

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
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Assessing the Managerial Competencies of Male and Female Construction Managers
in Ghana

by

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MASTER OF SCIENCE

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DECLARATION

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

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ABSTRACT

Around the world, the construction industry is normally seen to be dominated by men. This is not in regards to workers alone but managers as well. In Ghana, only a few projects are managed by female construction managers. The managerial competencies of construction managers should be investigated to get a comprehensive understanding of this situation, and determine if this unbalanced scale in construction managerial positions has a link with differences in managerial competencies. This study assessed the managerial competencies of construction managers in the Ghanaian construction industry by gender. The study identified several core managerial competencies including, job knowledge, leading and motivating employees, building teamwork, communicating and listening to the team, managing finances, demonstrating strategic leadership and several others. To complete this study, the Yamane's formula was used to determine the sample size, the purposive sampling technique was used together with the snowball sampling technique to identify female construction managers. Data was sought from 157 respondents comprising 122 male managers and supervisors and 35 female managers and supervisors. A three-part questionnaire was developed with the focus part being the competency assessment instrument where respondents were asked to rate their construction managers. Data gathered was analyzed by statistical test of significance where the mean scores approach was used. The results of the analysed data revealed that male construction managers exhibit equally similar competencies as exhibited by female construction managers. The study revealed that female construction managers score relatively higher in expecting ethics and accountability, working with diverse people and perspectives and communicating and listening to the team while male construction managers score relatively higher with regards to understanding performance indicators and metrics. The study concluded that the roles and responsibilities of a construction manager may be a more determinant factor in selecting competent managers than the gender of the construction managers and hence recommended employers to discard negative perceptions of female construction managers and balance the gender of construction managers.

TABLE OF CONTENTS

DECLARATION	ii
ABSTRACT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
ACKNOWLEDGEMENTS	ix
DEDICATION	x
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the study	1
1.2 Problem Statement	3
1.3 Research Questions.....	4
1.4 Aim and Objectives	4
1.4.1 Aim	4
1.4.2 Objectives	4
1.5 Significance of the study	4
1.6 Methodology	5
1.7 Scope of study	5
1.8 Limitations of the study	6
1.9 Structure of report	6
CHAPTER TWO	7
LITERATURE REVIEW.....	7
2.1 Introduction	7
2.2 Overview of the Ghanaian Construction Industry	7
2.3 Definition of Competence	9
2.4 The Concept of Managerial Competence	10
2.5 Components of Competency	12

2.6	Identification of Managerial Competencies	12
2.7	Other angles relating to managerial competencies	15
2.8	Comparing Competencies by Gender	17
2.9	Gender issues in characterizing capabilities	19
2.9.1	Gender Differences	19
2.9.2	Managing Sex Stereotyping.....	20
2.10	Competency Frameworks or Models	21
2.10.1	The McBer Competency Model	22
CHAPTER THREE		
24		
RESEARCH METHODOLOGY		
24		
3.1	Introduction	
24		
3.2	Research Design	
24		
3.3	Population and scope.....	24
3.4	Sampling size and technique	25
3.5	Method of data collection.....	27
3.6	Questionnaire design	29
3.7	Data Analysis and Presentation	31
3.7.1	Ethical issues	31
CHAPTER FOUR		
33		
DATA ANALYSIS, PRESENTATION AND DISCUSSION		33
4.1	Introduction	33
4.2	Response Rate.....	33
4.3	Background Information	33
4.3.1	Gender of Respondents	33
4.3.2	Professional Experience of Respondents	34
4.3.3	Educational Level and Organisational Roles of Respondents	35
4.3.4	Range of Employees	36
4.3.5	Gender Type of Managers Assessed	37

4.3.6 Professional Experience of Respondents	38
4.4 Identifying Core Managerial Competencies of Construction Managers	39
4.5 Overall Assessment on Male Construction Managers	41
4.6 Overall Assessment on Female Construction Managers	43
4.7 How Male Respondents Assessed Male Construction Managers	45
4.8 How male respondents assessed female construction managers	47
4.9 How male construction managers were assessed by female respondents	50
4.10 How female construction managers were assessed by female respondents	52
4.11 Overall assessment of construction managers	54
4.12 Comparing competencies of male and female construction managers	55
 CHAPTER FIVE	 60
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	60
5.1 Introduction	60
5.2 Summary	60
5.2.1 Core managerial competencies of construction managers in Ghana	60
5.2.2 Similarities in managerial competencies of male and female construction managers	61
5.2.3 Differences in managerial competencies of male and female construction managers	61
5.3 Conclusion	61
5.4 Recommendations	62
 REFERENCES	 64
APPENDIX: QUESTIONNAIRE TO MANAGERS AND SUPERVISORS	70
LIST OF TABLES	
Table 4.1: Education Levels and Organisational Roles of Respondents	36
Table 4.2: Core Managerial Competencies	40
Table 4.3: Competency Ratings on Male Construction Managers by all Respondents	42
Table 4.4: Competency Ratings on Female Construction Managers by all Respondents	44
Table 4.5: Competency Ratings on Male Construction Managers by Male Respondents	46

Table 4.6: Competency Ratings on Female Construction Managers by Male Respondents	48
Table 4.7: Competency Ratings on Male Construction Managers by Female Respondents	51
Table 4.8: Competency Ratings on Female Construction Managers by Female Respondents	53
Table 4.9: Competency Ratings on Construction Managers	55
Table 4.10: Comparing competency scores by male and female construction managers	57
Table 4.11: Comparing competency scores by male and female construction managers	59

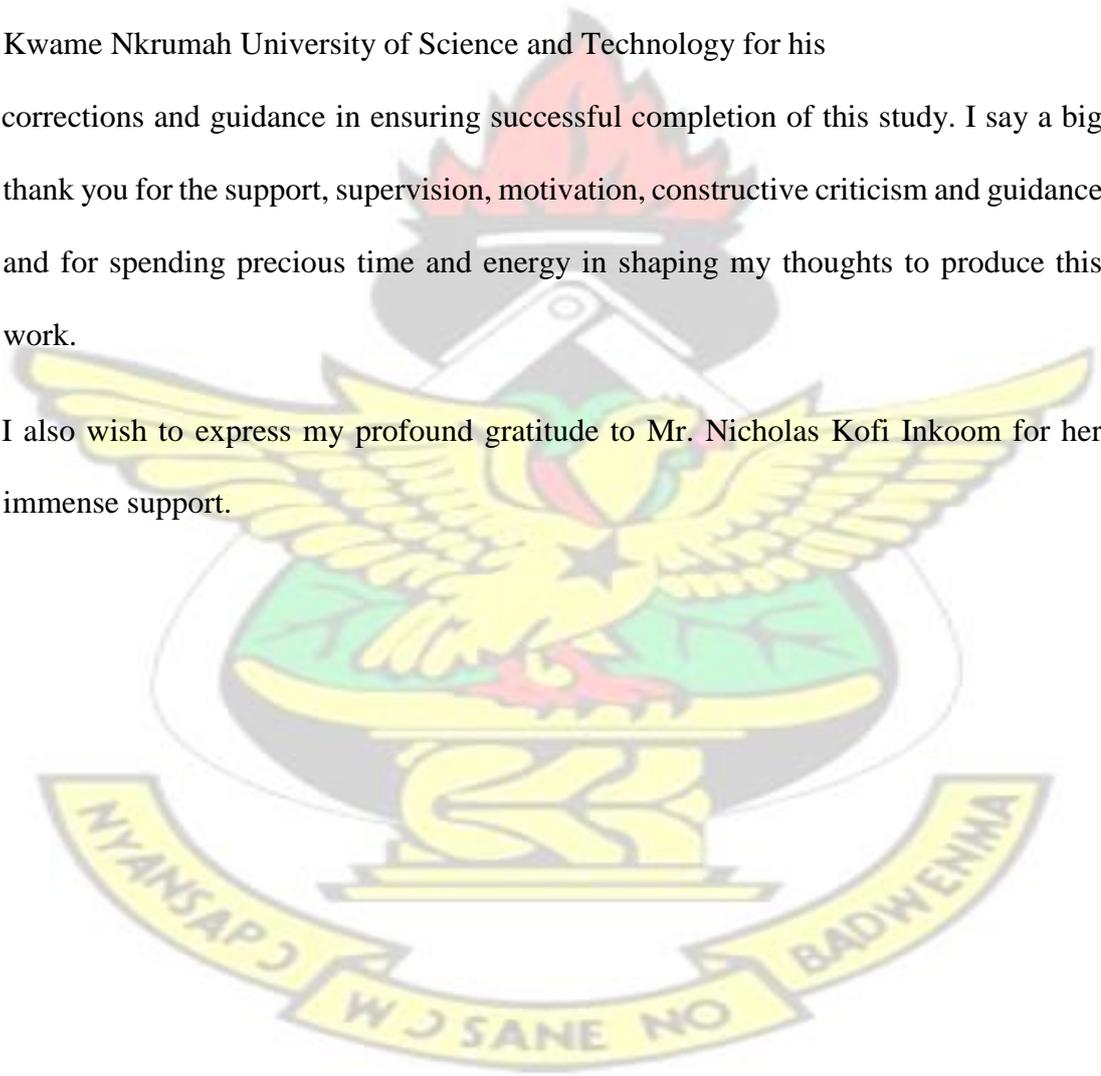
LIST OF FIGURES

Figure 2.1: Working with Managerial Competencies.....	13
Figure 2.2 : International Managerial Stereotyping	21
Figure 4.1 Gender Proportion of Respondents	34
Figure 4.2: Professional construction experience of respondents	35
Figure 4.3: Range of Employees in Respondents' Firms	37
Figure 4.4: Proportion by Gender of Construcion Managers assessed	38
Figure 4.5: Managerial Experience of Construction Managers Assessed	38
Figure 4.6: Mean scores of male construcion managers	43
Figure 4.7: Means scores of female construction managers	45
Figure 4.8: Mean scores of male construction managers assessed my male respondents	47
Figure 4.9: Mean scores of female construction managers assessed by male respondents	49
Figure 4.10: Mean scores of male construction managers assessed by female respondents	52
Figure 4.11: Mean scores of male construction managers assessed by female respondents	54

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DEDICATION

This work is dedicated to God Almighty for His mercies granted throughout the program. I also dedicated this to my mother, Mrs Doris Akorah and my mentor Samuel Twumasi-Ankrah and Louis Potgieter.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Around the world, the construction industry is normally seen to be dominated by men. This is not in regards to workers alone but managers as well. In Ghana, only a few projects are managed by female construction managers. The managerial competencies of construction managers should be investigated to get a comprehensive understanding of this situation, and determine if this unbalanced scale in construction managerial positions has a link with differences in managerial competencies.

The competency concept has long been obtrusive in management papers. Competencies have become standard vocabulary for discussing the relevant constituents for outstanding achievement. It has been argued that competencies are the discerning assets which help firms to achieve vital and ambitious objectives (Nordhaug and Gronhaug, 1994; Tomal and Jones, 2005).

Competencies are used to determine the performance necessary to achieve desired outcomes (Levenson et al., 2006; Laguna et al., 2012). While there are many definitions of competencies, they may be defined as the know-how, intelligence, strength and behaviors that enable to a defined performance outcome (Spencer and Spencer, 2004; Vakola et al., 2007; Campion et al., 2011)

Competencies are very essential to managers as they guide productivity, can be measured and can be learned (Intagliata et al., 2000). Northouse (2014) describes competencies as one part of the “Skills Model” of leadership and includes skills to judge socially, skills to solve problems and the technical know-how. The approaches

that are based on the skills of the individual which includes competencies emphasizes the capabilities that enable leadership performance (Northouse, 2014).

Some authors have tried to distinguish competencies by gender in a quest to investigate into the different opinions of competencies. While in most cases these are not emphasized in terms of competencies, several studies have depicted that male and female construction managers exhibit different managerial competencies. In her seminal book, "You Just Don't Understand: Men and Women in Conversation." Tannen (1990) discusses conversational styles with regards to men and women conversational styles emphasizing clearly the differences between men and women's communication style. Since communication plays a key role in management, this work suggests potential managerial competency application by women and men.

Sandberg and Scovell (2013) in their book "Lean In" really helps in discussing the topic about the differences in male and female managers. While not a researchedbased work, the book gives an argument that there are differences in the managerial competencies of female and male managers. This definitely does not imply that Sandberg and Scovell (2013) are saying one gender or the other has better competencies but in a sense that managers engage different competencies at the workplace to achieve productivity. Others also have the view that the way women managers apply their competencies may be of more advantage as compared to managerial approaches used by male managers (Eagly and Carli, 2003).

In addition to differing expectations compared to men, other challenges may emerge that could affect the perception of the women leaders competency (Tomal and Jones, 2005). In the construction industry, women may encounter certain work environment such as stereotypes, cultural challenges and the dominance of male employees alone

could be intimidating enough to hinder the realization of the full potentials of female managers. (Klenke, 2011)

This study focuses on the construction industry in Ghana. While there are many studies that focus on the construction industry, few have focused on competency differences between male and female managers. Like many industries, construction is traditionally male dominated, especially in managerial positions.

1.2 Problem Statement

Over the past couple of years, there has been low female participation in all sectors of the economy (Amu, 2005). Data from the Ghana Statistical Service (2008) indicated that the ratio of female to male employees in the construction industry is 1:35, indicating low female entry and retention (Ayarkwa et al., 2012). This indicates that the population of female in the construction industry is very minimal and the same can be said of female construction managers in Ghana.

Looking critically at the construction industry at Ghana, many projects are perceived to be managed by male construction managers. On the other hand Tomal and Jones (2005) argues that women focus on expertise in the management and development of people than men who perceive that the visibility and awareness of domestic policy is more important. They further go on to say that it seems the probability of men achieving a career development training for this is higher than that of women this also has a more confident impact on aspects of promotion (Strebler et al., 2013). The study therefore seeks to investigate into the managerial competencies of male and female managers in the construction industry of Ghana.

1.3 Research Questions

- ❖ What are the core competencies of construction managers?
- ❖ Are there significant differences between core competency rankings of male and female construction managers?

1.4 Aim and Objectives

1.4.1 Aim

The aim of this study is to compare managerial competencies of construction managers by gender.

1.4.2 Objectives

Based on the background and the problem statement of this study, the exact objectives are:

- ❖ To determine the core managerial competencies of construction managers in Ghana;
- ❖ To identify the similarities in the managerial competencies of construction managers in Ghana by gender; and
- ❖ To determine the differences in managerial competencies of construction managers in Ghana by gender

1.5 Significance of the study

The study of competencies among female and male construction managers is very important given the role the construction industry has been playing as an informal sector in the development of the economy as well as its great contribution to the Gross Domestic Product. (Ofori, 2007)

The study can enable construction companies realize the competency level of both male and female managers and aid in the selection of construction managers to manage construction projects.

The researcher's knowledge is widened after the study and has been motivated to study or investigate into other areas of the construction industry.

Moreover, the outcome of this work or study is of great importance to the academia since it serves as a written document to already existing literature worldwide on this particular study. The study is of use to researchers, students, academics and all stakeholders of the construction industry.

1.6 Methodology

This study employed the quantitative method of data collection. Data was collected through questionnaires. The study relied on data collection. The source of data included questionnaires were completed by management staff, construction managers and supervisors of various construction companies. The purposive sampling technique was used whereas the snowball sampling technique was engaged to identify female construction managers. Data was analyzed using statistical test of significance. The mean scores of the various competency items were computed to analyse the data obtained from the questionnaires.

1.7 Scope of study

The study is limited to Construction Management in Ghana. For easy access and acquisition of information by the researcher, focus is mainly on D1K1 Construction companies located in Accra since they have a defined criteria for engaging the services of a construction manager. . The study focuses on assessing managerial competencies of male and female construction managers in Ghana although there may be other aspects or areas in the construction industry that could be investigated. The study focuses only on assessing construction managers and does not attempt to assess supervisor or other leadership roles within the construction industry.

1.8 Limitations of the study

The study is limited by adequate information or data specific to the Ghanaian situation. The study therefore relied on literature, journal and articles specific to other countries. Nevertheless, questionnaires and interviews conducted within the construction industry in Ghana helps to fill that void in the Ghanaian Literature.

1.9 Structure of report

The report for this research is grouped under five chapters. Chapter one being the introductory chapter, covers the background of the study, defines the problem, outline the objectives, highlights the research questions, emphasizes on the methodology used as well as scope of study, and finally throws light on how the whole study is organized. The second chapter presents a detailed literature review of previous studies conducted. Chapter three tackles the details of the research methods employed such as the sampling technique, the population and the data collection method as well as the data analysis. Chapter four displays the data and pertinent discussions. Finally, chapter five presents the overall summary of the research, presents a conclusion on the findings as well as giving the necessary recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature review of this study. The chapter commences by presenting an overview of the Ghanaian Construction Industry. It then discusses the meaning of managerial competency and its relevance to the construction industry. Moreover, the chapter concludes with discussing the factors that are used to measure

managerial competencies. This chapter concludes by discussing managerial competency theories and models relating to gender.

2.2 Overview of the Ghanaian Construction Industry

Generally, contractors in the construction industry of Ghana like many others can be classified into three major categories: (Dansoh, 2005)

- ❖ The building contractors who construct general buildings, residential buildings, commercial and industrial buildings are classified as General Building Contractors.
- ❖ Those that construct roads and highways, sewer and water systems, tunnels and bridges as well as other engineering projects are classified as Heavy and Civil Engineering Contractors.
- ❖ The remaining contractors who perform specific special tasks or trades such as plumbing, electrical, and labor contracts are classified as Specialty Contractors.

The activities of these specialty contractors are performed on site by contractors who have specialized in certain unique jobs in construction such as building, civil engineering and / or road construction etc. They assume full liability for the complete job, with the exception of determined bits of the work that might be excluded from the general contract and sublet to other specific contractual workers. (Dansoh, 2005)

In spite of the fact that, contractors may do the majority of the work with their own teams, they in some cases subcontract segment of the work to their domestic special contractors. Specialty trade contractors or subcontractors for the most part perform the activities of just a single trade, for example, plumbing or electrical work, or of two or all the more closely-interwoven trades such welding and installing metallic or HDPE

pipes. Most of the times, they acquire orders for their work from the main contractors, planners, and or the client.

According to the classification of ministry of water resources, works and housing in Ghana, contractors are classified into various classes (A, B, C, D, E, G, K and S) in relation to the kind of works they execute (Ofori, 2007). The details of these classifications are as follows:

- ❖ Class A – Contractors who construct roads, airports and related structures.
- ❖ Class B – Contractors who construct bridges, culverts related structures
- ❖ Class C – These are contractors whose construct road works based on labor
- ❖ Class D – Contractors who undertake general building works
- ❖ Class E – Contractors who perform electrical works
- ❖ Class G – Contractors who undertake plumbing works
- ❖ Class K – Contractors who generally undertake civil work and
- ❖ Class S – Contractors who construct, rehabilitate or maintain steel bridges and structures

In each category, they are grouped into 4, 3, 2 and 1 financial classes in increasing order (Dansoh, 2005).

This research focused on contractors in category D and K for general building and civil engineering works. The main upper class D1K1 was chosen since contractors under this class are considered more organized and hence more stable and have the potential for engaging professional construction managers (Ofori, 2007).

2.3 Definition of Competence

There is no single hypothesis of ability or competency, however there are a few definitions and methodologies. A lot of perplexity still remains and there is much level headed discussion about what competencies are and how best to characterize them. In fact, there is even no genuine assertion about spelling the terms. In perspective of the distinctive methodologies, it may be ideal to utilize the idea of "skill" as an umbrella term and allude to 'capabilities or practices' for the behavioral methodology and 'benchmarks or units of ability' for the occupational related standard methodology. Lanny (2008) contends; “we have watched much pointless perplexity around the terms, competence, capability and capacity”.

Competencies may basically be alluded to as “the aptitudes, learning, knowledge, properties and practices that an individual needs with a specific end goal to play out work adequately” (Nordhaug and Gronhaug, 1994) . A competency is the capacity to apply or utilize an arrangement of related information, aptitudes, and capacities required to effectively perform "basic work capacities" or errands in a characterized work setting (Northouse, 2014). Competencies frequently serve as the premise for skill norms that determine the level of learning, aptitudes, and capacities required for achievement in the working environment and in addition potential estimation criteria for surveying competency accomplishment (Campion et al., 2011). Competence is the quality or condition of being practically satisfactory or having adequate learning, quality and expertise (Boyatzis, 2011). Competence is substitute word for one's ability or expertise. (Lanny, 2008)

Competency basically is a blend of technical know-how, aptitudes, practices, and dispositions that add to individual adequacy and are an arrangement of learning, abilities, practices, and states of mind that a man should be powerful in an extensive

variety of positions and different sorts of associations (Hellriegel et al., 2008). Boyatzis (1982) characterized capabilities as the hidden qualities of a man that lead to or cause powerful and remarkable execution. It additionally alludes to individually arranged and errand situated skills that are connected with successful initiative and administration (Martin and Staines, 2006)

Arditi et al., (2013) found differences in the competencies of men and women but there are many similarities. Sometimes the differences are embedded in the perceptions others have of male and female managers. Another finding is that women even with similar competencies may be held to a different and even higher standard of competence as compared to men (Eagly and Carli, 2003).

2.4 The Concept of Managerial Competence

The idea of competency depends on the hypothesis of execution. Management execution is the degree and nature of leaders' commitment in understanding the targets of the association (Shirazi and Mortazavi, 2009). Competency is considered as a quantifiable normal for a man that is identified with effective execution in a particular occupation, association or society (Watts, 2009). These attributes are characterized regarding conduct. Cockerill (1989) proposed that management execution is identified with directors themselves than to their positions and power inside the associations. Henceforth, effectiveness of the managers relies on the experience and the capabilities they convey to their occupations.

Competencies are characterized as the psychological (e.g. aptitudes and information), emotional (e.g. qualities and state of mind), behavioral and motivational attributes and auras of a man to perform well in a particular circumstances (Boyatzis, 1982). Boyatzis (1982) goes further to argue that the job execution of a manager is affected by their employment related, learning and experience, and identity qualities. Greatest

performance is accepted to happen when the individual's capacity or ability is reliable with the requirements of the employment requests and the hierarchical environment. Graham and Tarbell (2006) made an attempt to elicit competency prerequisites of managers working in various useful departments of the same association that they believed were fundamental for powerful deliverables.

Ramo et al., (2009) found that both social and enthusiastic abilities and identity attributes are the important indicators of occupational competencies and also highlighted that that competencies are the more intense indicator of performance when contrasted with worldwide identity characteristics. The utilization of skills serves to upgrade an association's success and hence an upper hand (Lawler, 1994).

Business contextual analyses have demonstrated numerous advantages connected with competency utilization including expanded worker efficiency, decreased preparing costs, and lessened staff turnover (Homer, 2001). The competency approach has shaped a progressive commitment to the accomplishment of numerous associations. It has been noticed that the effective task execution of a manager is exceedingly affected by his abilities and in this way the accomplishment of the firm relies on managers' skills to a large extent.

2.5 Components of Competency

Katarina et al. (2013) in their book indicates that there are four noteworthy segments of competency:

- ❖ **Knowledge:** understanding procured through learning. This alludes to a group of data significant to employment execution. It is the thing that individuals need to know not ready to play out a vocation, for example, learning of strategies and methods for an enlistment procedure.

- ❖ Behavior: The recognizable showing of some competency, expertise, learning and individual characteristics. It is a basically authoritative articulation of a competency in that it is an arrangement of activity that, apparently, can be watched, educated, learned, and measured.
- ❖ Skill: capacities gained through practice. It can be a budgetary ability, for example, planning, or a verbal expertise, for example, making a presentation.
- ❖ Personal attributes: inborn qualities which are conveyed to the employment, speaking to the vital establishment whereupon learning and expertise can be created.

2.6 Identification of Managerial Competencies

The identification and development of managerial competencies has various points of interest for associations; it widens the work capability of managers and hence likewise the potential outcomes for element improvement of work groups and in this manner of the association all in all.

Keeping in mind the end goal to accomplish this impact, the advancement project of an association needs to have a reasonable and precise origination that would check expected future changes (Tomal and Jones, 2005). Singular strides of working with administrative capabilities prompting the accomplishment of vital objectives of an association are delineated in the figure beneath.

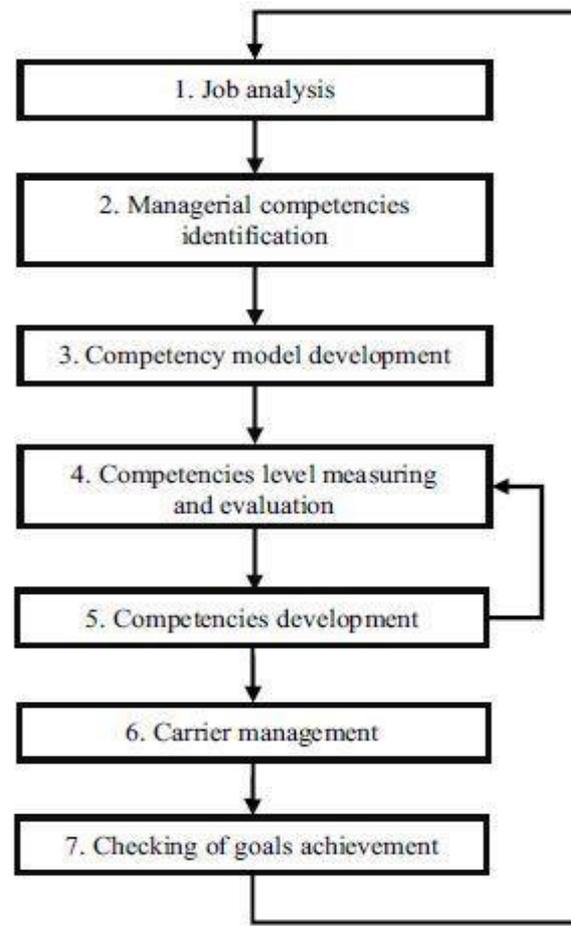


Figure 2.1: Working with Managerial Competencies.

Source: (Königová et al., 2012)

Shirazi and Mortazavi (2009) identified that pro-activeness, viable correspondence, group building, arrangement, responsiveness and definitiveness are the principle qualities of a good manager. They additionally bolster the perspective purpose of other people in leadership that the aggressive business environment is making associations more client-centered. Great managers react proactively and give careful consideration to economic situations. The investigation of Wickramasinghe and Zoysa (2009) uncovered expansive level skills that are essential for managers working in various useful ranges. They isolated 31 singular capabilities into three competency groups (information, expertise and worth), over every single utilitarian territory and recommended that abilities from quality and aptitude bunches are more essential than

learning group over every practical zone. Qiao and Wang (2009) revealed that group building, correspondence, coordination, execution, consistent learning are the most basic managerial abilities for the accomplishment of middle managers in China and saw that middle managers require diverse arrangement of capabilities from senior supervisors. Self-assurance, accomplishment introduction, helpful administration, change impetus are the capabilities which separate between effective pioneers with run of the mill pioneers according to the investigation of (Hopkins and Bilimoria, 2008)

Rao (2007) found that employment learning is the most vital competency required to be fruitful at work. Rao likewise showed that diligent work, powerful relational abilities, group aptitudes, smoothness are as often as possible utilized skills by Service, Manufacturing, and Construction Sector managers. Rao (2007) prescribed that to be world class managers, the Indian managers need to create Vision, Continuous learning and learning affectability, Self-restoration, Delegation, Empowerment, Ability to perceive, engage, and create youngsters, Resultintroduction, Perseverance, Integrating capacity, and Sense of need and reason. On the comparative lines however at worldwide level, Hellriegel et al. (2008) distinguished that Communication Competency, Planning and Administration Competency, Teamwork Competency, Strategic Action Competency, Global

Awareness Competency, and Self-Management Competency as the six center administrative abilities which are required to be a compelling and fruitful director.

Abraham et al. (2001) recognized six most basic abilities that are authority aptitudes, client center, result introduction, issue solver, relational abilities, and group pioneer.

To be a viable supervisor, Pandit (2001) made an investigation of 22 top pioneer managers and recognized commitment, persistence, risk-taking or business

enterprise, curiosity, values, learning, persuasiveness, focus and humility as the basic competencies among these managers.

Boyatzis (1982) recorded 50 basic abilities of top administrators which essentially incorporate insight, logical aptitudes, key aptitudes, judgment and basic leadership, hazard taking, incredibleness, cooperative person, correspondences, decisiveness, aspiration, versatility, inventiveness, vision, and equalization in life. Luthans (1998) made a refinement between a powerful pioneer and a fruitful pioneer and focused on that viable managers are the individuals who have fulfilled and gainful workers, while effective managers are the individuals who are advanced rapidly. 12 characteristics of successful Indian managers as identified by Pandit (2001) are; correspondence, capability, basic leadership, quietude and affection, sympathy, vision, collaboration, preparing, stamina, trustworthiness, bravery, and manadministration.

2.7 Other angles relating to managerial competencies

Latvian endeavors concentrate more on specialized abilities, information, and past experience while selecting new workers (Zarina, 2009). The study additionally revealed that the adjustments in competency necessities are extraordinarily reliant from advancement phase of the organization itself. The discoveries of the investigation of Young and Dulewicz (2009) support an incorporated way to deal with management and management-choice and improvement. They have additionally distinguished four "Supra-competency" groups i.e. conceptualize, adjust, cooperate, and make achievement connected with elite. As indicated by their study, "Inspiration" developed is the most imperative single indicator of change in execution and was the main trademark that fundamentally separates the top managers from the base managers (Young and Dulewicz, 2009). Boyatzis (2009) found that passionate, social and psychological abilities anticipate adequacy in expert, administration, and initiative

parts in numerous areas of the general public. The investigation of Dreyfus (2008) uncovered that exceptionally powerful managers show interpersonal capacity as contrast with normal supervisors. Dreyfus (2008) likewise accentuated that social and enthusiastic knowledge skills are essential for directors. The investigation of Koman and Wolf (2008) uncovered that enthusiastic insight competency of the group leaders is fundamentally identified with gathering standards of the group they lead and the group's ability to achieve their objectives relies on upon emotional competence of the whole group. Hopkins and Bilimoria (2008) found that there was no huge level of distinction amongst male and female leaders on the premise of utilizing social and passionate capabilities. They likewise found that successful men and women managers exhibit comparative social and passionate capabilities. New (2008) recognized three discrete classes of abilities: (i) task-specific competencies (ii) general management capabilities (iii) corporatespecific capabilities for accomplishment. To him, each of these can be measured to assess a specific capability one have and the high score for that competency execution in that Activity. Nwokah and Ahiauzu (2008) discovered that there is a solid relationship between the managerial competencies of an association and its showcasing viability. Each managerial ability partly adds to the showcasing adequacy relying on their relative impact on the particular promoting viability measurement.

Jokinen (2005) portrays worldwide authority capabilities as the all-inclusive qualities that empower people to play out their employment outside their national and authoritative society, regardless of what their instructive or ethnical foundation is, what departmental roles they play, and what association they originate from. Barber and Tietye (2004) recognized 14 abilities that characterize the extent of skill for MAMP (Manufacturing, Assembly and Material Processing) administrators. They

additionally set forward that skills like foundational frameworks, material administration and demonstrative effectiveness are imperative for MAMP directors, while abilities, for example, focused techniques, self-assured initiative administration, venture administration, and transformational authority are applicable for each level of management.

2.8 Comparing Competencies by Gender

In seeking to define idiosyncratic sets of competencies, some authors have tried to distinguish competencies by gender. While not always explained in terms of competencies, some studies suggest there are differences in the competencies of men and women leaders. Tannen (1990) in her seminal book, “You Just Don’t Understand: Men and Women in Conversation,” discusses men and women conversational styles describing clear differences between men and women’s communication style. Since communication is a major component of leadership, this work suggests potential leadership competency application by women and men.

Sandberg and Scovell (2013) in their book “Lean In” has helped reopen the dialogue about potential differences between men and women leaders. While not a researchedbased work, Lean In gives a contemporary argument that there are differences between men and women leadership competencies. This not to imply that Sandberg is saying one gender or the other has better competencies but that different competencies are employed in the workplace. Others believe the way women leaders apply their competencies may represent advantage compared to male leadership approaches (Eagly and Carli, 2003).

Another perspective suggests there are no significant differences between men and women leaders. Donnel and Hall (1980) in their comparison of 2000 men and women managers found there is no difference in the way women practice management

compared to men. Later, Powel (1990) explains that the differences between women and men leadership style is mostly based on perception and stereotype and states that male and female managers have no differences. Arditi et al., (2013) find there are differences in the competencies of men and women but there are many similarities.

Sometimes the differences are rooted in the perceptions others have of men and women leaders and managers. Dobbins and Platz (1986) concur with Powel (1990) in describing that there similarities in the competencies found in male and female managers but found that the organizational member perception was that men are more effective than women. Another finding is that women even with similar competencies may be held to a different and higher standard of competence as compared to men (Eagly and Carli, 2003). The differing expectations toward women may manifest in a form of prejudice (Karau and Eagly, 2003). This higher standard expectation and/or prejudice may result in the perception that some women are not as capable as men who do not face the higher standard for performance.

In addition to differing expectations compared to men, other challenges may emerge that could affect the perception of the women leaders competency. Catalyst (2014) reports that women encounter a different work environment including stereotypes and cultural challenges. These findings are mirrored by various authors (Watts, 2009; Arditi et al., 2013; Klenke, 2011). The reasons for these different perceptions are multifaceted but may be reduced to a simple variable.

2.9 Gender issues in characterizing capabilities

The investigation to be made is whether there are sex contrasts in the kind of skills exhibited by both men and ladies; whether diverse capabilities are connected to men

and ladies in the same occupation; or whether distinctive abilities are connected to men's and ladies' employments.

2.9.1 Gender Differences

There is a scarcity of examination which addresses particular sexual orientation issues in characterizing skills. In any case, sexual orientation contrasts in management have been broadly looked into. Gregory (1990) conducted an investigation and drew a conclusion that findings will now and again demonstrate that ladies have lower self-assurance, strength and requirement for accomplishment. Be that as it may, these discoveries depend on tests of managerial students and there is typically no distinction amongst male and female managers when training level in the association are controlled for.

Gregory, 1990 also argued that male and female show no contrasting characteristics in their inspiration to oversee, however ladies overseeing in a male commanded environment – that is in an association with just six percent of female managers – demonstrated a lower inspiration to oversee and bring down self-regard than male administrators. There are revelations by researchers that ladies supervisors, contrasted with men supervisors, need to tread a slim line between not being excessively manly or excessively ladylike. There were no sexual orientation contrasts in an a firm where ladies represented 19 percent of senior managers (Harlan and Weiss, 1982; referred to in Gregory, 1990)

The investigation of sexual orientation contrasts, along these lines, proposes that we ought not to expect any huge contrasts in the capabilities controlled by both men and ladies. In reality, Cahoon (1991) contends that sexual orientation contrasts may come about additional from sex generalizations that from genuine contrasts in individual

execution. The study on sex stereotyping in management, however proposes that there might be critical contrasts in the apparent probability that ladies will show the abilities required in their managerial positions.

2.9.2 Managing Sex Stereotyping

The main 15 things evaluated by Schein (1985) as most normal for effective administrators by men and ladies were thought about over the six examples, and those that were available in all specimen list, on in five out of six, delivered and global administrative generalization. The six examples were further isolated into male and female specimen. Figure 2.2 frameworks the basic things which men and ladies scrutinized and made them successful managers. Schein (1985) discovered couple of varieties in the reactions of the diverse specimens, despite the fact that administrators were reviewed crosswise over five distinct nations. 'Authority capacity', "yearning" and aggressive were appraised by the six male specimens and 'administration capacity' and 'capable by the six female examples, as the qualities required of a fruitful center director. These discoveries propose that despite the fact that the same competency structure might be utilized for men and ladies troughs, by and by the elucidation of abilities is liable to appear as something else. Besides, everything being equivalent, men will be seen to will probably show the attributes of a compelling director. The face that men evaluated successful ladies directors bring down that viable men chiefs on 'authority capacity' has critical ramifications since administration is a typical component of numerous competency systems for supervisors (Sackman, 1991).

'An Effective Manager ...'	
Men's View	Women's View
Leadership ability	Leadership ability
Ambitious	Competent
Competitive	Skilled in business matters
Desires responsibility	Analytical ability
Skilled in business matters	Self-confident
Competent	Desires responsibility
Analytical ability	Prompt and well informed
<i>Male sample n = 1,278</i>	<i>Female sample n = 729</i>

Figure 2.2 : International Managerial Stereotyping

Source: (Schein, 1985)

2.10 Competency Frameworks or Models

The competency model is the instrument by which capabilities are communicated, surveyed and measured. The competency structure is seen by numerous associations as the most ideal approach to give a typical dialect and build up the future abilities required by the association (Strebler and Bevan , 1996). Approaches taken by numerous associations to create structures differ enormously. Businesses may choose;

- To 'purchase in' and existing model, for example, the Hay/McBer competency structure or a word related standard.
- To adjust these current models to their own needs by "contextualizing" it.

This suggests supplanting competency or unit of fitness heading with their own different headings, in light of the association's destinations or esteem, and/or communicating the substance of competency or units of capability headings in their own dialect, which are more tuned in to their authoritative needs. (Strebler et al., 2013)

- To build up their own competency system taking into account their own inside exploration, regularly with the assistance of specialists. (Woodruffe, 1992)

There are a few competency models accessible. The most generally utilized is the McBer Competency Model

2.10.1 The McBer Competency Model

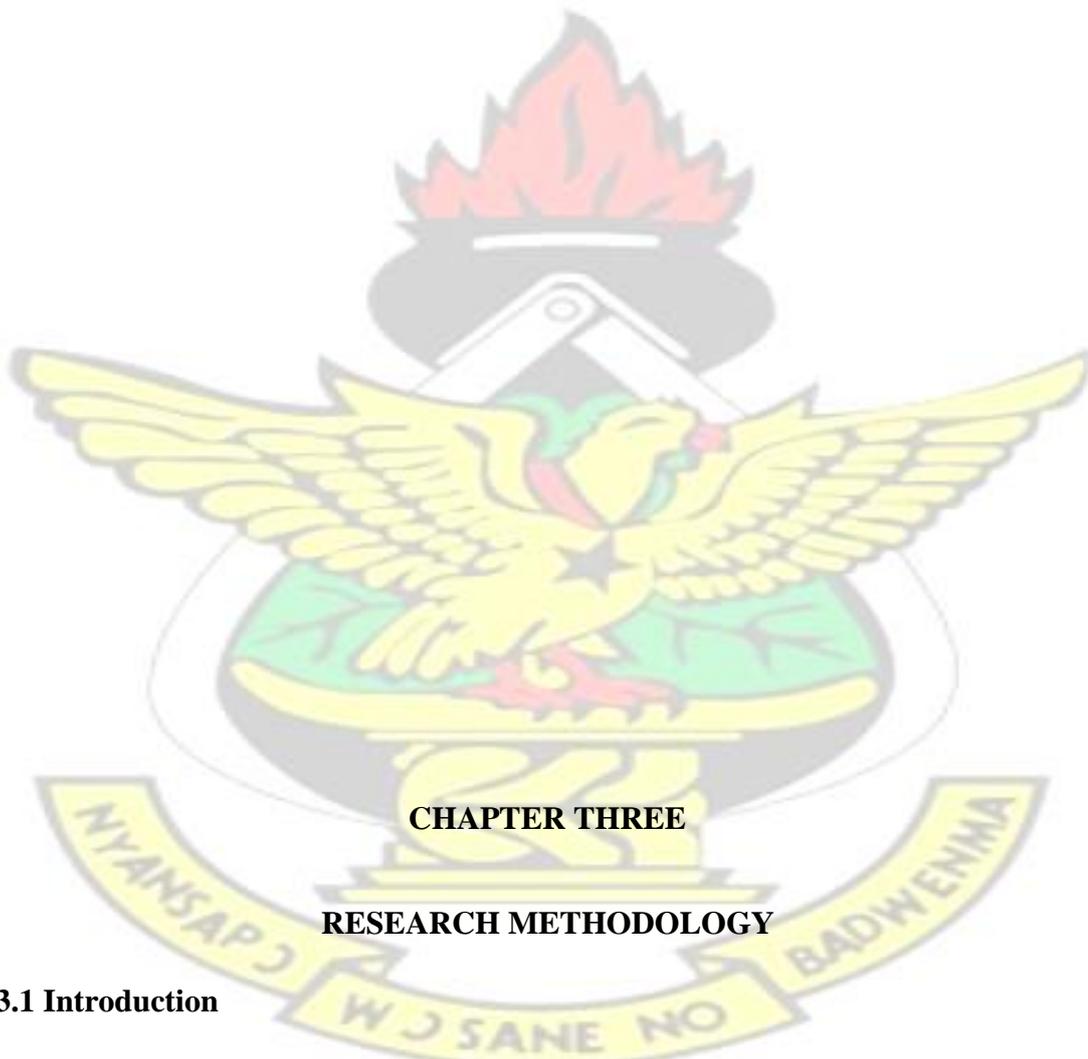
By the mid-1980s, somewhere in the range of 350 investigations of the kind outlined in the sections by Russ-Eft et al. (2001) had been completed. These had set the significance and operational availability of an entire scope of high-level competencies that had already escaped everything except the most entering spectators past sensible uncertainty. In the meantime, they called the expected significance of a scope of "parenthood" competencies of the kind conjured up by advisory groups of the considerable and the great to a great extent areas of learning into genuine inquiry. (Russ-Eft et al., 2001)

To the extent knowledge was involved, what was required was one of a kind blends of exceptional expert and to a great extent implicit knowledge, not general learning. Lamentably, the studies which had been completed differed to some degree in strategy and extensively in the structures used to characterize and examine the outcomes.

Expanding on framework parts of which had beforehand been distributed by (Dalziel, 2004; Boyatzis and Saaticioglu, 2008; Lyle and Signe, 2011) in this way begin attempting to build up a normal or endless supply of descriptors to use to portray the competencies noted in some study, the levels at which they were required or showed, and to relate the abilities required or showed to the way of the work to be embraced. This model, together with broad genuine delineations of what was implied by the terms, was distributed in 1993 as Competence at Work (Boyatzis, 2009).

It is worthy to note that what this exploration has indicated is that what recognizes more from under-performance in an extensive variety of occupations has to do with the motivational inclination to attempt certain sorts of action and the unconstrained propensity to embrace those exercises at a specific competency.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section exhibits the procedure for the study. It portrays the methods, processes and procedures that will be used in data gathering. It also specifies relevant statistical analytic tools used in data processing and presentation of results. This section

incorporates the research design; population and sample; sampling technique; the method involved in collecting data; the tools to analyse the data and ethical issues.

3.2 Research Design

Research design as depicted by Smith and Albaum (2012) is an arrangement or system for directing the study and gathering information. Smith and Albaum, (2012) characterized research design as the particular techniques and systems the scientist uses to gain the data required. The study is an investigative research and embraces questionnaire in gathering data in order to produce qualitative and quantitative responses. The qualitative research method was used to provide qualitative data which served as basis for the description of findings of the study. Quantitative approach was used to determine the generalizability of the information gathered for managerial competencies in the construction industry in Ghana. It was also used because it provides a basis for easy analysis.

3.3 Population and scope

The population for the assessment focuses on people holding managerial and supervisory positions of general building and civil engineering (D1K1) construction companies of all categories in Ghana. The assessment was done for only construction managers and no other supervisory or leadership positions. The respondents (managers and supervisors) were asked to rate the competencies of either male or female construction managers they have worked with using a likert scale. Geographically, the research was limited to Greater Accra region due to its undeniable importance in the history and development of Ghana. Studies have showed that financial development in Ghana is to a great extent tilted towards the capital, Accra; more than 60% of the enlisted assembling contractual workers are recognized to formally work in the Greater Accra region (Ahadzies, 2007). The Ministry of Water Resources Works

and Housing (MWRWH) estimates an approximate number of a hundred and eight (108) DIK1 contractors in the Accra metropolis. With an estimated number of at least a manager and two supervisors in each of these companies, the targeted population size is 324.

3.4 Sampling size and technique

In selecting the sample size, the study took cognisance of the fact that there are various methodologies utilized as a part of deciding the sample size. Among them are, utilizing an enumeration for little populaces, embracing the sample size of comparable studies, utilizing distributed tables, lastly applying equations (e.g. Kish equation) to ascertain a sample size (Owusu, 2008). It was in this way vital for the study to vividly characterize the intended population and sample size.

The study picked at least one construction manager from a construction firm which presupposes that the number of respondents equaled the population. Studies show that if the population size is less than 200, it is advisable to sample the entire population using the census approach (Ofori-Kuragu et al., 2016). Nevertheless, the lack of a central database of contractors and with much of the information at registration obsolete, it was difficult to identify all the contractors in the population.

The sample size was therefore calculated mathematically as follows using the Yamane formula as cited in Atuahene (2016):

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

Where:

n = sample size N = Population size e = level of precision (for the purpose of the study, a confidence level of 95% and

5% precision level was used) $n = (325) /$

$(1 + (325) 0.05^2) n = 179.01$ approximately

179 respondents

Therefore an approximate number of 179 construction managers and supervisors formed the sample size for the study. However the sample size was adjusted to 195 to increase the response rate since field survey found out that there existed more than two supervisors in some of the targeted companies.

The population was characterized on account of the purpose of the study. The purposive sampling technique was adopted and took cue from similar studies by Culpan and Kucukemiroglu (1993). The sampling technique used to identify these respondents was purposive because of the need to select managers and supervisors who have requisite information on the subject matter so as to minimize the tendency of rejection.

However, the snowball technique for sampling was used to identify D1K1 construction firms with female construction managers in the Greater Accra region until a point of saturation was reached. One D1K1 construction company with a female construction manager was identified and visited to distribute questionnaires. Other firms were recommended and referred to till 17 companies were visited. A total of 195 questionnaires were issued out to managers and supervisors working in D1K1 Construction firms in Accra. 157 respondents submitted the questionnaires issued to them, representing a response rate of 80%.

2012/2013 survey data from the Ghana Statistical Service indicates that female proportion in the Ghanaian Construction Industry is about 7.5%. Same can be said of females occupying the roles of managers and supervisory positions (Ghana Statistical

Service, 2013). With this in mind, the study therefore adopted the snowball sampling technique to identify female construction managers who were scarce to come by.

3.5 Method of data collection

Data was collected by the use of questionnaires. Primary data was collected through the administration of questionnaires to participants conveniently. The questionnaires for data gathering was administered by the researcher in a personal and investigative manner. This method of data collection is most favored by the researcher because it is less expensive; free from interviewer bias; provide adequate time for participants to answer questions; and allows the researcher to conveniently reach participants who are not easily approachable (Kothari, 2004). The use of questionnaire is also ideal because majority if not all respondents are literate and therefore can read and write. Nevertheless, the use of questionnaires is known to produce ambiguities and omissions in reply. This deficiency is dealt with through the provision of easy to understand but standardized questions with clarity of expressions that has engendered clear and unambiguous replies from respondents.

Open-ended and closed-ended questions were utilized in the questionnaires as well ranking of options where necessary for quantitative data collection. The close-ended questions in some instances had more than one reaction choices, the Likert Response Scale was utilized to gauge the quality or power of respondent's feeling. The questionnaires had questions with basic dialect, without specialized terms to minimize potential blunders from respondents. Correspondingly, the quantity of inquiries in every set was kept low however much as could reasonably be expected to urge respondents to take as much time as necessary in noting the inquiries.

Taking cognisance of the suggestion by Frazer and Lawley (2000), the

questionnaires were pre-tried by giving it a shot on a little number of respondents having qualities like those of the objective gathering of respondents. After the pretest, it was rebuilt in light of the criticism got, making it more steady to concentrate on the vital issues and for simple perusing. The questionnaires were partly personally administered and some sent via email to the respondents upon consultation. A time of one month was assigned for the information gathering because of the bustling way of the respondents' work and the conceivable absence of web access in the homes of a portion of the respondents.

The questionnaires had an educated assent letter as a cover page where the point of the study and the conceivable advantages were clarified. In the letter, respondents were guaranteed of secrecy of the data given and additionally obscurity. Respondent's entitlement to pull back from the research whenever was likewise permitted.

3.6 Questionnaire design

A three-part questionnaire was used in this study. Part one comprised of close-ended questions to capture the demographics of the respondents. Part two consisted of a list of 14 core competencies in which the respondents were asked to rate the competencies based upon their importance for performing the job of a construction manager (see Table 1). The third part consisted of an open-ended question that asked the respondent to describe any other core competencies that are important for a construction manager.

The survey instrument included 19 core competencies developed by the researcher based upon management competencies gleaned from the research literature (see Table 3.2). The core competencies have been validated through a series of revisions by management expert opinions. Definitions were created to assist the respondents in

defining each of the core competencies. A standard Likert scale (5= most important and 1 = least important) was used

Respondents were additionally requested to recognize themselves as either a male or female. The respondents were requested to exclude their names on the overview to guarantee obscurity.



Table 3.2: Core Competencies of Managers

	Core Competencies	Description
1	Risk taking or entrepreneurship	Ability to take risk in decision making and or in various ways to achieve success
2	Mentoring and coaching employees	Giving feedback and improving employee performance and development
3	Leading and motivating employees	Leading and motivating staff for improved effective decisions performance in achieving company initiatives
4	Problem solving and decision-making	Addressing organizational and technical situations to achieve organisation goals
5	Focus	Exhibiting a good degree of concentration and goal-oriented
6	Managing finances	Having good business acumen and financial skills enabling desired organizational outcomes
7	Managing resources and time	Managing resources and demonstrating effective time management and multi-tasking
8	Building teamwork	Building team collaboration and team cohesion
9	Job Knowledge	Understanding the responsibilities specific to the job, and capacity to adjust to job changes
10	Managing change and continuous improvement	Leading and managing change and improvement initiatives
11	Communicating and listening to the team	Communication to enable organizational outcomes and encouraging conversation
12	Influencing and negotiating	Persuading and negotiating with others for organizational outcomes
13	Conducting employee evaluations	Conducting formal and summative employee evaluations and giving feedback
14	Understanding performance indicators and metrics	Interpreting organizational objectives and using performance data for organizational outcomes
15	Demonstrating strategic leadership	Having a strategic vision for the company and/or department
16	Working with diverse people and perspectives	Connecting and relating to people who think, act or are perceived as different from you

17	Expecting ethics and accountability	Holding employees to a sense of ethics and performance accountability
18	Commitment	Drive, dedication, passion and zeal to carry out day to day tasks effectively
19	Good Values	Demonstrating, honesty, integrity, influencing and honoring commitment

Source: Field Survey (2016)

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3.7 Data Analysis and Presentation

The data gathered from the field was cleaned, edited and classified. Data collected from the questionnaires were analyzed using two methods. These include Frequency and the Mean Score Method.

With the frequency analysis, descriptive statistical methods including tables, bar charts and pie charts were used to analyse the responses from the questionnaire.

The mean score method was used to generate ranking of the variables of the competencies as exhibited by construction managers in performing the jobs. The mean score for each competency was then computed with excel using the formula below:

$$\text{Mean score } I = \frac{\sum_k^n a_i x_i}{\sum x_i}$$

Where I=Mean Score, k=lowest scale, n = highest scale. a=Rank of event i and x=frequency of event i

The formula is very popular with researchers in the construction management field (Ronald and Edum-Fotwe, 2001; Charles and Botterill, 2002)

A further insight into the results was done through a vivid discussion of the results and conclusions and recommendations made.

3.7.1 Ethical issues

Daymond and Holloway (2011) reported that ethical considerations are important in every research and that researchers must ensure that they uphold and abide by all ethical issues. They explained that in the collection of data particularly quantitative data, there is the need for trust-based relationship between the researcher and participants and an obligation on the part of the researcher to interact with participants in humane and non-exploitative way (Daymond and Holloway, 2011).

This study ensured and abided by all ethical principles as much as possible. The study maintained the principle of honesty by citing sources and attributing contributions to the right authors and authorities quoted or whose ideas were used in this study. The citation and referencing of sources helped the study to avoid omissions, plagiarism and give credit to all works used as well as maintain honesty principle. Data collected from the survey was interpreted in the most logical, systematic and meaningful way without misinterpretation and misrepresentation.

The privacy, anonymity and confidentiality of all participants were held in high esteem and ensured. This is mainly due to none solicitation of names of participants, private and secret issues and documents heard or chanced upon by the researcher were not published or used in the study and only research related issues provided by participants were used. Finally, the right chain of command was followed in collecting data to help prevent the gathering of data through the back door.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This sections highlights the data analysis and presentation. The presents the response rate, demographic information of respondents, ranking the core competencies of construction managers as assessed by respondents, comparing the ranked competencies and discussion of the data received.

4.2 Response Rate

A total of 195 questionnaires were issued to the target respondents and a total of 157 representing 80.5% were received.

4.3 Background Information

The study sought to have an idea on the background of the respondents. This included the gender, professional experience, educational level, range of employees, the organisational role, and the types (by gender) of construction mangers worked with as well as the experience level of the construction managers to be assessed.

4.3.1 Gender of Respondents

Out of the 157 respondents from 17 D1K1 construction companies in Ghana, 78 percent representing 122 respondents were male and the remaining 22 percent representing 35 respondents being females. Out of the 78 percent male respondents, 90 percent of them representing 110 respondents assessed male construction managers they have worked with whiles the remaining 10 percent representing 12 respondents assessed female construction managers they have worked with. However 68 percent of the female respondents assessed male construction managers they have worked with and the remaining 32 percent assessed female construction managers they have worked with.

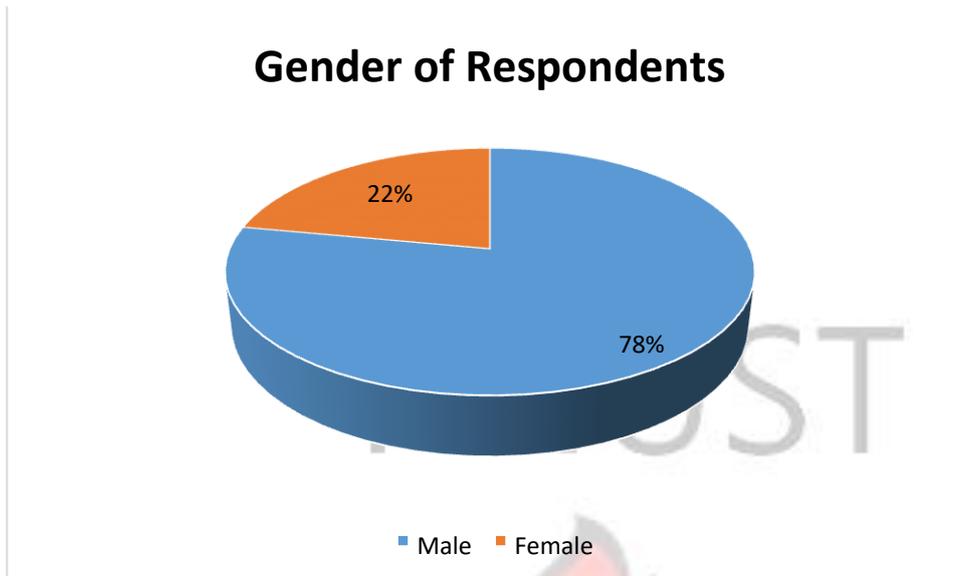


Figure 4.1 Gender Proportion of Respondents

Source: Field Data, 2016

4.3.2 Professional Experience of Respondents

Out of the 157 respondents 15% have been in the construction industry for less than 5 years, 64% have between 5 years and 10 years of professional construction experience while the remaining 21% have been extensively involved in construction for more than 10 years. This indicates that majority of the respondents are abreast with the industry and hence knows what it takes to assess their construction managers. The figure below shows that experience levels of the respondents.

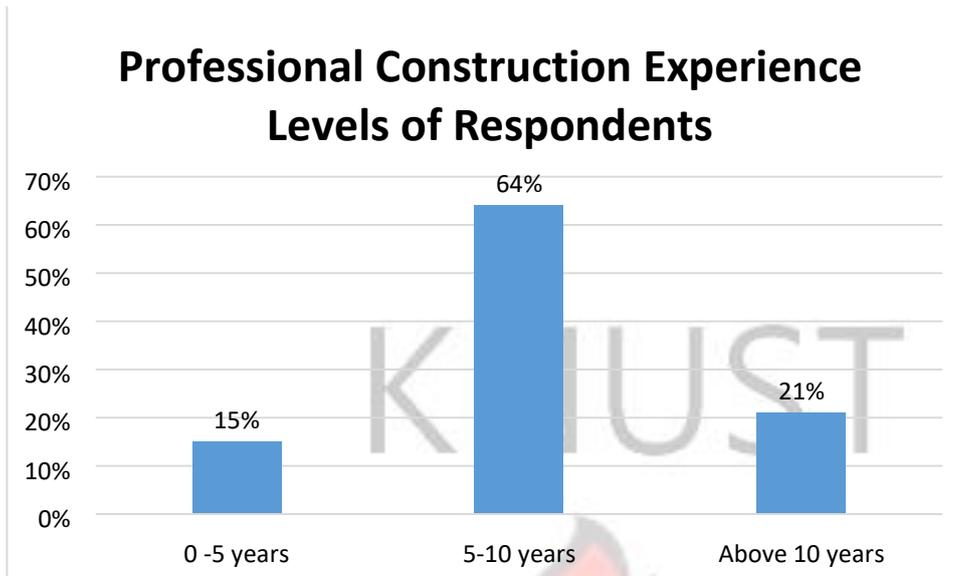


Figure 4.2: Professional construction experience of respondents

Source: Field Data, 2016

4.3.3 Educational Level and Organisational Roles of Respondents

Out of the total respondents, 11% representing 18 respondents were construction managers, 38% representing 59 respondents were managers in other professions and 51% were supervisors. Furthermore, of these total respondents, 12% had either a Senior Secondary (O’Level) or a technical certificate. 24% of the respondents had a diploma certificate and the remaining 64% had either a first degree, a master’s degree or a doctorate degree. None of the respondents had no formal education. This clearly indicates that the respondents were literate enough to understand the concept of competency to be able to assess their construction managers. Table 4.1 below highlights the educational levels and organisational roles of the respondents.

Table 4.1: Education Levels and Organisational Roles of Respondents

	Construction Manager	Manager (Other)	Supervisor
Educational Level/ Role			

No Formal Education	0	0	0
Junior Secondary (O'Level)	0	0	0
Senior Secondary (A'Level)	0	0	8
Certificate	0	0	11
Diploma	3	11	23
Degree	5	32	32
Masters	9	14	6
Doctorate	1	2	0
Total	18	59	80

(Source: Survey Data, 2016)

4.3.4 Range of Employees

The number of employees a manager manages might to large extent affect the competency level of the manager. To ascertain the truism in this statement the study asked the respondents the number of employees in their firms of operation. 28 respondents had less than 50 employees representing 18 % of the respondents whereas 63 representing 40 % had 50-200 employees. The last range category of more than 200 employees had 66 respondents representing 42 %. This is illustrated in figure 4.3 below.

Range of Employees in Respondents' Firms

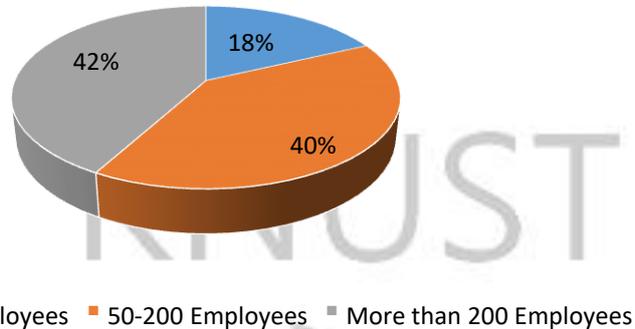


Figure 4.3: Range of Employees in Respondents' Firms

Source: Field Data, 2016

4.3.5: Gender Type of Managers Assessed

85% of the respondents indicated that they had worked with only male construction managers throughout their construction experience, 15% indicated that they had worked with both male and female construction managers and none of the respondents indicated that they had worked with only female construction managers. However, from all the questionnaires received, 134 male construction managers representing 85% were assessed and 23 female construction managers representing 15% were assessed. The study has revealed that there are few female construction managers in Ghana. This revelation corroborates the findings of (Clarke et al., 2005) who point out that there is low female participation in the Ghanaian Construction Industry. Figure 4.4 below shows the proportion by gender of construction managers assessed.

Gender of construction managers assessed

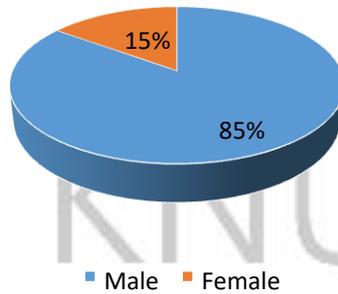


Figure 4.4: Proportion by Gender of Construction Managers assessed

Source: Field Data, 2016

4.3.6 Professional Experience of Respondents

Out of the 157 managers assessed, 32 of them representing 20% of them had 1-5 years of managerial experience, 83 of them representing 53% had 5-10 years of managerial experience and the remaining 42 representing 27% had more than 10 years of managerial experience. Figure 4.5 below illustrate these statistics.

Managerial experience of managers assessed

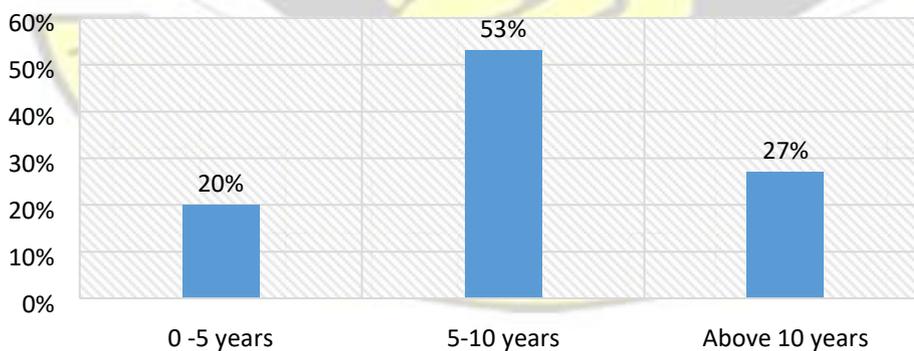


Figure 4.5: Managerial Experience of Construction Managers Assessed

Source: Field Data, 2016

4.4 Identifying Core Managerial Competencies of Construction Managers 19 core managerial competencies were identified based upon managerial competencies gleaned from research literature as discussed extensively in chapter two. These managerial competencies were compiled together as they were crossreferenced by several authors. Data from field survey also indicated that respondents concur to the importance of these 19 competencies as all respondents provided a rating for each of the competencies listed. Table 4.2 below shows the 19 core managerial competencies needed by managers to perform their jobs successfully.

Other managerial competencies enlisted by respondents as important to Ghanaian construction managers included mainly pro-activeness and creativity in construction management.

Several comments supported the argument that job knowledge, communication, leadership and working with diverse people are core competencies required in the construction industry and that a construction manager should at least be competent in these areas to successfully execute his or her tasks.

Table 4.2: Core Managerial Competencies

	Core Competencies	Description
1	Risk taking or entrepreneurship	Ability to take risk in decision making and or in various ways to achieve success
2	Mentoring and coaching employees	Giving feedback and improving employee performance and development
3	Leading and motivating employees	Leading and motivating staff for improved effective decisions performance in achieving company initiatives
4	Problem solving and decision-making	Addressing organizational and technical situations to achieve organization goals
5	Focus	Exhibiting a good degree of concentration and goal-oriented
6	Managing finances	Having good business acumen and financial skills enabling desired organizational outcomes

7	Managing resources and time	Managing resources and demonstrating effective time management and multi-tasking
8	Building teamwork	Building team collaboration and team cohesion
9	Job Knowledge	Understanding the responsibilities specific to the job, and capacity to adjust to job changes
10	Managing change and continuous improvement	Leading and managing change and improvement initiatives
11	Communicating and listening to the team	Communication to enable organizational outcomes and encouraging conversation
12	Influencing and negotiating	Persuading and negotiating with others for organizational outcomes
13	Conducting employee evaluations	Conducting formal and summative employee evaluations and giving feedback
14	Understanding performance indicators and metrics	Interpreting organizational objectives and using performance data for organizational outcomes
15	Demonstrating strategic leadership	Having a strategic vision for the company and/or department
16	Working with diverse people and perspectives	Connecting and relating to people who think, act or are perceived as different from you
17	Expecting ethics and accountability	Holding employees to a sense of ethics and performance accountability
18	Commitment	Drive, dedication, passion and zeal to carry out day to day tasks effectively
19	Good Values	Demonstrating, honesty, integrity, influencing and honoring commitment

4.5 Overall Assessment on Male Construction Managers

Out of the 157 respondents, 134 of them representing 85% assessed male construction managers they are either working with or have worked with before. The values of the core competencies were averaged, and significant differences were calculated using a test of significance (see table 4.3). The findings indicated that male construction managers exceed expectations in the area of Job knowledge with the highest mean score of 4.27 whiles they only meet expectations in the area of communicating and listening to their teams – a mean score of 3.07. The study also indicated that the top five core competencies that male construction managers were rated high were job knowledge, commitment, managing resources and time, Problem solving and decision making;

and Expecting ethics and accountability. Male construction managers in Ghana were rated on these top five competencies to be performing meeting and exceeding expectations. Supervisors assessed their male construction managers to be just meeting expectations with regards to communicating and listening to the team, conducting employee evaluations and understanding performance indicators. This is indicated by the need for mentoring, collaboration, time management and expecting high performance and accountability. While these core competencies were the most highly rated, the male construction managers seemed to be meeting expectations in the other competencies.

The least valued core competency was communicating and listening to the team. Several of the comments indicated that supervisors tended not to be involved in strategic leadership initiatives and creating visions and goals for the company or department as much as the management level. Comments also supported the lowest rated performance in communicating and listening to the team with statements such as “Managers should talk and define job roles,” and “It is essential for a construction manager to have communication lines.”

Several comments also indicated that all the construction managers can be deemed competent as they meet expectations although they perform slightly better in other competencies than the other as indicate in table 4.3. Also, based on comments respondents wrote under section c of the questionnaire, it appeared that supervisors don’t consider the gender of the construction manager to be important in defining competency. In other words, it seemed that the role and responsibility of manager in getting work done appears to be a stronger factor than his or her gender.

Table 4.3: Competency Ratings on Male Construction Managers by all Respondents

No.	Competency	Mean Score
1	Job Knowledge	4.27
2	Commitment	4.07
3	Managing resources and time	3.93
4	Problem solving and decision-making	3.87
5	Expecting ethics and accountability	3.73
6	Good Values	3.67
7	Mentoring and coaching employees	3.60
8	Focus	3.60
9	Building teamwork	3.60
10	Working with diverse people and perspectives	3.60
11	Influencing and negotiating	3.47
12	Demonstrating strategic leadership	3.47
13	Leading and motivating employees	3.40
14	Managing finances	3.40
15	Managing change and continuous improvement	3.40
16	Risk taking or entrepreneurship	3.33
17	Understanding performance indicators and metrics	3.27
18	Conducting employee evaluations	3.13
19	Communicating and listening to the team	3.07

Source: Field Data, 2016

These mean scores of male construction managers assessed by all respondents are graphically presented by figure 4.6 below.



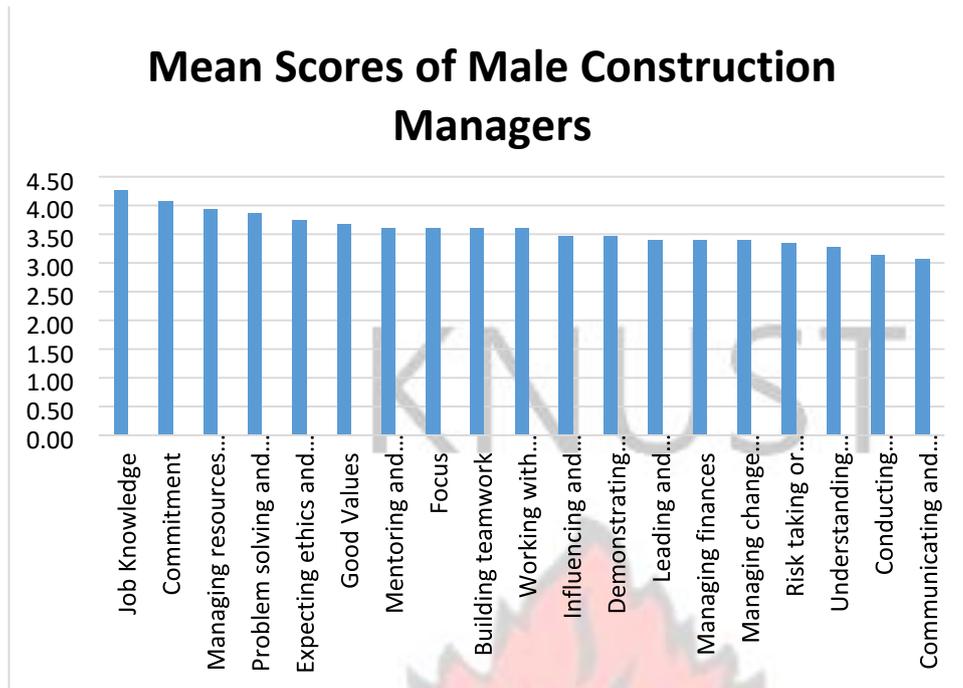


Figure 4.6: Mean scores of male construction managers

Source: Field Survey, 2016

4.6 Overall Assessment on Female Construction Managers

Out of the 157 respondents, 23 respondents representing 15 % indicated that they are either working with or worked with female construction managers before and hence provided assessment of female construction managers. The values of the core competencies of averaged, and significant differences were calculated using a test of significance (see table 4.4). The findings indicated that female construction managers exceed expectations in the area of Job knowledge with the highest mean score of 4.22 while they only meet expectations in the area of “understanding performance indicators and metrics” – a mean score of 3.07 being the lowest scored core competency item. The study also indicated that the top five core competencies that female construction managers were rated high were job knowledge, commitment, expecting ethics and accountability, managing resources and time and good values.

Female construction managers in were rated on these top five core competencies to be meeting and exceeding expectations. Female construction managers were rated to be just meeting expectations with regards to risk taking or entrepreneurship, conducting employee evaluations and understanding performance indicators. While these core competencies were the most highly rated, the female construction managers seemed to be meeting expectations in the other competencies.

The least valued core competency was understanding performance indicators and metrics. Several of the comments indicated that female construction managers need to do more of reporting progress updates, cost updates as well as evaluating the human resource in the company.

Table 4.4: Competency Ratings on Female Construction Managers by all Respondents

Rank No.	Core Competencies	Mean Score
1	Job Knowledge	4.22
2	Commitment	4.06
3	Expecting ethics and accountability	3.83
4	Managing resources and time	3.78
5	Good Values	3.78
6	Problem solving and decision-making	3.75
7	Working with diverse people and perspectives	3.67
8	Mentoring and coaching employees	3.50
9	Focus	3.50
10	Building teamwork	3.50
11	Influencing and negotiating	3.50
12	Demonstrating strategic leadership	3.44
13	Leading and motivating employees	3.39
14	Managing change and continuous improvement	3.39
15	Managing finances	3.28
16	Communicating and listening to the team	3.28
17	Risk taking or entrepreneurship	3.22
18	Conducting employee evaluations	3.17
19	Understanding performance indicators and metrics	3.17

Source: Field Data, 2016

These mean scores of female construction managers assessed by all respondents are graphically presented by figure 4.7 below.

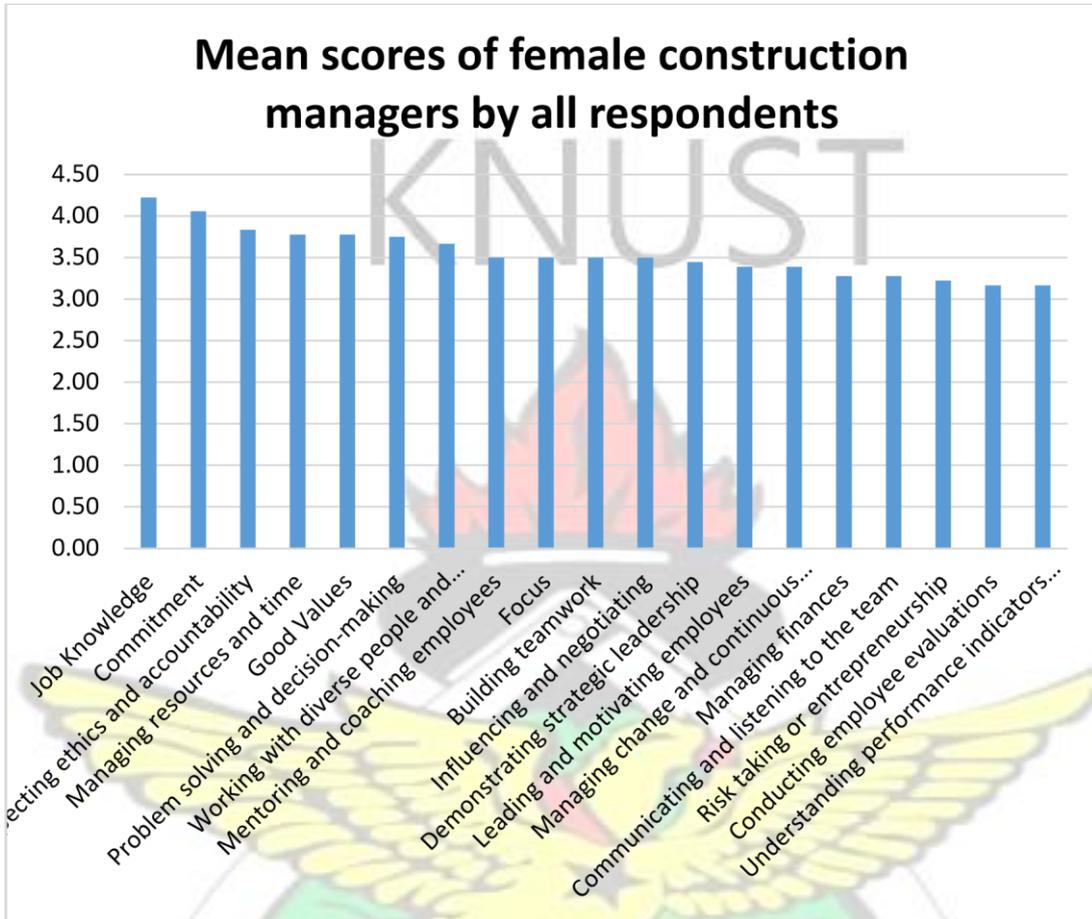


Figure 4.7: Means scores of female construction managers

Source Field Data, 2016

4.7 How Male Respondents Assessed Male Construction Managers

From the questionnaires received, 122 respondents representing 85% were male respondents. 110 of the male respondents, representing 90% of the male respondents and 70% of the overall respondents provided assessment on male construction managers. Male managers and supervisors rated the performances of their male construction managers in the listed core competencies based on the scale of 1 to 5 as defined in the competency assessment instrument. The mean scores were computed

and the results were very similar to the overall assessment on male construction managers by all respondents. The table 4.5 below shows the results ranked in order of the core competency from the highest mean score to that of the lowest.

Table 4.5: Competency Ratings on Male Construction Managers by Male Respondents

Rank Order	Core Competency	Mean Score
1	Job Knowledge	4.19
2	Commitment	4.00
3	Problem solving and decision-making	3.88
4	Managing resources and time	3.81
5	Expecting ethics and accountability	3.69
6	Good Values	3.63
7	Mentoring and coaching employees	3.63
8	Focus	3.56
9	Working with diverse people and perspectives	3.56
10	Building teamwork	3.50
11	Leading and motivating employees	3.50
12	Demonstrating strategic leadership	3.44
13	Managing finances	3.44
14	Influencing and negotiating	3.38
15	Managing change and continuous improvement	3.31
16	Risk taking or entrepreneurship	3.31
17	Understanding performance indicators and metrics	3.25
18	Communicating and listening to the team	3.06
19	Conducting employee evaluations	3.00

Source: Field Data, 2016

The top five competencies as rated by male respondents are job knowledge, commitment, problem solving and decision making, managing resources and time and expecting ethics and accountability. The highest rated competency was job knowledge with a mean score of 4.19 indicating that male respondents see male construction managers to exceed expectations when it comes to their job knowledge. The lowest rated competency was conducting employee evaluations with a mean score of 3.00. These means scores in table 4.5 are further illustrated graphically in figure 4.8 below.

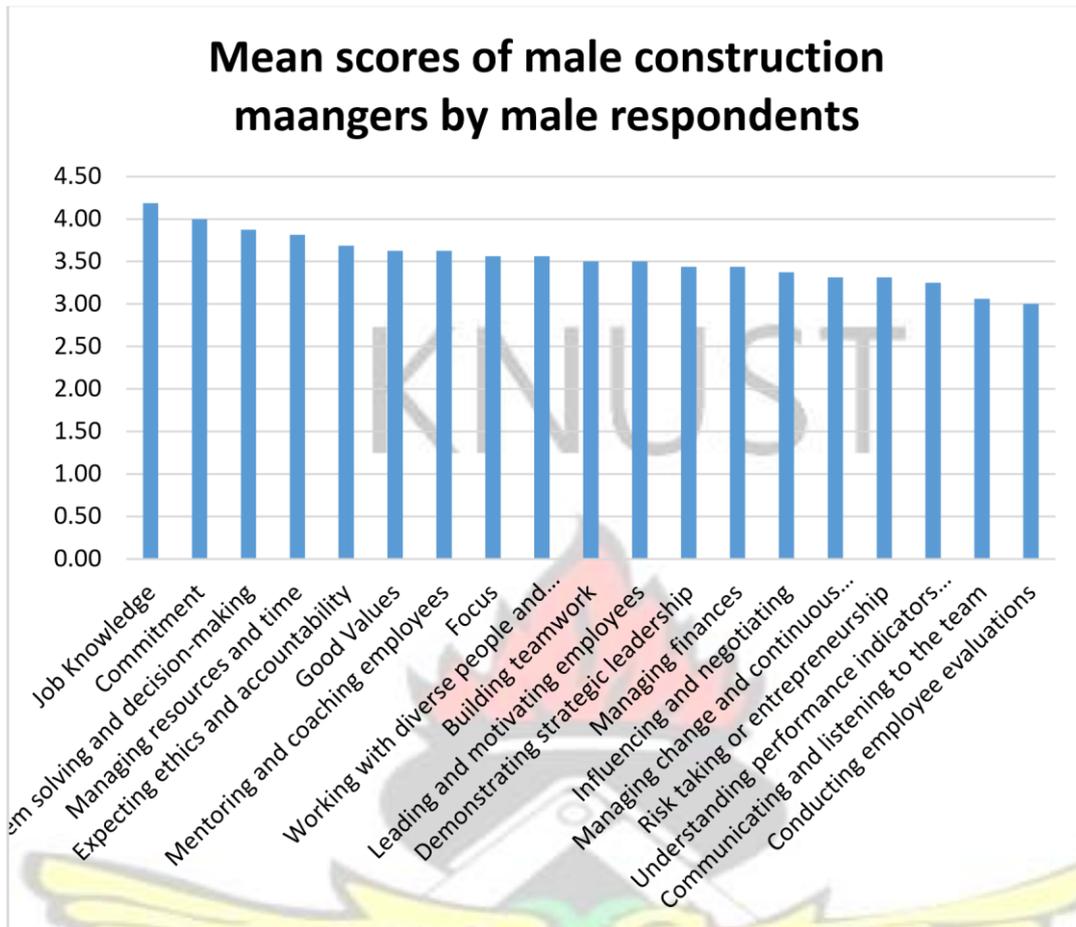


Figure 4.8: Mean scores of male construction managers assessed by male respondents

Source: Field Data, 2016

4.8 How male respondents assessed female construction managers

Out of the 122 total male respondents, just 12 of them representing 10% provided assessment on female construction managers. Male managers and supervisors rated the performances of female construction managers in the listed core competencies based on the scale of 1 to 5 as defined in the competency assessment instrument. The mean scores were computed and the results and table 4.6 shows the results ranked in order of the core competency from the highest mean score to that of the lowest.

Table 4.6: Competency Ratings on Female Construction Managers by Male Respondents

Rank Oder	Core Competency	Mean Score
1	Job Knowledge	4.25
2	Commitment	4.17
3	Good Values	4.08
4	Leading and motivating employees	3.83
5	Problem solving and decision-making	3.83
6	Influencing and negotiating	3.82
7	Working with diverse people and perspectives	3.82
8	Expecting ethics and accountability	3.82
9	Focus	3.75
10	Managing resources and time	3.75
11	Mentoring and coaching employees	3.67
12	Building teamwork	3.67
13	Conducting employee evaluations	3.67
14	Managing change and continuous improvement	3.50
15	Demonstrating strategic leadership	3.50
16	Managing finances	3.42
17	Understanding performance indicators and metrics	3.42
18	Communicating and listening to the team	3.36
19	Risk taking or entrepreneurship	3.33

Source: Field Data, 2016

The top five core competencies exhibited by female construction managers as rated by male respondents are; job knowledge, commitment, good values leading and motivating employees, and problem solving and decision making. The competency with the highest mean score was job knowledge with a mean score of 4.25 indicating these female managers exceed expectation in performing their duties with regards to job knowledge and the competency with the least mean score was risk taking or

entrepreneurship which had a mean score of 3.36 indicating female construction managers meet expectation in their day to day activities with regards to risk taking or entrepreneurship.

One supervisor commented that “female managers should be more proactive in their decision making as it has an impact on timely delivery of construction projects” hence thinks pro-activeness should be one core competency in construction management.

Table 4.6 presents the mean scores of female construction managers assessed as rated by the male respondents. A graphical presentation is also shown in figure 4.9

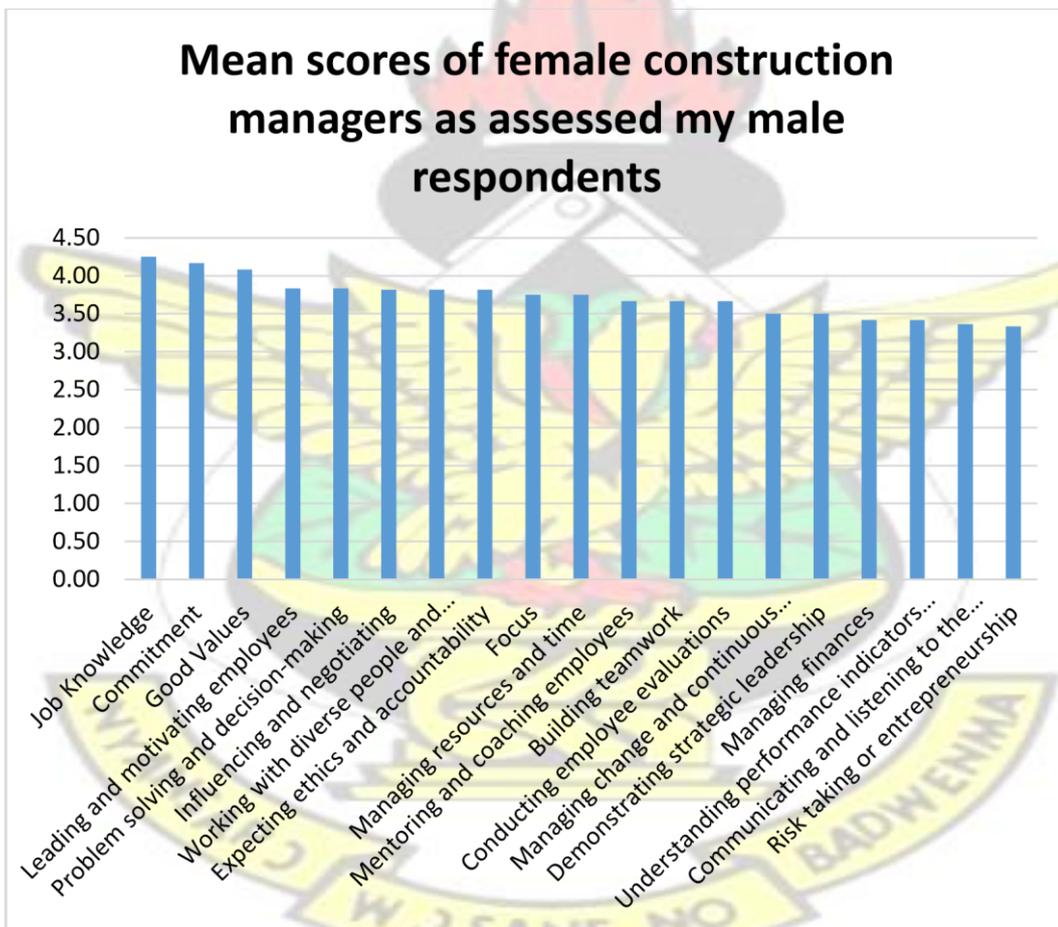


Figure 4.9: Mean scores of female construction managers assessed by male respondents

Source: Field Data, 2016

4.9 How male construction managers were assessed by female respondents A total of 24 female respondents representing 69% of the total female respondents assessed male construction managers they are either working with or ever worked with. The mean scores for the various core competencies were computed and the results presented in table 4.7 and represented graphically in figure 4.10. The top rated competency by the respondents was job knowledge having a mean score of 3.95 whilst the least rated competency was conducting employee evaluations with a mean score of 2.84. The top five competencies were job knowledge, commitment, problem solving and decision-making, managing resources and time and expecting ethics and accountability. The bottom five core competencies were Influencing and negotiating, performance indicators and metrics, managing change and continuous improvement, communicating and listening to the team and conducting employees. These female respondents assessed their male construction managers to almost exceeding expectations in job knowledge whereas barely meeting expectations when it comes to communication and employee evaluations.

Table 4.7: Competency Ratings on Male Construction Managers by Female Respondents

Rank Order	Core Competency	Mean Score
1	Job Knowledge	3.95
2	Commitment	3.84
3	Problem solving and decision-making	3.74
4	Managing resources and time	3.63
5	Expecting ethics and accountability	3.58
6	Mentoring and coaching employees	3.42
7	Focus	3.42
8	Good Values	3.42
9	Managing finances	3.37

10	Working with diverse people and perspectives	3.37
11	Risk taking or entrepreneurship	3.26
12	Leading and motivating employees	3.26
13	Building teamwork	3.26
14	Demonstrating strategic leadership	3.26
15	Influencing and negotiating	3.21
16	Understanding performance indicators and metrics	3.21
17	Managing change and continuous improvement	3.11
18	Communicating and listening to the team	2.95
19	Conducting employee evaluations	2.84

Source: Field Data, 2016

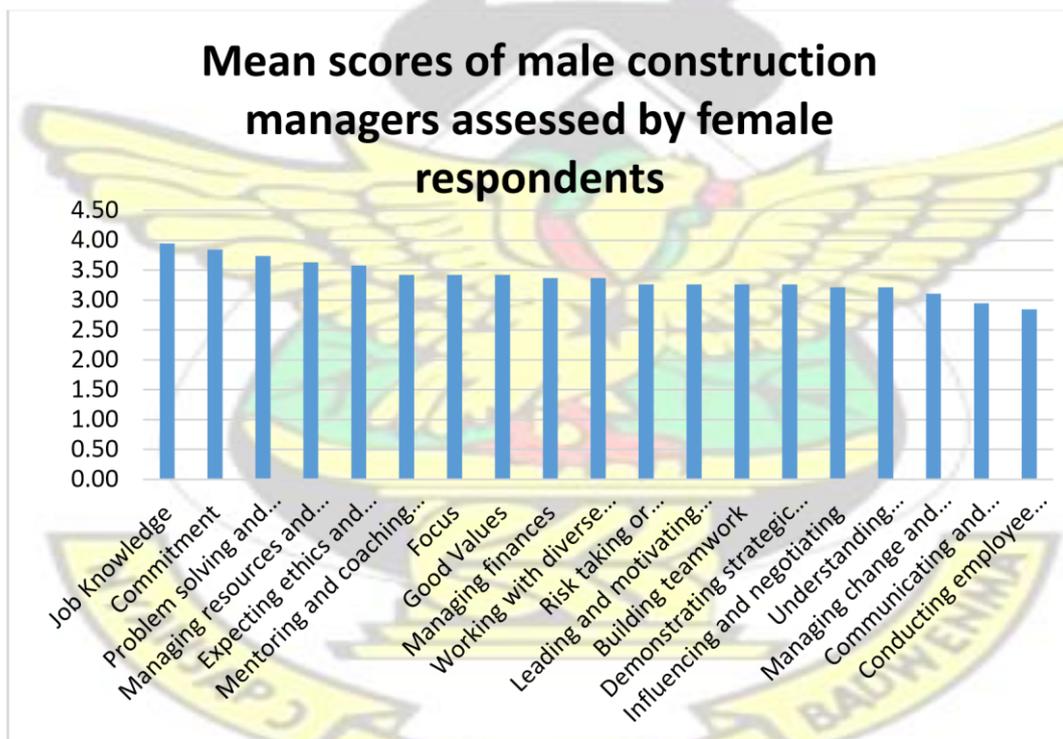


Figure 4.10: Mean scores of male construction managers assessed by female respondents

Source: Field Data, 2016

4.10 How female construction managers were assessed by female respondents

A total of 11 female respondents representing 31% of the total female respondents assessed female construction managers they are either working with or ever worked with. The mean scores for the various core competencies were calculated and the results presented in table 4.8 and represented graphically in figure 4.11. The top rated competency by the respondents was job knowledge having a mean score of 4.36 whilst the least rated competency was risk taking or entrepreneurship with a mean score of 3.36. Female respondents rated female managers as exceeding expectations in areas job knowledge, showing commitment, exhibiting good values, leading and motivating employees and solving problems and making decisions.

Table 4.8: Competency Ratings on Female Construction Managers by Female Respondents

Rank Order	Core Competency	Mean Score
1	Job Knowledge	4.36
2	Commitment	4.27
3	Good Values	4.18
4	Leading and motivating employees	3.91
5	Problem solving and decision-making	3.91
6	Influencing and negotiating	3.90
7	Working with diverse people and perspectives	3.90
8	Expecting ethics and accountability	3.90
9	Focus	3.82
10	Managing resources and time	3.82
11	Mentoring and coaching employees	3.73
12	Building teamwork	3.73
13	Conducting employee evaluations	3.73
14	Managing change and continuous improvement	3.55

15	Demonstrating strategic leadership	3.55
16	Managing finances	3.45
17	Understanding performance indicators and metrics	3.45
18	Communicating and listening to the team	3.40
19	Risk taking or entrepreneurship	3.36

Source: Field Data, 2016

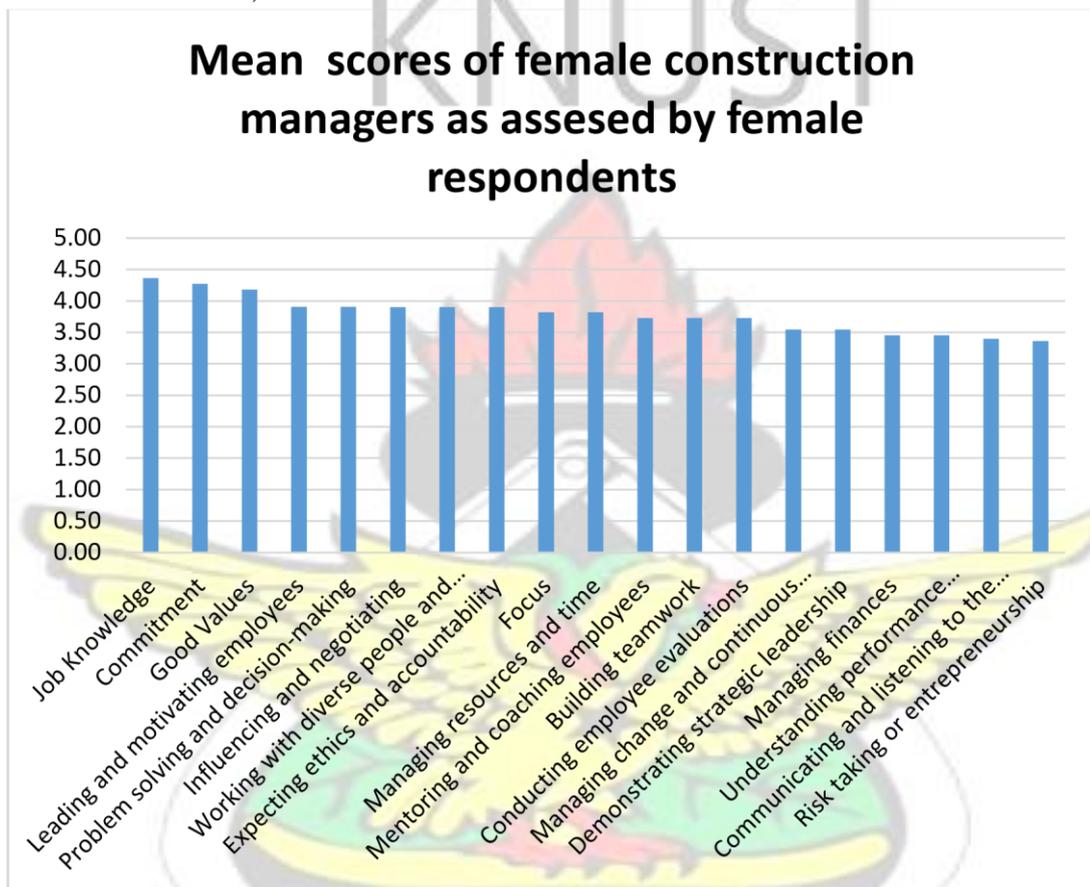


Figure 4.11: Mean scores of male construction managers assessed by female respondents

Source: Field Data, 2016

4.11 Overall assessment of construction managers

The assessments provided by all the respondents were added together irrespective of the gender and the means scores computed to determine the competency levels of construction managers. The means scores were ranked in descending order to determine the top core competencies exhibited by these construction managers (see

table 4.9). The top five core competencies rated high among these construction managers are job knowledge, commitment, problem solving and decision-making, expecting ethics and accountability and managing resources and time. The study indicates that construction managers perform above expectation in the competency of job knowledge whereas they barely meet expectations on conducting employee evaluations. Comments such as “managers should conduct more employee performance appraisal and evaluations to motivate and reward diligent employees”

Table 4.9: Competency Ratings on Construction Managers

Ranking Order	Core Competencies	Mean Score
1	Job Knowledge	4.04
2	Commitment	3.92
3	Problem solving and decision-making	3.71
4	Expecting ethics and accountability	3.63
5	Managing resources and time	3.58
6	Good Values	3.58
7	Focus	3.54
8	Managing finances	3.54
9	Mentoring and coaching employees	3.42
10	Working with diverse people and perspectives	3.38
11	Risk taking or entrepreneurship	3.33
12	Influencing and negotiating	3.32
13	Leading and motivating employees	3.29
14	Building teamwork	3.29
15	Demonstrating strategic leadership	3.25
16	Understanding performance indicators and metrics	3.17
17	Managing change and continuous improvement	3.13
18	Communicating and listening to the team	3.00
19	Conducting employee evaluations	2.83

Source: Field Data, 2016

4.12 Comparing competencies of male and female construction managers

Mean scores of the various competencies as assessed by the respondents were compared were computed as well as the standard deviations. These values were compared under the categories of male and female construction managers as seen in table 4.10 and further represented graphically in figure 4.11. The table depicts lot of similarities between the competency ratings of both male and female construction managers. Follow-up interview comments included statements such as “The role of women in supervisory and management positions is common today” and “women in construction management perform as equally as men”. Means scores computed also support the argument that female construction managers are as equally competent as male construction managers since both gender either meet expectations or exceed expectations in the various competency items.

However there were few significant differences. Female construction managers were assessed by respondents to expect ethics and accountability more than male managers do though they both meet expectations. The study also ranked female managers to work with diverse people and perspectives slightly better than male managers do though they both meet expectations. Furthermore, female managers were rated to communicate and listen to their team members better than male managers do – a mean score of 3.28 while the male managers just managed to meet expectations with a mean score of 3.07.

On the other hand male managers were rated to understand performance indicators and metrics more than female construction managers do.

Table 4.10: Comparing competency scores by male and female construction managers

SN	Core Competencies	Male Construction Managers		Female Construction Managers	
		Mean Score	Standard Deviation	Mean Score	Standard Deviation
1	Risk taking or entrepreneurship	3.33	0.01	3.22	0.11
2	Mentoring and coaching employees	3.60	0.18	3.50	0.08
3	Leading and motivating employees	3.40	0.11	3.39	0.10
4	Problem solving and decision-making	3.87	0.16	3.75	0.04
5	Focus	3.60	0.06	3.50	0.04
6	Managing finances	3.40	0.14	3.28	0.26
7	Managing resources and time	3.93	0.35	3.78	0.19
8	Building teamwork	3.60	0.31	3.50	0.21
9	Job Knowledge	4.27	0.23	4.22	0.18
10	Managing change and continuous improvement	3.40	0.28	3.39	0.26
11	Communicating and listening to the team	3.07	0.07	3.28	0.28
12	Influencing and negotiating	3.47	0.15	3.50	0.18
13	Conducting employee evaluations	3.13	0.30	3.17	0.33
14	Understanding performance indicators and metrics	3.27	0.10	3.17	0.01
15	Demonstrating strategic leadership	3.47	0.22	3.44	0.19
16	Working with diverse people and perspectives	3.60	0.23	3.67	0.29
17	Expecting ethics and accountability	3.73	0.11	3.83	0.21
18	Commitment	4.07	0.14	4.06	0.14
19	Good Values	3.67	0.08	3.78	0.19

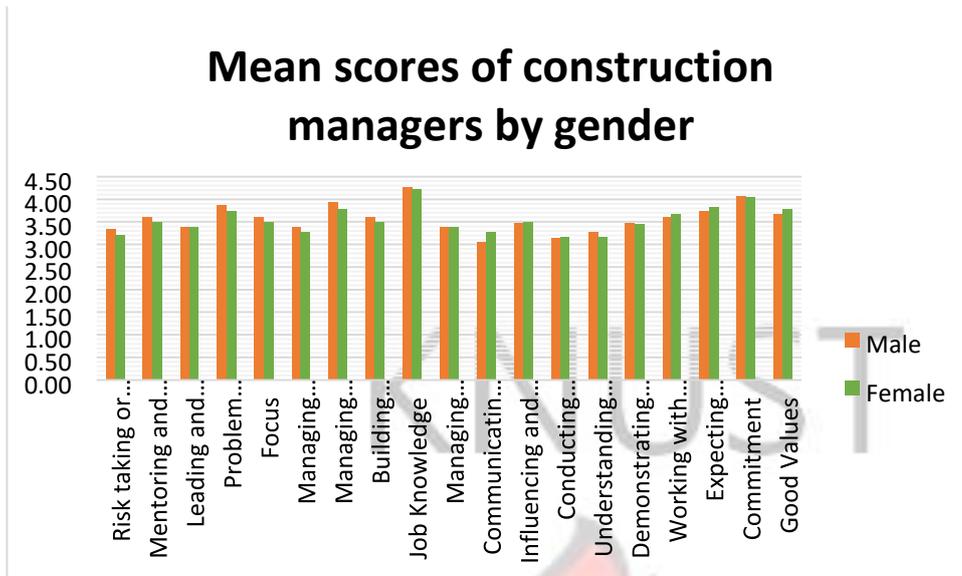


Figure 4.12: Comparing mean scores construction managers

Source: Field Data, 2016

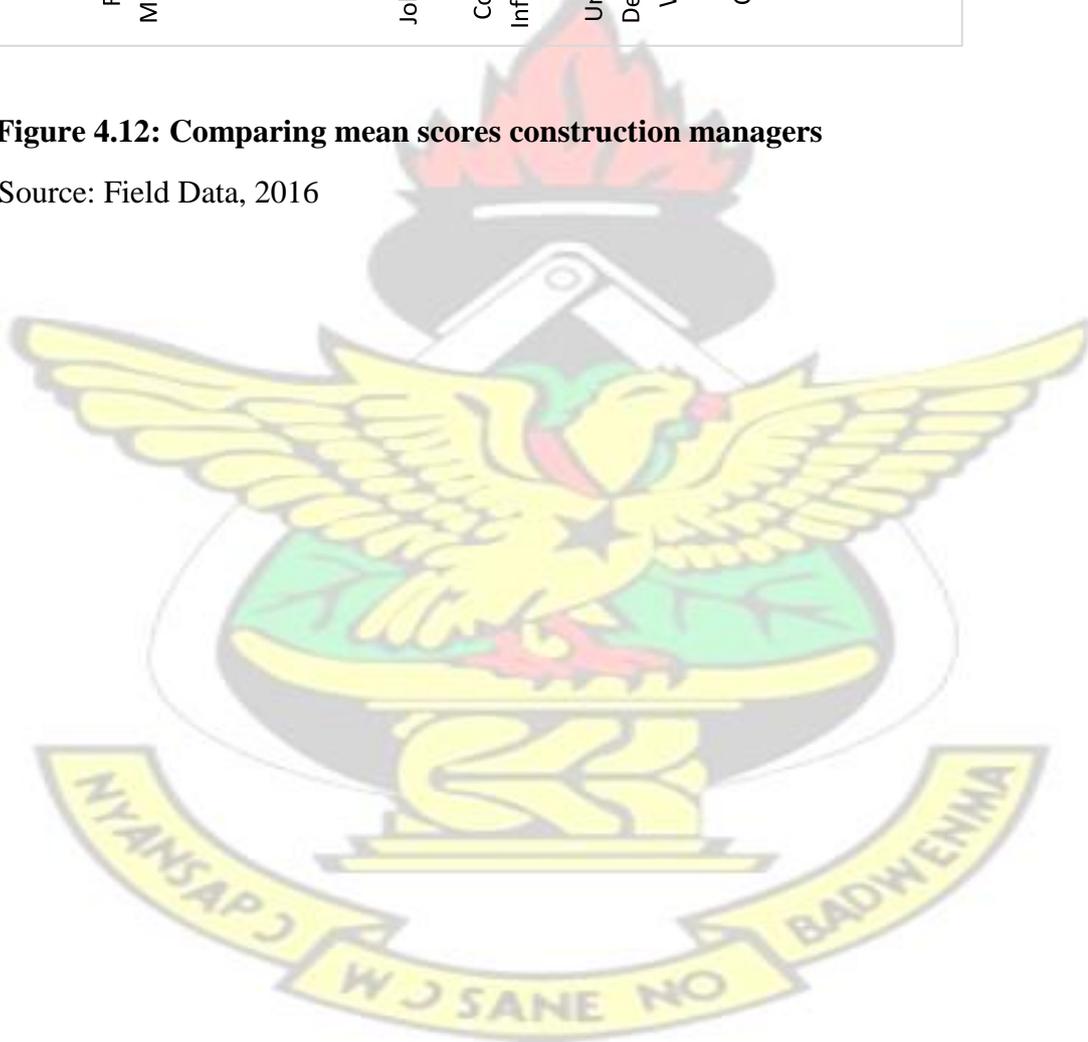


Table 4.11: Comparing competency scores by male and female construction managers

Rank Order	Male Construction Managers	Female Construction Managers
1	Job Knowledge	Job Knowledge
2	Commitment	Commitment
3	Managing resources and time	Expecting ethics and accountability*
4	Problem solving and decisionmaking	Managing resources and time
5	Expecting ethics and accountability*	Good Values
6	Good Values	Problem solving and decisionmaking
7	Mentoring and coaching employees	Working with diverse people and perspectives*
8	Focus	Mentoring and coaching employees
9	Building teamwork	Focus
10	Working with diverse people and perspectives*	Building teamwork
11	Influencing and negotiating	Influencing and negotiating
12	Demonstrating strategic leadership	Demonstrating strategic leadership
13	Leading and motivating employees	Leading and motivating employees
14	Managing finances	Managing change and continuous improvement
15	Managing change and continuous improvement	Managing finances
16	Risk taking or entrepreneurship	Communicating and listening to the team*
17	Understanding performance indicators and metrics*	Risk taking or entrepreneurship
18	Conducting employee evaluations	Conducting employee evaluations
19	Communicating and listening to the team*	Understanding performance indicators and metrics*

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study, presents conclusion, highlighting findings and recommendations.

5.2 Summary

The study aimed at comparing managerial competencies of construction managers by gender. The main objectives of the study included; identifying the core managerial competency factors in construction management; identifying the similarity in managerial competencies construction managers in Ghana by gender and determine the differences in managerial competencies of male and female construction managers in Ghana.

Primary data was collected from managers and supervisors working across 17 D1K1 construction companies in Ghana. No definite sample size was defined since the snowball sampling technique was adopted. Questionnaires were administered to managers and supervisors of these firms to solicit for primary data. Data was analysed by mean score method in excel. The results revealed the following:

5.2.1 Core managerial competencies of construction managers in Ghana The study revealed that job knowledge, commitment, problem solving and decisionmaking, expecting ethics and accountability, managing resources and time, good values, focus, managing resources and time, mentoring and coaching employees, and working with diverse people and perspectives are the top ten managerial competencies Ghanaian construction managers are rated high.

5.2.2 Similarities in managerial competencies of male and female construction managers

The study revealed that there are a lot of similarities in the competencies of male and female construction managers. The top 10 core competencies were the same for both genders but the ranking order slightly differs. This is as a result of one gender placing a higher value on a certain competency than the other. Both genders achieved similar ratings in commitment, managing change and continuous improvement, demonstrating strategic leadership, leading and motivating employees, influencing and negotiating and job knowledge.

5.2.3 Differences in managerial competencies of male and female construction managers

The study revealed few significant differences. Comparing mean scores by gender revealed that in terms of expecting ethics and accountability, working with diverse people and perspectives, and communicating and listening to the team, female construction managers score slightly higher than male construction managers. However male construction managers understands performance indicators and metrics more than female construction managers do.

5.3 Conclusion

Over the past couple of years gender equality has been the fundamental problem that many governments and private organisations seek to resolve. There has been low female participation in all sectors of the economy (Amu, 2005). Data from the (Ghana Statistical Service, 2013) indicated that the ratio of female to male employees in the construction industry is 1:35, indicating low female entry and retention (Ayarkwa et al., 2012). Their quest is to achieve gender equality by eliminating hitches, challenges and factors that maintain discrimination and inequality in governance, employment

and other aspects of human life. However, gender inequality in employment particularly in the construction industry exist. This study found that gender inequality in the construction industry manifest itself in the form of low female participation especially with regards to construction managers. This wide gap between the numbers of male construction managers and female construction managers could be to the negative perceptions relative to female construction managers as to their effectiveness being questionable. (Chun et al., 2009)

The study concluded that female construction managers are as equally competent as male construction managers. Both have numerous similarities in managerial competencies with significant differences in just a few competency items. It appears based upon this study that the gender of the construction manager is of less importance than the role and responsibilities. There appears to be little difference between male and female construction managers in the core competencies. Both gender were rated to at least meet expectations the core competencies.

5.4 Recommendations

The study found both male and female construction managers at least meet expectations in these top five core competencies - job knowledge, commitment, problem solving and decision-making, expecting ethics and accountability. The study therefore recommends that employers do not discriminate with respect to gender when in need of the services of a construction manager. Employers should discard that perception of ineffectiveness of female construction managers.

Based on several comments from respondents, it is recommended that construction managers (both gender) pay more attention to communication and evaluating employees as construction managers barely meet expectations with regards to these two core competencies.

Finally, it is recommended that a further study be done on the same topic but a wider sample size, preferably from all the regions, to reflect a nationwide assessment of managerial competencies of male and female construction companies.

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APPENDIX: QUESTIONNAIRE TO MANAGERS AND SUPERVISORS

SECTION A: DEMOGRAPHIC INFORMATION

(Please choose your option by clicking its corresponding box)

1. What is your gender?

Male Female

2. How many years of professional experience do you have? 1 – 5 years 5

– 10 years More than 10 years

3. What is your highest level of education?

- No formal education Diploma
- Junior Secondary (O' Level) Degree
- Senior Secondary (A' Level} Masters
- Certificate Doctorate

4. Please indicate the population of employees in your firm?

- Less than 50 employees 50 – 200 employees more than 200

employees

5. Which gender dominates the population of your firm?

- Male Female

6. What is your current role in your organisation?

- Construction Manager / Project Manager Supervisor or Foreman
- Manager (Other)

7. What type (by gender) of construction manager do you work with?

- Male Female

8. Throughout your construction career, which type (by gender) of construction managers have you worked with?

- Male Female Both

9. Kindly select by gender the type of construction manager you will want to assess.

Male Female

10. What is the experience level of the selected construction manager in question 8?

1 – 5 years 5 – 10 years Above 10 years

SECTION B: COMPETENCY ASSESSMENT INSTRUMENT

The table below shows 19 core managerial competencies developed by the researcher based upon managerial competencies gleaned from research literature. Kindly *assess these competencies (by clicking or ticking the appropriate box)* as exhibited by the construction manager in performing his or her managerial roles.

1 =Unsatisfactory 2 = Needs Improvement 3 = Meets expectation 4 = Exceeds

Expectation 5 = Exceptional

	Core Competencies	Description	1	2	3	4	5
1	Risk taking or entrepreneurship	Ability to take risk in decision making and or in various ways to achieve success	<input type="checkbox"/>				
2	Mentoring and coaching employees	Giving feedback and improving employee performance and development	<input type="checkbox"/>				
3	Leading and motivating employees	Leading and motivating staff for improved effective decisions performance in achieving company initiatives	<input type="checkbox"/>				
4	Problem solving and decision-making	Addressing organizational and technical situations to achieve organisation goals	<input type="checkbox"/>				
5	Focus	Exhibiting a good degree of concentration and goaloriented	<input type="checkbox"/>				
6	Managing finances	Having good business acumen and financial skills enabling desired organizational outcomes	<input type="checkbox"/>				

7	Managing resources and time	Managing resources and demonstrating effective time management and multitasking	<input type="checkbox"/>				
8	Building teamwork	Building team collaboration and team cohesion	<input type="checkbox"/>				
9	Job Knowledge	Understanding the responsibilities specific to the job, and capacity to adjust to job changes	<input type="checkbox"/>				
10	Managing change and continuous improvement	Leading and managing change and improvement initiatives	<input type="checkbox"/>				
11	Communicating and listening to the team	Communication to enable organizational outcomes and encouraging conversation	<input type="checkbox"/>				
12	Influencing and negotiating	Persuading and negotiating with others for organizational outcomes	<input type="checkbox"/>				
13	Conducting employee evaluations	Conducting formal and summative employee evaluations and giving feedback	<input type="checkbox"/>				
14	Understanding performance indicators and metrics	Interpreting organizational objectives and using performance data for organizational outcomes	<input type="checkbox"/>				
15	Demonstrating strategic leadership	Having a strategic vision for the company and/or department	<input type="checkbox"/>				
16	Working with diverse people and perspectives	Connecting and relating to people who think, act or are perceived as different from you	<input type="checkbox"/>				
17	Expecting ethics and accountability	Holding employees to a sense of ethics and performance accountability	<input type="checkbox"/>				
18	Commitment	Drive, dedication, passion and zeal to carry out day to day tasks effectively	<input type="checkbox"/>				

