensions on Performance of Employee in its Industry. Asian Journal of Research in Social Sciences and Humanities, 6(7), pp.1112-1119.

Lim C. S. and Mohamed M. Z. 1999, Criteria of project success: An explanatory re-examination, *"International Journal of Project Management"*, Vol.17, No.4, pp.243–248.

Liu, A. and Seddon, P.B., 2009. Understanding how project critical success factors affect organizational benefits from enterprise systems. Business Process Management Journal, 15(5), pp.716-743.

Locke, E.A. 1970, Job satisfaction and job performance: a theoretical analysis. Organizational behavior and Human Performance, 5, 484-500.

Mbachu, J. and Nkando, R. 2007. Factors constraining successful building project implementation in South Africa, *Construction Management and Economics* 25(1) pp.39–54

McDaniel, M., A. Pesta, B. J. & Banks, G. C. (2012). Job Performance and Aging Worker. In W. C. Borman & J. W. Hedge (Eds.) The Oxford Handbook and Aging of work. 280-297.

Mensah, C., Diyuoh, D. and Oppong, D., 2007. Assessment of Supply Chain Management Practices and It Effects on The Performance of Kasaprekko Company Limited in Ghana. European Journal of Logistics Purchasing and Supply Chain Management, 2(1), pp.1-16.

Morledge, R. and Sharif, A., 1996. Client time expectations and construction industry performance. In Proceedings of COBRA (Vol. 96).

Mugenda, O. M., & Mugenda, A. G. (2003). Research methods: Quantitative and qualitative approaches. Nairobi, Kenya: Act Press.

Mugenda, O.M. and Mugenda, A., G.(2003). Research methods.

Muhammad N. M., Zohreh P., Mojde S., 2013, Significance of scope in project success, "*International conference on project management"* pp. 722-729.

Muiruri, G. and Mulinge, C., 2014. Health and safety management on construction projects sites in Kenya A case study of construction projects in Nairobi County. In *Proceedings of FIG Congress: Engaging the Challenges–Enhancing the Relevance*.

Murray, P., 2003. Organizational learning, competencies, and firm performance: empirical observations. The learning organization, 10(5), pp.305-316.

Neamat, S., 2017. Factors Affecting Project Performance in Kurdistan Region of Iraq. International Journal of Advanced Engineering Research and Science, 4(5).

Ng, T.W. and Feldman, D.C., 2008. The relationship of age to ten dimensions of job performance. Journal of applied psychology, 93(2), p.392.

Nhabinde, V., Marrengula, C.P. and Ubisse, A., 2012. The Challenges and the Way Forward for the Construction Industry in Mozambique. Report to the International Growth Centre in Mozambique.

Ofori, G., 2012. Developing the Construction Industry in Ghana: the case for a central agency. *A concept paper prepared for improving the construction industry in Ghana. National University of Singapore*, pp.3-18.

Olawale, Y. 2010. Cost and time control of construction projects; inhabiting factors and mitigating measures in practice. *Journal of Construction management and Economics*. 28(5), pp. 509–526.

Olorunsola, E. O. 2012. Job performance of administrative staff in south west Nigeria Universities. European Journal of Educational studies 4, 3. in south west Nigeria Universities. *European Journal of Educational studies* 4, 3.

Parasuraman, A., Valarie A. Zeithaml, and Leonard L. Berry. (1988). "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," Journal of Retailing, 64 (Spring): 12–37.

Project Management Institute, 2004, A Guide to the Project Management Body of Knowledge, PMBOK Guide 2000 edition, Project Management Institute, Pennsylvania.

Sadeh, A., Dvir, D. and Shenhar, A., 2000. The role of contract type in the success of R&D defense projects under increasing uncertainty. Project Management Journal, 31(3), pp.14-22.

Salthouse, E. R. (1997). Cognitive factors determining job performance. Psychological Bulletin. 88, 71-711.

Saunders, M., Lewis, P., and Thornhill, A. (2009), Research methods for business students. 5th edn. Harlow: Prentice Hall.

Schmidt, F. L. & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. Psychological Bulletin, 124, 262–274.

Schmidt, R. 1990. The Role of Consciousness in Second Language Learning. Applied Linguistics, 11, 129-158.

Serpell, A. and Alarcon, L.F., 1998. Construction process improvement methodology for construction projects. International journal of project management, 16(4), pp.215-221.

Shenhar, A.J., Levy, O., & Dvir, D. 1997. Mapping the dimensions of project success. Project Management Journal, 28 (2), 5–13.

Shultz, K. S. & Adam, G. A. (2007). Aging and Work in the 21st Century. New Jersey: Routledge Publisher.

Shultz, K. S. & Adam, G. A. 2007. Aging and Work in the 21st Century. New Jersey: Routledge Publisher.

Smedley, K. & Whitten, H. (2006). Age Matters, Employing, Motivating and Managing Older Employees. United Kingdom: Gower Publisher.

Songwe V., (2014), Africa's Capital Market Appetite; Challenges and Opportunities for Financing Rapid and Sustained Growth. Foresight Africa Report; pp.1-44.

Sonnentag, S. and Frese, M. 2002. Performance concepts and performance theory. In S. Sonnentag, Psychological management of individual performance. Ed. Chichester, UK: Wiley and Sons Ltd.

Takim, R., 2005. *A framework for successful construction project performance* (Doctoral dissertation, Glasgow Caledonian University).

Tang, S.L., Ahmed, S.M., Aoieong, R.T. and Poon, S.W., 2005. *Construction quality management* (Vol. 1). Hong Kong University Press.

Tengan, C., Anzagira, L. F., Kissi, E., Balaara, S. & Anzagira, C. A. 2014. Factors Affecting Quality Performance of Construction Firms in Ghana: Evidence from Small–Scale Contractors. *Civil and Environment Journal*, 6(1), 18–23.

The American Society of Civil Engineer 1987, Quality manual.

Timar, D. B. (2014). The Dynamic Relationship between Aging and Job Performance – A case study. Agora Psycho-pragmatic, 8 (2), 75-89.

Torrington, D. 2005. *Human resource management*, *6*.

Vandevelde, A., Dierdonck, R.V., Debackere, K. 2002, "Practitioners View on Project Performance: A Three-Polar Construct", Vlerick Leuven Gent Management School Fellows, R.

Williams, R.L., Moore, C.A., Pettibone, T.J. and Thomas, S.P., 1992. Construction and validation of a brief self-report scale of self-management practices. *Journal of Research in Personality*, *26*(3), pp.216-234.

Yamane, Y., 1969. Statistical formular. Uzoagulu, AE (1998). Practical guide to writing research project reports in tertiary institutions. Enugu: John Jacobs Classic Publishers.

Yeatts, D.E., Yeatts, D.E. and Hyten, C., 1998. High-performing self-managed work teams: A comparison of theory to practice. Sage.

Zoltan S., 2017, Further considerations in project success, "*Creative construction conference"* pp. 571-577.

APPENDIX

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY QUESTIONNAIRE

Dear Respondent,

I would like to thank you for participating in this survey. The questionnaire seeks to get as much information as possible on ***the effect of demographical factors on project performance in Ghanaian construction industry*.** It is purely an academic work and you are assured of maximum confidentiality and anonymity. Counting on your corporation. Many thanks.

SECTION 1: GENERAL ORGANIZATION INFORMATION

1. Please indicate your category in the construction industry

   [ ] D1K1

   [ ] D2K2

   [ ] D3K3

[ ] D4K4

2. Highest level of Education

   [ ] HND

   [ ] Bachelor's degree

   [ ] Master's degree

   [ ] Doctoral degree/PhD

3. Please indicate your years of practical experience in the construction industry

   [ ] 1-5yrs

   [ ] 6-10yrs

   [ ] 11-15yrs

   [ ] Over 15yrs

4. Respondents designation:

   [ ] Head of organization

   [ ] Office Engineer

   [ ] Project Manager

   [ ] Site Supervisor

   [ ] Site Engineer

   Other_____

SECTION B

DEMOGRAPHIC FACTORS

5. Please indicate the extent of significance of the following demographic factors in the Ghanaian construction industry by ticking (√) appropriately.

1 – Not significant, 2 – Slightly significant, 3 – Neutral,4 – Significant, 5 – Very significant

No.	**Demographic factors**	**1**	**2**	**3**	**4**	**5**
1	Age					
2	Gender					
3	Marital status					
4	Years of experience					
5	Level of education					
	If any, please specify					

SECTION C

PERFORMANCE FACTORS IN PROJECT MANAGEMENT

6. How do you rate the significance of the following performance criteria in the Ghanaian construction industry? Please tick appropriate box

1 – Not significant, 2 – Slightly significant, 3 – Neutral, 4 – Significant, 5 – Very significant

No.	**Performance Factors**	**1**	**2**	**3**	**4**	**5**
1	Cost performance					
2	Project schedule performance					
3	Project quality performance					
4	Health and safety performance					
5	Client satisfaction					
6	Project scope					
7	Environmental performance.					
	If any, please specify					

SECTION D

THE EFFECT OF DEMOGRAPHICAL FACTORS ON PERFORMANCE OF CONSTRUCTION PROJECT

Please indicate the extent of effect the following demographic factors have on project success. Please tick the appropriate box

1 –No effect, 2 – Slight effect, 3 – Neutral,4 – Strong effect, 5 – Very Strong Effect

No.	Demographic factors	1	2	3	4	5
1	Age					
2	Gender					
3	Marital status					
4	Years of experience					
5	Level of education					
6	Possession of a professional certificate					