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

An Inquiry into The Contribution of Team Bonding Factors to Project Success

by

Asebi Boakye Agyenim-Boateng (BSc. Real Estate)

A Thesis Submitted to the Department of Construction Technology and Management,

**College of Arts and Built Environment** 

in Partial Fulfilment of the Requirement for degree of

MASTER OF SCIENCE.

NOVEMBER 2018.

## DECLARATION

I hereby declare that this submission is my own work towards the MSc Construction Management and that, to the best of my knowledge, it contains no 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.

## ASEBI BOAKYE AGYENIM-BOAENG (PG1879517)

Student Name and ID Signature ..... Date Certified by: **DR. TITUS EBENEZER KWOFIE** Supervisor (s) Name Signature Date Certified by: **PROFESSOR BERNARD KOFI BAIDEN** Head of Department Signature .....

Date

#### ABSTRACT

This study examines the factors of team bonding that affects projects success in the construction industry. Specifically, the study examined the factors considered as team bonding and the challenges of these factors as well as how these factors affect project success. This research utilised the case study design and employed the use of questionnaires to collect quantitative data which was analysed with the help of Statistical Package for Social Sciences (SPSS). Data was collected from employees of three construction firms in Ghana who are known to work in teams. Descriptive statistics of frequency and percentages as well as mean and standard deviations were used. The study found that trust, respect for team members and communication regularity and speed are some of the factors of team bonding. The study also found that among the challenges of team bonding factors are mistrust, miscommunication and suspicion of bad acts by team members. Based on these and other findings, the study recommended that communication gadgets and channels should be made available and clearly spelt out to help teams become effective among others.

Keywords: Team bonding, Construction industry, Project success, Team effectiveness

DECL	ARATION	ii
ABSTI	RACT	iii
LIST (	OF TABLES	vi
ACKN	OWLEDGEMENT	vii
DEDIC	CATION	viii
СНАР	TER ONE	1
1.0 IN	<b>FRODUCTION AND BACKGROUND TO THE STUDY</b>	1
1.1	Introduction	1
1.2	Problem Statement	
1.3	Aim for the Study	4
1.4	Research Objectives	4
1.5	Research Questions	5
1.6	Significance/Justification of the Study	5
1.7	Scope of the Study	6
1.8	Operational Definition of Terms	6
1.9	Organisation of the Study	6
СНАР	TER TWO	7
LITER	RATURE REVIEW	7
2.1	Introduction	7
2.2	Construction Project Teams	7
2.3	Team Building	
2.4	Team Collaboration	
2.5	Team Effectiveness	
2.5	5.1 Team Processes	
2.5	5.2 Emergent States	
2.6	Project Success Measures	
СНАР	TER THREE	
RESE	ARCH METHODS	
3.1	Introduction	
3.2	Brief Profile Cases	
3.3	Research Philosophy	
3.4	Research Design	

## TABLE OF CONTENTS

3.5	Population	31
3.6	Sample Size Determination/Selection	31
3.7	Sources of Data	32
3.8	Data Collection Instrument and Method	32
3.9	Data Analysis	
3.10	Ethical Considerations	
CHAP	FER FOUR	
DATA	ANALYSIS, PRESENTATION AND DISCUSSION	
4.1	Introduction	
4.2	Demographic Characteristics of Respondents	
4.3	Factors Considered as Inducing Team Bonding by Team Members	
4.4	Challenges to Factors Affecting Team Bonding	39
4.5	Factors Affecting Team Bonding on Project Success	41
CHAP	FER FIVE	44
SUMM	ARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS	
5.1	Introduction	44
5.2	Achievement of Research Objectives	44
5.2	.1 Factors Considered as Inducing Team Bonding by Team Members	
5.2	.2 Challenges to Factors Affecting Team Bonding	45
5.2	.3 Factors Affecting Team Bonding on Project Success	45
5.3	Conclusion	46
5.4	Recommendations	46
REFE	RENCES	
APPEN	DIX	

## LIST OF TABLES

Table 4.1: Demographic Characteristics of Respondents	35
Table 4.2: Descriptive Statistics: Factors Considered as Affecting Team Bonding by Team	
Members	38
Table 4.3: Descriptive Statistics: Challenges to Factors Affecting Team Bonding	40
Table 4.4: Descriptive Statistics: Factors Affecting Team Bonding on Project Success	42

## ACKNOWLEDGEMENT

All thanks and praise to the Almighty God who has seen me through to the successful end of this programme, without Whom I could not have made it. I acknowledge the immense help of my supervisor, Dr. Titus Ebenezer Kwofie and the staff of the construction firms who agreed to partake in this study.

## **DEDICATION**

I dedicate this work to the Lord Jesus. I also dedicate this work to my parents, Dr and Mrs Agyenim-Boateng, my siblings, my fiancée and all who helped make this work successful.

#### **CHAPTER ONE**

### **1.0 INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.1** Introduction

Project teams and their constitution are very critical to the success of projects (Nawaz et al., 2016). Within project teams are elements of trust, respect and coordination which bind team members together to ensure success of projects (Mitra & Tan, 2012). Winch (2009) argues that different projects demand different mix of team members in order to include professionals who are capable and able to contribute to project objectives. This means creating new relationships, trust and bonds that can help achieve project aims and the overall objectives of the organisation.

Within the construction industry, teamwork is a necessary and fundamental feature where construction projects are delivered by various professionals brought together to work as a team. These professionals are from various backgrounds including architects, contractors, material suppliers, specialists and others like government planners and engineers (Chow et al., 2005; Spatz, 2000). Extensive research has been completed on the connection between segments of viable teams and project success. Clearly distinct objectives are major components contributing to the success of a project (Rad & Levin, 2006). Parker (2008) additionally contributed that the scope of the work is grasped in better light when goals are apparently defined and substantially understood, thus increasing the probability of project and team success. Dinsomore and Cooke-Davies (2006) mention strong team bond as necessary even in the presence of clearly communicated project objectives.

Gido and Clements (2011) contributed with conclusions highlighting how effective teams are characterised by having high degree of cooperation, trust, open, timely effective communication and ethical behaviour. These attributes depend on the level of bonding within a team and are vital components for project success. Past researches in extent of team bonding commented that the accomplishment of an undertaking is intensely reliant wrong administration of inward clashes, viable correspondence, defining and concurring vast objectives and building up great confiding seeing someone inside the team (Kerzner & Saladis, 2013).

Effective communication has been enormously associated with project success (Hernon & Rossiter, 2006). Kerzner (2013) stating that lack of adequate communication within the team is a major shortcoming to the growth of good teams since it contributes to low levels of motivation, lower degree of team bonding, reduction in team morale; resulting in poorly identified goals and poor project control, harmonisation and work flow. Choi (2002) studies literature on knowledge, skills and ability need for teamwork and draws a conclusion highlighting that good interpersonal relations (team bonding), team creativity, honesty, respect, trust, openness, collaborative and cooperative attitude of team members are particularly attractive and unique factors associated with a good team which promotes performance. A clear working organisation with well outlines roles encourage stability of harmonisation and bonding within a team (Molleman et al., 2004).

Better teamwork has been linked to unanimous team decisions (Jackson et al., 2003). Teamwork relies upon team members executing their tasks in an accommodating and harmonised environment to achieve a common team goal as a result of transferring knowledge and skills among themselves. Teams are a fundamental part of many organizations and should be incorporated as part of the delivery of tertiary units. Fruitful cooperation depends upon synergism existing between all colleagues making a situation where they are generally eager to contribute and take an interest so as to advance and support a positive, viable team condition for this team bonding to exist, team members must be flexible enough to adapt to cooperative working environments where goals are achieved through collaboration and social interdependence rather than individualised, competitive goals (Luca & Tarricone, 2001).

## **1.2** Problem Statement

The make-up and factors preceding the success of a project have been widely researched (Camilleri, 2011; de Carvalho et al., 2015; Pratt, 2010). However, in most cases, successes of projects are looked at from the perspective of three main instances which consider the effects of time, cost and quality of inputs on a project (de Carvalho et al., 2015; Pratt, 2010). Others further argued that project teams are part of strategic management of an organisation, and thus its success must be linked to its contribution to the short- and long-term views of the performing company or business (Shenhar & Dvir, 2007). It further explained that, project success can be measured through the evaluation of a project's efficiency, impact on its customers, its impact on the project team, business and direct success and preparation for the future.

Studies evaluating group dynamics and its impact on project success have traditionally concerned themselves with issues of organisational culture; motivation and expertise (Ankrah & Langford, 2005; Choi, 2002; Kerzner, 2013; Rameezdeen & Gunarathna, 2003). Studies on culture within an organisation have emerged within the construction industry, as an important issue and a growing research area. Research looking at such issues as "project chemistry" (Nicolini, 2002), harmony, and comparisons between organisational cultures of contractors and consultants (Ankrah & Langford, 2005; Rameezdeen & Gunarathna, 2003), and intrinsic motivation (Choi, 2002; Kerzner, 2013) emphasise traits among the human factor which are prominent in whether a project is successful or not. However, these studies did not examine what team members consider as binding them together as a team for project success. The

practices of team members that contribute to team bonding which has consequence for project success has been scarcely examined.

Literature is dearth regarding team bonding in the construction industry and especially in Ghana. Studies on project success in Ghana have concentrated on management, financial inputs and corruption among others (Ahadzie, 2009; Amoah, 2011). There is therefore the need to examine team bonding practices and its effect on project success using a firm in the construction industry as a case. This helped contribute to filling this literature gap.

## **1.3** Aim for the Study

The main aim of this study was to assess various practices by construction team members and how these practices contribute to the success of construction projects through effective team operations.

## **1.4 Research Objectives**

The general objective of this study was to examine team bonding practices and project success. Specifically, the study sought to:

- 1. Identify factors considered as inducing team bonding by team members.
- 2. Determine challenges to the factors affecting team bonding.
- 3. Determine how factors affecting team bonding affects project success.

#### **1.5** Research Questions

The study was guided by the following research questions:

- 1. What factors induce team bonding in team members?
- 2. What are the challenges to the factors inducing team bonding?
- 3. How do the factors affecting team bonding affect project success?

## 1.6 Significance/Justification of the Study

To achieve a successful project result, the project manager as well as the team must be capable of managing the interests of various participants during the whole project management process. Of much importance is the team on the field managing the project? Therefore, understanding how the team bonds in order o ensure successful project execution is very necessary.

Findings from this study will benefit the academic community by contributing to filling the research gap identified in the problem statement. This study will serve as a reference source for other studies in team bonding and project success. These results could additionally be used as an assessment instrument to assess the performance of stakeholder management and hence they aid to identify areas for improvement. Though doctrines can be accepted within boundaries, construction has its distinctiveness, therefore the requisite to improve principles of construction stakeholder management based on practical exploration. Again, this study will benefit the construction industry and the organisation under study. This is because the findings directly relate to the industry and the study will proffer recommendation for practice.

#### **1.7** Scope of the Study

This study was geographically concentrated on Berock Ventures Limited in Accra, Spintex Road in Ghana, Antartic Contract Works Limited and Soland 1 Construction Limited. The Head Offices of these companies were selected for the study. The contextual scope was limited to factors of team bonding and how this translated into successful project execution. What team members considered as factors of team bonding and the challenges that they faced in those team bonding were the main focus of this study.

## **1.8** Operational Definition of Terms

**Team** in this study was defined as a group of individuals with the common objective of successfully executing a building project. The team is made up of the client, managers, contractors, subcontractors, consultants and end users of the project.

**Team Bonding** is the degree of coherency and attachment within construction project teams. Team bonding is how dedicated the team members are to the objectives of the team influenced by their degree of participation within the project.

## **1.9** Organisation of the Study

The study is presented in five chapters. The first chapter considers the general introduction to the study, problem statement, objectives and research questions, hypotheses, justification of the study and scope of the study. The second chapter deals with review of other related studies. The third chapter discusses the methods used in the study and justify the choice of any particular method over others. In this chapter the research design, approach, population, sampling, data collection methods and analysis are outlined. The fourth chapter is dedicated to the presentation and discussion of results while the last chapter gives a summary of the study, conclude and give recommendations.

#### **CHAPTER TWO**

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter is dedicated to the review of relevant related literature to team building, bonding and project success. Critically reviewed in this chapter is the concept of construction project teams, Team Building, Team Collaboration, Team Effectiveness, Team Processes, Emergent States and Project Success Measures.

## 2.2 Construction Project Teams

Construction project teams are created when they go into another task. The objective is for a group to grandstand its allure of agreeable connections through venture execution. To guarantee development groups effectively entire their ventures, it is fundamental for construction organizations to advance, measure, and assess their groups' viability. Definitely, it is a testing assignment to perform, yet there are fundamental reasons why construction organizations require a compelling estimation framework for groups. As expressed by Mohrman (1995), estimation of individual execution is as yet the focal point of most study, and numerous evaluation and reward frameworks, notwithstanding the expansion in group utilization. As per Cantu (2007), a part of the reasons behind a practical estimation in bunches rely upon the probability that the more effectively a gathering limit, the more points of interest they are presumably going to recognize from the work amass structure. Gathering structures alone are not satisfactory to make productive upgrades in workplace suitability, quality, gainfulness, and delegate demeanours. Additionally, cost related to supporting work aggregate structure would help give an entry on hypothesis (ROI) as observed by the accomplices.

Granting that there are various viability estimations for groups, there isn't one estimation custom fitted particularly for development venture groups. Since development groups contain people with different foundations, each has an interesting arrangement of prerequisites he/she wishes to accomplish. Cohen and Bailey (1997) demonstrated usually incomprehensible for scientists and chiefs to look at groups in changed practical zones, divisions, or offices. Consequently, it is pivotal for group pioneers to decide the most ideal approach to guarantee all cooperative people's desires are lined up with the general venture's objectives and goals. Busseri et al. (2000) proposed it might be valuable for colleagues to think about how well they are cooperating every once in a while. This can be tended to by directing appraisal and assessment among colleagues and by the undertaking proprietor on what they believe is functioning admirably, what isn't functioning admirably, and how it very well may be made strides.

The construction business is a venture based industry. Each venture needs unique individuals as per their demonstrable skill, information, and encounter, and expects them to work and arrange with others from various organizations. The development business has dependably managed the connection between group, errand, individual, and initiative (Adair, 1983). It is adequate to state that cooperation is overwhelming in development's social convention and at the establishment of effective development ventures. Groups and cooperation in development have been affected by various and remarkable highlights in the development business, as in the manner in which it continues on ahead. This can be seen more in the use of incorporated venture conveyance strategy, where groups begin to function as one unit, making quicker conveyance times, limiting expenses, and making a pleasant working relationship for the whole undertaking group. In any case, there are a few boundaries to collaboration in development, for example, discourtesy and doubt, among different task members and expert competition that must be defeated towards creating and keeping up cooperation all through the whole undertaking's procedure (Uher and Loosemore, 2004).

Cornick and Mather (1999) expressed an overwhelming need today for development organizations is to grasp cooperation in a more extensive sense than simply singular work groups, because of the multifaceted nature of the development business. As shown by Alshawi and Faraj (2002), a commonplace development venture is a community oriented endeavour that includes various distinctive associations united to frame "the development venture group." This group is in charge of the outline and development of the undertaking. The development venture group includes a group of differing individuals and social foundations. As indicated by Emmit and Gorse (2007), development venture groups region free gathering of invested individuals united for a particular development venture. Individuals regularly depict a normal development venture group as a group that incorporates a task administrator as a proprietor's agent, modeller, or specialist for the plan group and the contractual worker. Moreover, there might be individuals under every one of these classifications, i.e., development labourers, administrator, and so on.

As per Uher and Loosemore (2004), an extraordinary component of development groups is their piece differs from organize to-phase of a venture's lifecycle. This is valid as the development venture group moves by and large over the life of the task with the capacity of a similar colleague changing as each stage appears. What's more, the enrolment of the development venture group may shift as per size, sort, and multifaceted nature of the task. The proprietor and venture chief are constantly required from the earliest starting point to the finish of the task all through every one of the six stages. Other critical colleagues, for example, originators, temporary worker, and subcontractors, join the development group when their aptitude is required. They leave the undertaking endless supply of their particular task(s). Regardless of whether they are as of now in the development stage, the proprietor or undertaking administrators, creators, development directors, and subcontractors may all proceed with part of their work in their own work places.

The thought behind group viability is a gathering of individuals cooperating efficiently can accomplish more than if the people of the group are taking a shot at his/her own. An investigation led by Henderson and Walkinshaw (2002) demonstrated viability is significant to the accomplishment of the venture's objectives, developments, and goals, as characterized by the undertaking's prerequisites plot by the proprietor; though, execution is nearly connected with how stable the assignment function and cooperation are finished. Group execution is assessed as far as between group efficiency and intra-group profitability (Harris, 2008). Various investigations were led to decide the components that make a group fruitful and viable. As indicated by Cleland (1996), the normal for a powerful group incorporates centre, union, trust, interchanges, and association. To make venture progress, each group needs to have centre, acknowledgment, structure, strengthening, and great correspondences (Katzenbach & Smith, 2003; Forsberg et al., 2005). At the point when colleagues build up regard among one another, trust will before long create. Open correspondences result from trust and will, and, accordingly, create real cooperation.

## 2.3 Team Building

The idea of the work group developed with the arrangement of Hawthorne thinks about led somewhere in the range of 1927 and 1932 at the Western Electric Hawthorne Works in Cicero, Illinois. These Hawthorne tests were directed by Harvard Professor Elton Mayo to inspect the impact of workplace on efficiency. A standout amongst the most essential discoveries was that of a feeling of gathering personality, the sentiment of social help and attachment that accompanies expanded specialist communication bringing about enhanced profitability ("The Hawthorne Effect," 2009). In the 1950's, inquire about around there

extended to analysing self-coordinated groups, concentrating on General Motors, its prosperity rousing different organizations, for example, Honeywell, Xerox, Volvo, and Pratt and Whitney to execute a comparable procedure (Weinrich and Simmons, 1998).

In the early 80's, scientists started to centre around multi-social group building. As indicated by McCorcle (1982), group working under such circumstances facilitates the strain between outer contrasts and inside group improvement. As Dyer (1987) characterized it, in this setting group building was "a persistent push to screen group capacity to actualize activities intended to enhance group execution." An accomplished expert (Dyler, 1987) found that a successful group had clear generally speaking objectives and the suitable assets, authority, and part capabilities to accomplish them.

Since multifaceted groups bring included assorted variety, these groups have joined ranges of abilities which no individual has (Doyle, 1991). The advantages of these extended ranges of abilities have turned out to be progressively critical and additionally complex in nature (Caskie-Lewis, 1993). As indicated by his investigation, a few variables must be considered when building up a group building movement to clarify the individual jobs of course of events, centre, structure and continuation of a venture. Lewis finishes up and declares that for group building preparing to be successful in enhancing execution, it should be joined by aptitude stressing. Additionally, Huang et al. (1998) examines the basic components obligatory to groups to execute competently: a typical character or objective, structure, association and history. As per these specialists, these essential components shape the regular premise and objectives that will enable individuals to bond and create trust, building up group interdependency. This feeling of solidarity can be accomplished by accentuating group preparing exercises for expanding correspondence inside socially different groups.

This examination framed the reason for extra investigations as the business condition turned out to be more globalized. Beich (2001) attests that the upsides of cross-practical groups incorporate shifted thoughts and choices and top notch yield on account of the expanded comprehension of different points of view, improving an organization's prosperity. These points of interest exceed such disservices as the time required to land at a choice, differences and individual clashes, particularly if such negatives are tended to by powerful group preparing.

According to McLaughlin and Peyser (2004), who analysed Tuckman's group development model (Tuckman, 1965), group development involves five stages:

- (1) Forming This is the stage of the first meet up by the team.
- (2) Storming In this development stage team members address their differences in correspondence styles, culture, individual plans and points of view.
- (3) Norming During this settling stage people begin to identify themselves as part of the collective gathering and figure out how to cooperate viably.
- (4) Performing In this stage groups are profoundly beneficial, ready to analyse and tackle issues adequately and settle jointly
- (5) Adjourning This is the last stage of team building in which teams achieve conclusion and change back to the working environment.



Figure 1: Tuckman's model (Agarwal A. 2008)

It is in the initial three phases that group building exercises are most profitable in upgrading the capacity of the individuals to team up adequately.

## 2.4 Team Collaboration

Given the ebb and flow business condition, joint effort among scattered team individuals has turned out to be indispensable, particularly for worldwide associations; subsequently, analysts have examined different strategies for upgrading correspondence and team execution. For instance, Burke and Chidambaram (1994) contemplated the electronically bolstered gathering methods of eye to eye, scattered synchronous and scattered non-concurring, looking at such conduct components as attachment, authority viability, co-appointment skill and sociospecialized measurements like social nearness, balance of support and time. The consequences of this examination discovered the non-existing distinction in cohesiveness, social nearness and execution in the midst of the three gathering modes; be that as it may, administration and co-appointment were better in up close and personal gathering environments.

To consider the viability of electronic mail on team cooperation, Knoll and Jarvenpaa (1995) directed an investigation of 19 teams at 13 colleges within nine nations including the fulfilment of two assignments. All teams finished the undertakings by the due date, conveying effectively crosswise over societies, time zone contrasts and dialect obstructions. The scientists discovered that teams having better union achieved more. In their input, the understudies showed delight in this involvement of working together utilizing electronic mail; in any case, they demonstrated that visual signs, for example, pictures and recordings would have been a useful expansion.

Citera (1998) examined the effect of the correspondence medium on choice quality and teamwork. In this examination, 64 brain science understudies, assembled in sets, performed3

survival undertakings utilizing 3 correspondence media, vis-à-vis, phone and PC. The outcomes demonstrated that the conceptualizing errand was performed similarly well in every one of the three correspondence media; truth be told, it was discovered that less overwhelming people had more noteworthy impact over collective choices under the phone and PC conditions, maybe bringing about a more extensive scope of value thoughts; in any case, a more prominent absence of quickness was seen in the electronic media than in the up close and personal.

Adding a video correspondence part to the PC, Vinsonhaler et al. (1998) contrasted confront with face and work area video conferencing (DVC) among province operators occupied with a proportion adjusting undertaking for dairies situated all through Utah. The outcomes demonstrated that however the errand took more time to finish utilizing work area video conferencing, the nature of the synergistic correspondence was proportionate in the two media. Like Citera's examination, work area video conferencing needed instantaneousness, however it ended up being favourable position for this situation as a few operators favoured it since it permitted more opportunity for producing arrangements than eye to eye gatherings.

In a comparative report Sumner and Hostetler (2000) thought about PC conferencing (CC) and up close and personal (FF) correspondence utilizing a framework configuration undertaking, concentrating on the execution and advancement of the teams. In this examination eight teams composed of three individuals each led class extends up close and personal, and a different eight teams utilized PC conferencing. Consequentially, this investigation demonstrated that PC conferencing prompted better choices because of the expansion in interest, a more extensive scope of thoughts and sentiments, more profound examination, and more open doors for taking care of the assessment of the errand more successfully than eye to eye.

In spite of the fact that the absence of an individual relationship as found in eye to eye contrarily influenced the trust in their choice, it didn't adversely influence the execution, which was observed to be better utilizing PC conferencing. This outcome possibly in light of the fact that the electronic medium makes a mental separation among the team individuals, giving members an expanded chance to take an interest and decreasing time weight as the members are not required be available at a settled time and place.

To improve upon correspondence channel and to make a situation similar to eye to eye gatherings, the impact of additional PC conferencing with video and sound devices was considered by Kirschman and Greenstein (2002). Their examination utilized groupware instruments, for example, sound, video, document exchange, and application-sharing help and contrasted their execution and that of up close and personal gatherings. They assessed the impact of these instruments on the execution of three errands, thought age, co-altering and arrangement. The outcomes demonstrated that however there were constraints in the equipment, programming, and system data transfer capacity of the groupware apparatuses, all empowered compelling joint effort and effective fulfilment of the errands, with the undertaking finish time being the same concerning up close and personal gatherings.

Also, Figl et al. (2006) contrasted on the web and face-with confront correspondence and joint effort for an associate checking on errand. This investigation demonstrated that understudies esteemed the parts of online correspondence, for example, no time limitation on the audit session and the straightforwardness with which computerized reports could be dissected whenever the timing is ideal; in any case, they recommended the requirement for more correspondence highlights, for example, texting, visit and voice over IP to improve the dialog for successful assignment consummation.

15

As of now, a significant part of the examination around there is centred around trend setting innovation for particular assignments or workplaces, one precedent being an investigation led by Fan et al. (2008). This examination concentrated on the improvement of a technique to empower appropriated community oriented plan utilizing cross breed matrix and shared innovation in an assembling domain.

Conveyed team individuals working in three organizations outlined an apparatus show utilizing a system. The outcomes, which depended upon registering and conveyance time and the quantity of processors, demonstrated that the system framework suited more in terms of adaptability and appropriateness for workplaces depending on quickly shifting innovation than a customary electronic synergistic framework.

## 2.5 Team Effectiveness

As per Kozlowski and Bell (2003), the accompanying concerns are critical to comprehend work teams: (1) assignment or work process reliance, (2) relevant formation and imperative, (3) staggered impacts, and (4) transient elements. Assignment or work process relationship alludes to the connections among team individuals, which are impacted by work process structure. This work process structure interfaces information sources, results, and objectives. These collaborations significantly affect team forms, which are fundamental to team viability. Relevant creation and requirement are additionally a basic part of work teams. Team individuals work in a setting that they make through their dispositions, communications and reactions; and team forms, to some degree, make a relevant structure that compels team forms. Staggered effects on teams are likewise vital to consider due to the way that individual individuals are drenched in teams that, thusly, have a place with abrader authoritative setting. At last, transient elements are a vital normal for teams. Teams are shaped and they create and

develop after some time (Morgan et al., 1993). Thusly, it is critical to see how team forms unfurl after some time, keeping in mind the end goal to comprehend team adequacy.

Hackman (1987) characterizes team adequacy as a develop created by three criteria: execution, fulfilment, and reasonability. Execution is the result created by the performing team and is identified with whether the goals agreed for their assignments can be achieved or surpassed the as a performing unit. Fulfilment is portrayed by the degree to which an individual within the unit feels fulfilled or disappointed in connection to their personal expectations. Suitability alludes to the ability of individuals within a team to keep cooperating later on. Fulfilment is the team adequacy criteria in which this proposition will centre around.

Most models of a team's viability are planned around the Input-Process-Outcome (IPO) system, proposed by McGrath (1964). Team inputs go before forms, and the change of contributions to results occurs through these team forms (i.e. the association among amass individuals). Information sources incorporate the assets accessible to the team and can be inner or outside. Models of inside sources of info are team individuals' identities and socioeconomics, and outside information sources might be, for example, authoritative atmosphere, rewards and preparing.

Team Processes include "instruments that repress or empower the capacity of team individuals to join their abilities and conduct" (Kozlowski and Bell, 2003, p. 26). Marks et al. (2001) characterize team forms as "individuals' related demonstrations that believer contributions to results through subjective, verbal, and social exercises guided toward arranging undertaking work to accomplish aggregate objectives" (p. 357). Yields are the final product of team forms (i.e. the quality and amount of the work/item that outcomes from the connection among team individuals and additionally the individuals' responses) and the

17

criteria that enable us to survey team viability. These criteria might be interior (i.e. fulfilment and practicality) or outer (i.e. execution).

#### 2.5.1 Team Processes

Marks et al. (2001) propose a briefly based reasonable model of team forms, clarifying how these procedures work in various team execution stages and how transient elements affect team working. They contend that diverse team forms are vital at various periods of errand execution. The three sorts of team forms more inclined to occur at various periods inside execution scenes are activity stage, change stage and relational procedures. Execution scenes are portrayed by various timeframes in which assignment execution occurs and criticism is accessible. Likewise, the finishing of one scene for the most part speaks to the start of another.

These creators first make a refinement between activity stage and change stage forms. Activity stage forms speak to the timeframes when teams are performing exercises that add to achieve the destinations of the undertaking. Their procedure measurements incorporate mission investigation definition and arranging, objective determination, and system plan. Then again, change stage forms allude to the timeframes when teams assess their execution in the past scene and plan for the following one, by looking at current execution levels against the goals built up for the undertakings. These incorporate the accompanying procedure measurements: observing advancement toward objectives, frameworks checking, team observing and back up conduct, and coordination. They contend that a few procedures will probably happen amid change stages, while others are more probable amid activity stages.

Relational procedures are relied upon to occur all through both activity and progress periods. These are forms utilized by teams to oversee relational connections and incorporate the accompanying three process measurements: peace-making, persuading and certainty building, and influence administration. Peace-making portrays the route through which team individuals proactively and responsively manage strife. Inspiring and certainty building alludes to the exercises that create and keep up individuals' inspiration and certainty in regards to the team accomplishing its objectives and targets. Influence administration speak to the cooperation among team individuals that develop a passionate adjust and take into consideration managing and overseeing great dissatisfaction and upsetting circumstances.

There is a broad writing on team forms and there is disparity on a centre arrangement of procedures. Be that as it may, some repetitive procedures in the writing incorporate subjective, motivational, emotional, and harmonisation builds and systems (Zaccaro et al., 2001). The principle Cognitive Processes that show up in the writing incorporate team mental models, trans active memory, and team learning.

Team Mental Models are "team individuals' shared, composed understanding and mental portrayal of information concerning vital components of the team's significant condition" (Mohammed & Dumville, 2001, p. 90). Likewise known as "shared mental models", they infer a mutual comprehension of normal aggregate conduct rhythms that will occur amid team activity and which are expert through the regular encounters of team individuals. Research discoveries bolster that suitable team mental models affect both team procedures and team viability (Marks et al., 2000).

Trans active memory is a common subjective framework that consolidates every part's memory framework with a mutual attention to who, among the team individuals, knows what (Wegner, 1986). It includes leading prevailing data to the correct team part and the presence of a procedure for evaluating that data (Mohammed & Dumville, 2001). The upsides of a proper transitive memory framework incorporate lessening psychological heap of every

person, giving access to more data and aptitude, and diminishing the squandered subjective exertion associated with covering singular learning (Hollingshead, 1998).

Team Learning at the team level alludes to generally perpetual modifications in the information of a reliant gathering of people related with involvement (Kozlowski and Bell, 2003). The model of team learning proposed by Edmondson (1999) infers that the mental wellbeing of the team adds to team learning practices, for example, discussing mistakes, testing, and sharing data, requesting help and looking for criticism. In addition, Edmondson (1999) revealed that these learning practices, thusly, positively affected team execution.

Essential Affective and Motivational Processes worth saying and most intermittent in the writing are (1) bunch union, (2) aggregate viability, (3) gather feeling, and (4) strife.

Gathering union is a motivational procedure and Festinger (1950) characterized it as the consequence of the considerable number of powers that follow up on the individuals to stay in the gathering. Mullen and Copper (1994) discovered that undertaking union – the need of people to cooperate to accomplish wanted results - had the biggest effect on team execution; whereas Barrick et al. (1998) conveyed that social union - power and number of fellowships in the midst of individuals from the team - positively affected team reasonability.

Aggregate viability is additionally a motivational procedure and it speaks to the individuals' certainty that altogether they can play out a specific undertaking well. Study has discovered that aggregate viability impacts team adequacy. For example, Campion and his associates' (1993) discoveries demonstrated that aggregate adequacy (that they recognise to be "strength") associated decidedly with all the three benchmarks they assessed to gauge team viability (profitability, worker fulfilment, and chief judgments of adequacy).

The Group feeling or gathering influence alludes to gatherings (or teams) that offer a full of feeling/passionate tone, irrespective of its positive or negative feel. Study from Barsade and Gibson (1998) described gathering influence as comprising of two distinct procedures, a "best down" process and a "base up" process. They explained that in the "best down" approach, the qualities and properties of the gathering follow up on the feelings of the people inside it, while the "base up" approach the gathering influence is the consequence of the total of individual team individuals' full of feeling positions and characteristics. Kelly and Barsade's (2001) model of gathering influence alludes to both understood and express full of feeling exchange forms, which incorporate enthusiastic virus, conduct entrainment, feeling influence vicariously, and the control of effect. In opposition to a large portion of the develops and components said previously, which are arranged toward powers of assembly, strife is a procedure described by dissimilarity, pushing team individuals separated.

Errand strife, relationship struggle and process strife regularly hurt team execution and fulfilment; consequently, these ought to be legitimately overseen. Jehn and Bendersky (2003) describe errand clashes as the differences among team individuals about the substance and results of the assignment being performed, while relationship clashes identify with contradictions about relational issues (i.e. identity contrasts, and contrasts in standards and qualities), and process clashes include the manner in which the assignments are being accomplished (i.e. designation of assignments and duties).

At long last, coordination is a conduct procedure portrayed by the exercises requisite in overseeing how the team and their work interrelate with each other. Espinosa et al. (2004) characterize coordination among the team as the viable administration of conditions among sub-undertakings, assets, and individuals. They likewise suggest that there are unequivocal and verifiable harmonisation components. Express harmonisation components incorporate assignment association and team correspondence, and certain coordination instruments allude

to team insight. Then again, Salas et al. (2005) propose that three coordination instruments exist that are not quite similar to royal positions exposition by Espinosa et al. (2004). These incorporate shared mental models, common trust, and shut circle correspondence (i.e. trading of data between a sender and a collector independent of the channel). Study has discovered that team coordination has been beneficial to execution (Wilson et al., 2007). In this manner, it is likewise an imperative issue forward investigation of team viability.

## 2.5.2 Emergent States

Standifer (2015) observes a qualification between rising states and the team forms. These creators characterize new states "as characteristics within the team that are ever changing in nature and change as an element of: team setting, information sources, procedures and results" (p. 697). These creators portray psychological, motivational and full of feeling new conditions of teams. They suggest that factors, for example, aggregate viability, power and attachment, which have regularly been utilized to describe team forms, ought to be viewed as rising satiates. They contend that these kinds of builds, rather than team forms, don't infer a connection among team individuals, yet rather, they describe characteristics of a team, for example, part dispositions, qualities, perceptions and inspirations. Thusly, these new positions may start from particular team forms. Emergent states are ordinarily associated to activities attempted by the team, yet are not similar. Rather, they are the consequence of team encounters (which incorporate team forms). For instance, a current clash inside the team (a team procedure) may result in bring down union of the team and additionally bring down positive gathering influence (rising states). At some point, emergent states may likewise be contributions to ensuing procedures and results. For instance, teams with low negative gathering influence (a rising state) might be less eager to determine struggle within the team by an individual (a procedure), which can expand levels of contention much resulting in more negative gathering influence. In this manner, rising states might be viewed as both team sources of info and results. In entirety, Marks et al. (2001) feature those emergent states are not similar to procedures in view of how they don't depict the idea of part collaboration, yet rather are characteristics of the team that may change because of the impact of other developing states or team forms.

Then again, Cohen and Bailey (1997) consider influence and union builds as psychosocial qualities rather than developing states. They show an example attesting to how psychosocial characteristics are anticipated by data sources and forms and are indicators of ensuing procedures and results. In any case, since the idea of quality is characterized as a generally persisting trademark, it is accepted in this proposal that develops, for example, influence and attachment are new states. The explanation behind this identifies with the way that emergent states are changeable characteristics (i.e. they may result in change after a while, or even in brief times of time), and they are affected by setting. For instance, the positive or negative gathering influence existing within a team might be impacted by the individual disposition of the team individuals or by particular occasions that the team encounters as a unit, (for example, large amounts of execution of the team). At the end of the day, when team individuals realize that they achieved great levels of execution as a team, they will tend to encounter positive gathering influence.

## 2.6 Project Success Measures

There exist extensive contrasts in assessment in regards to what establishes venture achievement and what measures ought to be utilized to pass judgment on the achievement (Grevins, 2002). Although tasks when all is said in done may have a few achievement criteria, these should be significant to a development venture. For instance, the quantity of imaginative thoughts made, while a win measure for innovative work ventures has little relevance to most development ventures. Hartman and Ashrafi (2005) alluded to extend achievement measures as "venture measurements" or "measurements" while others alluded to them as "venture achievement criteria" or "execution criteria". It is vital to separate between progress measures and achievement factors, frequently alluded to as basic achievement factors (CSFs). Undertaking achievement measures are utilized to survey venture results while CSFs encourage or influence the accomplishment of progress (Baccarini & Collins 2005). This investigation drew on articles on venture achievement measures, measurements, achievement criteria and execution criteria as pertinent for making a rundown of progress measures. Also, to be viewed as applicable, articles should have been of "scholastic quality", as depicted for TBAs.

The lion's share of articles considered pertinent depended on ventures in Australia, USA, Europe and India. The investigations for the most part utilized undertaking directors that were individuals from an expert task administration body e.g. PMI, to recognize and talk about undertaking achievement estimates covering a more extensive scope of ventures than those important to this examination. No past research was discovered that had made a for the most part acknowledged rundown of venture achievement measures, referenced all through the writing as the concurred methods for estimating venture achievement. Seventy-three for every penny of the articles investigated used the three mainstays of timetable, spending plan and concurred scope conveyed. Baccarini and Collins' (2005) think about, utilizing 150 AIPM venture chiefs, decided 45 for every penny of undertaking directors consider venture achievement exclusively as far as these three measures. Roughly 90 for each penny of venture directors engaged with a field investigation of 1650projects distinguished these variables as among the most critical proportions of undertaking achievement. In both writing and best practice venture administration guidelines, for example, the PMBOK (PMI 2000), the three columns are the most regularly referred to key determinants of undertaking

achievement and disappointment (Kutscha 2007). The Standish Group in estimating venture achievement and disappointment utilized these three measures only.

Time and cost are reliably used all through the venture business while the third column has numerous portrayals including concurred scope conveyed, quality, concurred usefulness, wanted level of value, execution, highlights and capacities, conceded to results, scope, determined level of value. The two most utilized depictions in the IT anticipate writing were quality and concurred scope conveyed. The idea of value has become out of aggregate quality administration. The depiction of value differs, with some writing including degree inside quality while PMBOK (PMI 2000) isolates quality and extension into two measures. The meaning of task quality for the most part incorporates some level of consumer loyalty (Tukel and Rom 2001), albeit quality in building writing frequently implies meeting the specialized determination. Client driven task administration (CDPM) joins quality with client inclusion as commonly supporting exercises that expansion the likelihood of delivering consumer loyalty (Barkley & Saylor 2001). Quality as a proportion of achievement seems, by all accounts, to be used by venture teams taking a shot at repeatable exercises and designing activities while conveyance of concurred scope has more acknowledgment for IT anticipates. This investigation chose to use agreed scope conveyed" as the third column in accordance with PMBOK (a main project management reference) and the Standish Group contemplates.

Despite the fact that the three columns show is straightforward, it sadly is likewise shortsighted as they don't cover a huge number of achievement estimates utilized in the cutting edge business world. The accompanying examines a portion of the inadequacies of the three columns. Thamhain (2004) recommends these measures are vital yet additionally that different measures are ending up more critical in the changing business condition, including measures identified with plans, costs, assets, partner fulfilment, hazard, possibility and arrangement for future tasks. Baccarini and Collins (2005) recommend that task achievement estimates comprise of two segments, venture results and undertaking administration. Undertaking results focus on the effect of the last item and estimation criteria centre around addressing and fulfilling the requirements and destinations of proprietors, clients, partners and clients, which the three columns don't cover.

Venture administration achievement measurements fixate consideration on interior task proportions of time, cost, scope, fulfilling partners, proprietors, supporters and clients amid the undertaking, some of which the three columns measure. Agarwal and Rathod (2006) comparatively depict theories inner venture attributes and outer qualities in their investigation of programming utilizing India National Association of Software and Service Companies (NASSCOM) organizations recorded with a high capacity development show (CMM) rating.

White and Fortune (2002) finish up, in light of discoveries from 236 polls returned by venture staff, that whiles the three columns are critical they are not the sole judges of task achievement. Grevins (2002) remarks that activities can neglect to convey any of the three columns and are viewed as effective while different tasks that meet satisfactory accomplishment of the three columns can be viewed as unsuccessful.

The three columns are the most generally utilized undertaking achievement measures. In any case, it isn't all encompassing on the grounds that it concentrates just on inner task results and rejects outer proportions of venture achievement (Robertson 2004). None of the investigations of basic achievement factors evaluated recorded or utilized the three columns as the main proportions of undertaking achievement.

Hence outside venture achievement measures were considered to make, as Robertson depicts (2004), an all-encompassing arrangement of measures. The following sub-area of the writing audit will consider other venture achievement measures to make a more comprehensive

26

rundown, specifically covering both inward and outer undertaking results as opposed to simply inner task results.

#### **CHAPTER THREE**

### **RESEARCH METHODS**

#### **3.1** Introduction

This chapter is dedicated to the methods that were employed in this study. It is made up of the research philosophy, research design, the population of the study, sample size estimation, sampling technique and sampling selection, sources of data, data collection tools and methods, data analysis, ethical consideration and limitations of the study. These methods are explained and the justified why they were used in this study.

#### **3.2 Brief Profile Cases**

Berock Ventures Limited is a Chartered Building and Civil Engineering wholly owned Ghanaian Limited Liability Construction Company registered in Ghana since 1993. As an organization, it is focused on enhancing the personal satisfaction of Ghanaians with the utilization of suitable and supportable infrastructure engagements conveyed in a convenient and quality way. The Company values demonstrable skill and in this manner have a pool of the absolute most qualified, gifted and all around prepared staff to deal with all parts of any development venture to guarantee quality outcomes and opportune conveyance. Berock Ventures has been praised on numerous events for the proficient and opportune execution of its many executed national and international projects covering major building, water, electrification and civil engineering. Berock is ever ready to provide construction services in Road and General Building Construction, Civil and Electrical Works, Suppliers of General Goods, Imports and Exports Services, Import and Sales of Construction Equipment, Facilities Management, Solar Installations, Consultancy in Marketing Civil Works and Large Scale Farming. Antartic Contract Works Constrained is one of the main and dynamic development organizations in Accra, Ghana. It is a Restricted Risk Organization with Enrolment number C9461 and approved to start business on the 17<sup>th</sup>August 1976.Antartic give the most imaginative building frameworks in business recognized in the building innovations industry. Antartic Contract Works Constrained has developed relentlessly as an immediate aftereffect of an overwhelming promise to customer fulfilment. Their expert staff have the information and ability important to succeed locally and all inclusive. Antartic Contract Works Limited is a member of the Ministry of Water Resources, Works and Housing, registered in Financial class 1 in both general Building and Civil engineering works.

Soland 1 Limited was originally formed by Samuel Okai Laryea in 2004 as a subcontractor for PW Ghana Limited. It was grown in many different areas and aspects under PW Ghana until it went dormant for a number of years. However, during its time as a subcontractor to PW Ghana, the company successfully worked on a large number of projects ranging from the construction of the US embassy to working on various mining sites in Ghana and the West African sub-region. Soland was reformed in late 2014 with the coming together of a professional body of people from the construction industry in Ghana. This wealth of knowledge and skills built up from over 20 years of construction experience working on the high-end civil engineering and large scale private projects has meant that very quickly it has become a functioning and effective company. It is this experience and ability that Soland has to offer. This has translated to Soland efficiently completing works to the expected standards whilst complying with the necessary deadlines set out by contractors. Soland 1 Limited is a building, civil works, electrical and mechanical, plumbing and road works construction company. Based out of Accra, Soland was recently reformed in 2014 under the 1963 Companies Act. It is wholly Ghanaian owned whilst hitting the expected international standards that are necessary for any modern Ghanaian company.

#### **3.3** Research Philosophy

This study made use of the post-positivist research philosophy. The post-positivist philosophy holds that knowledge is conjectural and based on deductive logic (Crowther & Lancaster, 2008). This approach ensured that the experiences of the construction workers in the selected firms were accurately recorded and quantified and statistically examined. In light of the more extensive criteria for information adequacy than is the situation of unadulterated positivism, post-positivism is frequently used to depict a way to deal with where a lot of subjective information can be ordered to deliver quantitative information to be broken down utilizing factual techniques. Therefore, this philosophical approach will help to gather in-depth team working experience data for study.

The post-positivist philosophy also allowed the researcher to make use of the quantitative research strategy with a deductive approach.

#### **3.4 Research Design**

The cross sectional case study design was employed in this study. The cross sectional case study design relates to the collection of data at a particular point in time about a phenomenon. This research design was used because the researcher intended to collect data at a particular point in time and also understand through questionnaire administration, the team bonding practices of the teams in the selected firms. It sought to enable an in-depth understanding of a research problem with particular attention to the cases. Mills et al. (2010) define cross sectional case studies as a design that pays attention to details at a point in time than a general survey with little details. They contend that cross sectional case studies are appropriate for studies that intend to gain a deeper understanding of a phenomenon using data collected at one time only.

#### 3.5 **Population**

The study population of this current research was all workers who were directly involved in building projects in Berock Ventures Limited, Antartic Contract Work Limited and Soland 1 Limited. These workers were deemed knowledgeable enough in the area of team building, team relationships and bonding and project execution. That is, all field workers and those directly involved in the execution building projects and in the day-to-day activities of building projects were considered the population of this study.

## 3.6 Sample Size Determination/Selection

The sample size for any study is the total number of items that the researcher selects in order to make generalisation to the population. In this study, the researcher selected 300 team members based on the unknown population sample size calculation formula by Yamane's (1967). This is shown below.

 $\frac{Z^{2*}(p)*(1-p)}{c^{2}}$ Where Z = Z value (e.g. 1.96 for 95% confidence level)

p = percentage picking a choice, expressed as decimal (.5 used for sample size needed)

c = confidence interval, expressed as decimal (e.g.,  $.063 = \pm 63$ )

Therefore, Sample Size (SS) =  $\frac{1.96^2(.5)(1-.5)}{.063^2} = \frac{.9604}{.0032} = 300$ 

The simple random sampling technique by the lottery method was used to select 300 team members or workers in the three selected construction firms. This was made up of 100 workers each from the three firms. This method ensured that all the workers have an equal

chance of being included in the study. This technique assigns equal probability to all cases for their inclusion in the sample.

Regarding selecting the sample, the researcher retrieved the list of such workers from the human resource department of the firms. Based on the list received, numbers were assigned to the subjects who were then written on paper strips. These paper strips for each bank were put into a jar and the sample was randomly selected without replacement from each of the firms.

## 3.7 Sources of Data

In every research, there are two main sources of data. These are the primary data and the secondary data. The primary data is the data collected from the field (the subjects of interest in the study). It is regarded as the first hand data collected for any particular study. This study collected primary data from the sample (workers of Berock Ventures Limited, Soland 1 Limited and Antartic Contract Work Limited).

Secondary data on the other hand is the data for which the original intent for collecting them does not directly relate to a current study. However, it is the data that current studies can benefit from. Secondary sources of data can be text books, reports and other field data which have already been collected for some other purposes.

## 3.8 Data Collection Instrument and Method

The questionnaire was the main data collection instrument used in this study. Questionnaire is a form with a set of questions based on a set of objectives to be achieved. This form is given out to be filled by individuals (self-administered) or the researcher administers it to the sample. The questionnaire was sectioned based on the specific objectives of the study. The first section concentrated on collecting data related to the demographic characteristics of the sample. The other four sections were devoted each to the four main objectives of the study. Some specific questions were asked to answer these specific objectives.

Data collection took the form of researcher-administered questionnaire to the sample. The reason and purpose of the study were explained to the sample before administering the questionnaires to them. The questionnaires contained both open-ended and close-ended questions as well as Likert-scale type of questions. This blend of questioning ensured that relevant and probing questions were asked to elicit responses for the study.

## 3.9 Data Analysis

Collected data was input into data analysis software called Statistical Package for Social Sciences (SPSS version 20). Data entry was followed with data cleaning. After this, frequencies for the various variables were run to ensure that there were no missing data or incorrect data entry. There was univariate data analysis which took the form of frequencies and percentages. This helped give general characteristics of the sample. This was followed by descriptive statistics of means and standard deviation.

### 3.10 Ethical Considerations

Since the firm is a closed organisation, the researcher negotiated entry through appropriate gatekeepers by sending formal letter from the academic department to the selected construction firms for permission to conduct the study. Anonymity was ensured by not taking the names of the research participants during data collection. Also confidentiality was ensured.

#### **CHAPTER FOUR**

#### DATA ANALYSIS, PRESENTATION AND DISCUSSION

#### 4.1 Introduction

This study examines the contribution of team bonding factors to project success. Three construction firms in Ghana were selected for the study. Data was collected from 300 respondents, 100 from each of the selected construction firm. All the questionnaires were retrieved with 100% response rate. This current chapter presents and data collected from the field, analyses the data and discuss in relation to literature and other empirical studies regarding team bonding and project success. It is worth noting that the presentation and discussion of findings is done based on the specific objectives of the study.

## 4.2 Demographic Characteristics of Respondents

From Table 4.1, it can be ascertained that all the respondents had some form of formal education. This simply means that the construction industry is now demanding formal education more than ever before. From the table it can be ascertained that 115 representing 38% had attained middle/JSH certificates. Those who had technical/senior high school education were 85 representing 28%. Exactly 100 respondents representing 34% had undergone tertiary education.

Regarding the number of years, the respondents had spent in the organisation, 20 representing 6% had served their organisation for only year. This is the least number of respondents. This was followed by those who had served for two years to four years who were 74 representing 24%. Hundred respondents representing 34% had served for five to seven years in their current organisation and 28% had served for eight to ten years. Only 8% had served for more

than ten years. This indicates that majority of the respondents had served their organisation for more than five years.

Regarding professional background, 11% of the respondents were project managers and 12 representing 4% were quantity surveyors. Structural engineers were 63 representing 21%. Architects were 45 representing 15% and land surveyors were 60 representing 20%. Those respondents who were health and safety officers were 78 representing 26% and electrical engineers were the least representing 3%.

In terms of role in organisation, most of the respondents were into procurement. They were 78 representing 26%. This was followed by those who were in quality control who were 56 representing 19% and those who were project managers (50 representing 17%). Consulting engineers were 45 representing 15%. Eight percent each were supervisors and resident engineer while resident surveyors were 22 representing only 7%. This means that almost all departments in the construction firms were represented in the sample. This means that any finding that this study will gather is representative of the views and what is actually transpiring in the construction industry.

Highest Level of Education	Frequency	Percent
Middle School/JSS	115	38
SHS/Technical	85	28
Tertiary	100	34
Total	300	100.0
Voorg of Somiag in Organization		_
rears of Service in Organisation	Frequency	Percent
One year	Frequency 20	Percent 6
One year Two to Four years	Frequency 20 74	Percent 6 24
Tears of service in OrganisationOne yearTwo to Four yearsFive to Seven years	Frequency 20 74 100	Percent 6 24 34

 Table 4.1: Demographic Characteristics of Respondents

More than Ten years	26	8
Total	300	100
Professional Background	Frequency	Percent
Project Managers	32	11
Quantity Surveyors	12	4
Structural Engineers	63	21
Architects	45	15
Land Surveyors	60	20
Health and Safety Officers	78	26
Electrical Engineers	10	3
Total	300	100.0
Total Role in Organisation	300 Frequency	100.0 Percent
Total         Role in Organisation         Project Managers	<b>300</b> <b>Frequency</b> 50	<b>100.0</b> <b>Percent</b> 17
TotalRole in OrganisationProject ManagersConsulting Engineers	<b>300</b> <b>Frequency</b> 50 45	<b>100.0</b> <b>Percent</b> 17 15
TotalRole in OrganisationProject ManagersConsulting EngineersResident Engineers	<b>300</b> <b>Frequency</b> 50 45 24	100.0         Percent         17         15         8
TotalRole in OrganisationProject ManagersConsulting EngineersResident EngineersResident Surveyors	<b>300</b> <b>Frequency</b> 50 45 24 22	100.0         Percent         17         15         8         7
TotalRole in OrganisationProject ManagersConsulting EngineersResident EngineersResident SurveyorsProcurement	<b>300</b> <b>Frequency</b> 50 45 24 22 78	100.0         Percent         17         15         8         7         26
TotalRole in OrganisationProject ManagersConsulting EngineersResident EngineersResident SurveyorsProcurementSupervisors	<b>300</b> <b>Frequency</b> 50 45 24 22 78 24	100.0         Percent         17         15         8         7         26         8
TotalRole in OrganisationProject ManagersConsulting EngineersResident EngineersResident SurveyorsProcurementSupervisorsQuality Control	<b>300 Frequency</b> 50 45 24 22 78 24 56	100.0         Percent         17         15         8         7         26         8         19

Source (Field Data, 2018)

## 4.3 Factors Considered as Inducing Team Bonding by Team Members

Likert scale items were presented to the respondents to answer in order of agreement from strongly disagree to strongly agree with neutral being unsure of level of agreement to factors considered as affecting team bonding in their firms. Their responses were used to calculate descriptive statistics of means and standard deviation which is presented in Table 4.2. Based on the value of the mean, the responses were ranked from the most significant in affecting team bonding to the least in affecting team bonding.

From the Table 4.2, it can be observed that respect for team members was highly regarded as affecting team bonding with a mean score of 4.77 and standard deviation of 1.088. Ling et al. (2008) argue that respect within teams contribute immensely to the team's ability to exchange information and work together harmoniously to achieve project objectives. This means that trust increases team bonding and contributes to project success. This was followed by understanding among team members which also had a mean value of 4.57 and a standard deviation of 1.362. This means that respect for team members and understanding among team members is highly regarded as affecting team bonding.

Other two highly regarded factors affecting team bonding as per the responses of the respondent are learning from each team members and trust among team members. These two factors had mean values of 4.11 and 4.14 respectively and standard deviation values of 1.247 and 1.227 respectively.

Those factors which were moderately ranked by the respondents were regular communication and speed, addressing grievances timely, high technical expertise within the team, constructive criticisms within the team, team loyalty, protecting integrity of team members, and concern for wellbeing of team members. This is because these factors had mean values of less than 4.00 but more than 2.00. Therefore, though the respondents considered these factors affecting team bonding, they did not rank these factors highly like the other first four factors.

Regarding the least of effects on team bonding, only three factors were outlined by the respondents. These factors are substituting for a team member in his/her absence, effective supervision and effective project time management. This means that these three factors do not significantly affect team bonding since their mean values are less than 3.00.

Table	4.2:	Descriptive	Statistics:	Factors	Considered	as	Affecting	Team	Bonding	by
Team	Men	nbers								

Descriptive Statistics								
	N	Min	Max	Mean	Std.			
					Deviation			
Respect for team members	300	1	5	4.77	1.088			
Understanding among team members	300	1	5	4.57	1.362			
Trust among team members	300	1	5	4.14	1.227			
Learning from each team member	300	1	5	4.11	1.247			
Regular communication and speed	300	1	5	3.09	1.284			
Addressing grievances timely	300	1	5	3.89	1.277			
High technical expertise within the team	300	1	4	3.58	2.015			
Constructive criticisms within the team	300	1	5	3.47	1.245			
Team loyalty	300	1	4	3.44	1.243			
Protecting integrity of team members	300	1	5	3.40	1.111			
Concern for wellbeing of team members	300	1	4	3.33	1.654			
Substituting for a team member in	300	1	5	2.78	1.231			
his/her absence								
Effective supervision	300	1	5	2.67	2.023			
Effective project time management	300	1	5	2.62	2.354			
Valid N (listwise)	300							

Source (Field Data, 2018)

From the Table 4.2, the study found that four factors were highly ranked as inducing team bonding factors. These factors are respect for team members, understanding among team members, trust among team members and learning from each team member. These observations are in agreement with the reviews of Choi (2002). However, there are other factors which were also considered as impacting team bonding factors moderately. These are regular communication and speed, addressing grievances timely, high technical expertise within the team, constructive criticisms within the team, team loyalty, protecting integrity of team members and concern for wellbeing of team members.

### 4.4 Challenges to Factors Affecting Team Bonding

In terms of the factors affecting team bonding factors, five factors were highly rated as affecting the factors of team bonding. These highly rated factors had mean values of more than 4.00. These five factors are mistrust, reshuffling of team members, delay in communication, lack of consensus on project objectives and suspicion of bad acts by team members. Their mean values are 4.40, 4.30, 4.24, 4.22 and 4.12 as seen in Table 4.3. This simply indicates that if there are anything that can destroy good team bonding, then it is these factors. Delays in communication will likely affect regular communication and speed of communication which will negatively affect team bonding. Suspicion of bad acts by team members will also result in lack of trust which will affect group learning from each other.

Factors also considered by the respondents as moderately affecting team bonding factor were also five. These factors also had mean values of less than 4.00 but more than 3.00. These factors are acts lacking integrity, poor time management by team members, inexperienced team leader, misinformation and team division into factions. These factors were rated by the respondents as moderately affecting team bonding factors. It is worth noting that poor time management by team members can result in stalling projects and also resulting in shoddy work being done. These factors as outlined by the respondents had mean values of 3.78, 3.65, 3.63, 3.34, and 3.11.

Factors which were not highly or moderately considered by the respondents as impacting negatively on team bonding factors were four. It is worth noting that these last four factors had mean values of less than 3.00. These factors are inadequate logistical support, management interference with team activities, inadequate project funding, and low financial motivation. This is shown in Table 4.3.

Descriptive Statistics								
	Ν	Min	Max	Mean	Std.			
					Deviation			
Mistrust	300	1	5	4.40	1.453			
Reshuffling of team members	300	1	5	4.30	1.333			
Delay in communication	300	1	5	4.24	1.254			
Lack of consensus on project objectives	300	1	5	4.22	1.982			
Suspicion of bad acts	300	1	5	4.12	2.221			
Acts lacking integrity	300	1	4	3.78	1.242			
Poor time management by team	300	1	5	3.65	2.451			
members								
Inexperienced team leader	300	1	4	3.63	1.365			
Misinformation	300	1	5	3.34	2.342			
Division into factions	300	1	4	3.11	2.112			
Inadequate logistical support	300	1	5	2.48	1.578			
Management interference with team	300	1	5	2.34	2.465			
activities								
Inadequate project funding	300	1	5	2.21	1.243			
Low financial motivation	300	1	5	2.01	2.458			
Valid N (listwise)	300							

### Table 4.3: Descriptive Statistics: Challenges to Factors Affecting Team Bonding

Source (Field Data, 2018)

From the Table 4.3, the study shows that regarding challenges affecting the team bonding factors, highly rated challenges according to the respondents are mistrust, reshuffling of team members, delay in communication, lack of consensus on project objectives and suspicion of bad acts. Other moderately challenging factors found by the study are acts lacking integrity poor time management by team members, inexperienced team leader, misinformation, division into factions. This deduction adds to existing knowledge and buttress reviews and studies by Luca and Tarricone (2001)

#### 4.5 Factors Affecting Team Bonding on Project Success

In terms of how the factors affecting team bonding are able to affect project success, five factors were outlined as very important in affecting project outcomes positively. First on the rank is the response that team members are able to manage scarce resources to achieve project objectives. Internal group monitoring leading to project success was also envisaged by the respondents as being impacted by team bonding factors. Other positive and highly ranked outcome of team bonding factors are objective evaluation of team work, cordial working relationship and timely execution of individual tasks by team members. These five positive outcomes of team bonding factors had mean values of more than 4.00.

Moderately ranked outcome of team bonding factors are Projects are executed on time, team bonding produces coordination for project success, interdependence leading to successful projects, team bonding reduces miscellaneous costs and team bonding affects project success through dedication. These outcome factors had mean values of less than 4.00 but more than 3.00. Their mean values are 3.69, 3.65, 3.58, 3.44, and 3.01. Those outcome factors that are not highly ranked by the respondents and with mean values of less than 3.00 are Project success is achieved through adherence to standards through team bonding, setting of specific objectives by team members, positive appraisal from project supervisors, project specifications are met, division of labour. This is shown in Table 4.4.

Descriptive Statistics								
	Ν	Min	Max	Mean	Std.			
					Deviation			
Manage scarce resources to achieve project objectives	300	1	5	4.38	1.453			
Internal group monitoring leading to project success	300	1	5	4.27	1.333			
Objective evaluation of team work	300	1	5	4.11	1.254			
Cordial working relationship	300	1	5	4.07	1.982			
Timely execution of individual tasks by team members	300	1	5	4.01	2.22			
Projects are executed on time	300	1	4	3.69	1.242			
Team bonding produces coordination for project success	300	1	5	3.65	2.451			
Interdependence leading to successful projects	300	1	4	3.58	1.365			
Team bonding reduces miscellaneous	300	1	5	3.44	2.342			
costs								
Team bonding affects project success	300	1	4	3.01	2.112			
through dedication								
Project success is achieved through	300	1	5	2.34	1.578			
adherence to standards through team								
bonding								
Setting of specific objectives by team	300	1	5	2.27	2.465			
members								
Positive appraisal from project	300	1	5	2.22	1.243			
supervisors								
Project specifications are met	300	1	5	2.12	2.458			
Division of labour	300	1	5	2.11	2.434			
Valid N (listwise)	300							

## Table 4.4: Descriptive Statistics: Factors Affecting Team Bonding on Project Success

Source (Field Data, 2018)

\_

From the Table 4.4, the study shows that in terms of how the factors affecting team bonding are able to affect project success, management of scarce resources to achieve project objectives, internal group monitoring leading to project success, objective evaluation of team work, cordial working relationships and timely execution of individual tasks by team members are the major causative factors affecting the contribution to project success. Again, projects being executed on time, team bonding producing coordination for project success, interdependence leading to successful projects, team bonding reducing miscellaneous costs and team bonding affecting project success through dedication were found to be of relatively considerable importance.

#### CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This concludes the chapters of this research. It sums up the key findings within study, conclusion and then give recommendations according to the findings of the study. It is noteworthy that this study was a case study and collected data from 300 respondents who were workers in three construction firms within the construction industry in Ghana. The main objective of this study was to examine the contribution of team bonding factors to project success. Three main objectives were set for this study. The summary of the key findings is presented for reader comprehension and appreciation based on the specific objectives set for the study

## 5.2 Achievement of Research Objectives

This section presents the summary for the data collected from the sample of the study and shows how they met the objectives of the research. The study gathered that all the respondents had some form of formal education with the least attaining Junior High School and the highest being tertiary. Regarding the years of working in their firms, majority of the respondents had worked for their firm for more than five years while very few had work for less than five years. There were diverse professional backgrounds of the respondents who took part in this study. The professional backgrounds ranged from Project Managers, Quantity Surveyors, Structural Engineers, Architects, Land Surveyors, Health and Safety Officers to Electrical Engineers. There were so many roles in the organisation which included consulting engineers, resident engineers, and procurement experts.

#### 5.2.1 Factors Considered as Inducing Team Bonding by Team Members

The study found that four factors were highly ranked as inducing team bonding factors. These factors are respect for team members, understanding among team members, trust among team members and learning from each team member. However, there are other factors which were also considered as impacting team bonding factors moderately. These are regular communication and speed, addressing grievances timely, high technical expertise within the team, constructive criticisms within the team, team loyalty, protecting integrity of team members and concern for wellbeing of team members.

## 5.2.2 Challenges to Factors Affecting Team Bonding

Regarding challenges affecting the team bonding factors, highly rated challenges according to the respondents as found by this study are mistrust, reshuffling of team members, delay in communication, lack of consensus on project objectives and suspicion of bad acts. Other moderately challenging factors found by the study are Acts lacking integrity poor time management by team members, inexperienced team leader, misinformation, division into factions.

## 5.2.3 Factors Affecting Team Bonding on Project Success

In terms of how the factors affecting team bonding are able to affect project success, the study found management of scarce resources to achieve project objectives, internal group monitoring leading to project success, objective evaluation of team work, cordial working relationships and timely execution of individual tasks by team members, to be of prime relevance. Again, projects being executed on time, team bonding producing coordination for project success, interdependence leading to successful projects, team bonding reducing miscellaneous costs and team bonding affecting project success through dedication were

found to be relatively important factors contributing to how team bonding affects project success.

### 5.3 Conclusion

This study examines the contribution of team bonding factors to project success. The study specifically identifies factors considered as inducing team bonding by team members, determine challenges to the factors affecting team bonding and determine how factors affecting team bonding affects project success. The study has established that formal education is very important in the construction industry and those factors such as respect for team members, trust and understanding among team members are factors of team bonding. Challenges that affect team bonding factors are mistrust and delay in communication among others.

### 5.4 **Recommendations**

Based on the findings of the study, the following recommendations are proffered;

Since the study found that reshuffling of team members affects the team bonding and consequently construction projects, it is recommended reshuffling of construction project team members should be kept to the minimum. This is because it takes time for team members to bond and know each other, therefore constant reshuffling will inevitably disturb the internal coherency and consensus with the team. New members will have to adjust to old members and then start the whole team bonding process again. This can affect project success.

Secondly it is recommended that team leaders build capacity and experience from other experienced team leaders since the study found that inexperienced team leaders result as a challenge to team bonding factors. This can likely affect the progress of projects and project success. There should be regular training of team leaders in team building and team management related issues.

Again, communication gadgets and channels should be made available to the team members since communication challenges affect team bonding and consequently project success in the construction industry.

#### REFERENCES

Adair, J. (1983). Effective Leadership. London: Pan.

- Agarwal, N. & Rathod, U. (2006). Defining "Success" for Software Projects: An Exploratory Revelation. International Journal of Project Management, 24(1), 358-70.
- Ahadzie, D. K. (2009). Ghana in need of Construction Industry Development Agenda, Centre for Settlements Studies. Kwame Nkrumah University of Science and Technology, Kumasi.
- Alshawi, M., & Faraj, I. (2002). Integrated construction environments: technology and implementation. *Construction Innovation*, 2(1), 31-51.
- Amoah, P. et al. (2011). The Factors affecting construction performance in Ghana. The perspective of small-scale building contractors: Ghana Institution of Surveyors. *Journal, The Ghana Surveyor, 4*(1), 41-48.
- Andrew R. J., Bryman, A., Price, A. D. F., Greasley, K., Soetanto, R., & King, K. (2005).
  Project affinity: the role of emotional attachment in construction projects. *Construction Management and Economics*, 23(3), 241-244, DOI: 10.1080/01446190500040596.
- Ankrah, N. A. & Langford, D. A. (2005). Conflicts between project participants. *Construction Management and Economics*, 23(6), 595-607.
- Baccarini, D. & Collins, A. (2005). The concept of project success what 150 Australian project managers think', *Australian Institute of Project Management*, pp. 19-22.
- Barkley, B. & Saylor, J. (2001). Customer-Driven Project Management Building Quality into Project Processes. New York: McGraw-Hill.
- Barrick, M. R., Stewart, G. L., Neubert, J. M., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. Journal of Applied Psychology, 83, 377-391.
- Barsade S. G., & Gibson D. E. (1998). Group emotion: a view from top and bottom. Research on Managing Groups and Teams. MA Neale, EA Mannix, 81–102.

- Beich, E. (Ed.). (2001). *The Pfeiffer book of successful team-building tools*. San Francisco, CA: Jossey-Bass/Pfeiffer.
- Bryman, A. & Bell, E. (2007). Writing up business research. In: Business Research Methods. New York. Oxford University Press. P. 691-723.
- Burke, K., & Chidambaram, L. (1994). Development in electronically-supported groups: A preliminary longitudinal study of distributed and face-to-face meetings. Paper presented at the *Proceedings of the Twenty-Seventh Annual Hawaii International Conference on System Sciences*, 104-13. Retrieved from http://dx.doi.org/10.1109/HICSS.1994.323495
- Busseri, M. A., Palmer, J. M., & Martin, T. (2000). Improving teamwork: the effect of selfassessment on construction design teams. *Design Studies*, 21, 223-238.
- Camilleri, E. (2011). Project Success: Critical Factors and Behaviours. Gower Publishing Ltd., Surrey.
- Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. Personnel Psychology, 46(1), 823–850.
- Cantu, C. J. (2007). *Evaluating team effectiveness: Examination of the TEAM Assessment Tool.* Thesis, presented to University of North Texas, TX, in a partial fulfilment of the requirements for the degree of Doctor of Philosophy.
- Caskie Lewis-Clapper, R. (1992). The roles of team skills training and team building in improving performance. Paper presented at the *Proceedings of 1992 IEEE 5th Human Factors and Power Plants*, 356-8. Retrieved from http://dx.doi.org/10.1109/HFPP.1992.283383
- Choi, J. N. (2002). External activities and teameffectiveness: Review and theoretical development. *Small Group Research*, *33*(2), 181-208.
- Chow, L. J., Then D., & Skitmore, M. (2005). Characteristics of teamwork in Singapore construction projects. *Journal of Construct Research*, 6(1), 15-46.
- Citera, M. (1998). Distributed teamwork: The impact of communication media on influence and decision quality. *Journal of the American Society for Information Science*, 49(9),

792-800. Retrieved from http://dx.doi.org/10.1002/(SICI)1097-4571(199807)49:9<792::AIDASI4>3.0.CO;2-N

Cleland, D. I. (1996). Strategic Management of Teams. Wiley-IEEE, 292.

- Cohen, S. G., & Bailey, D. E. (1997). What Makes Teams Work: Group Effectiveness Research from the Shop Floor to the Executive Suite. *Journal of Management*, 23(3), 239-290.
- Cornick, T., & Mather, J. (1999). *Construction Project Teams: Making Them Work Profitable*. London: Thomas Telford.
- Crowther, D. & Lancaster, G. (2008). Research Methods: A Concise Introduction to Research in Management and Business Consultancy. Oxford: Butterworth-Heinemann.
- de Carvalho, M. & Patah, L., & Bido, D. (2015). Project management and its effects on project success: Cross-country and cross-industry comparisons. *International Journal* of Project Management, 33(2). 10.1016/j.ijproman.2015.04.004.
- Dinsomore, P. C. & Cooke-Davies, T. J. (2006). *Right Projects Done Right: From Business* Strategy to Successful Project Implementation. San Francisco: Jossey-Bass.
- Doyle, M. (1991). Cross-functional implementation teams. Purchasing World, 35(2), 20-21.
- Dyer, W. (1987). *Team-building: Isuues and alternatives* (2nd ed.). Reading, MA: Addison Wesley.
- Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44, 350-383.
- Emmit, S. and Gorse, C. (2007). *Communication in Construction Team*. Taylor & Francis, Oxon, 298.
- Espinosa, A., Lerch, F. J., Kraut, R. E., Salas, E., & Fiore, S. M. (2004). Explicit vs. implicit coordination mechanisms and task dependencies: one size does not fit all. Team cognition: understanding the factors that drive process and performance. American Psychological Association, Washington, DC, 107-129.

- Fan, L. Q., Senthil Kumar, A., Jagdish, B. N., & Bok, S. H. (2008). Development of a distributed collaborative design framework within peer-to-peer environment. *CAD Computer Aided Design*, 40(9), 891-904. Retrieved from http://dx.doi.org/10.1016/j.cad.2008.05.006
- Festinger, L. (1950). Informal social communication. Psychological Review, 57(1), 271-282.
- Figl, K., Bauer, C., & Mangler, J. (2006). Online versus face-to-face peer team reviews. Paper presented at the *Frontiers in Education 36th Annual Conference*, 6.
- Forsberg, K., Mooz, H., & Cotterman, H. (2005). Visualizing project management: models and frameworks for mastering complex systems. John Wiley and Sons, 454.
- Gido, J. & Clements, J. P. (2011). Successful ProjectManagement. 5th Edn., Cengage Learning, New York.
- Grevins, J. (2002). Project virtuality effects on project team processes and project success, State University of New York, New York.
- Hackman, J. R. (1987). The design of work teams. Inj. w. lorsch (ed.), Handbook of organizational behaviour (pp. 315-342).
- Harris, C. (2008). An overview of team effectiveness. <www.pyramidodi.com/papers/teameff.pdf > (January 5th, 2010)
- Hartman, F. & Ashrafi, R. (2002), Project Management in the Information Systems and Information Technology Industries. *Project Management Journal*, *33*(3), 5-15.
- Henderson, S., & Walkinshaw, O. (2002). Command team assessment: Principles, guidance and observations. QinetiQ: Fort Halstead.
- Hernon, P. & Rossiter, N. (2006). *Making a Difference: Leadership and Academic Libraries*. Libraries Unlimited, USA.
- Hollingshead, A. B. (1998). Communication, learning, and retrieval in transactive memory systems. *Journal of Experimental Social Psychology*, *34*, 423-442.
- Huang, W., Wei, K. K., Bostrom, B., Lim, L. H., & Watson, R. T. (1998). Supporting distributed team-building using GSS: A dialogue theory-based framework. Paper presented at the *Proceedings of the Thirty-First Hawaii International Conference on*

*System Sciences, 1* 98-107. Retrieved from http://dx.doi.org/10.1109/HICSS.1998.653089

- Jackson, S. E., Joshi, A. & Erhardt J. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management*, 29(6), 801-830.
- Jehn, K. A., & Bendersky, C. (2003). Intragroup conflict in organizations: A contingency perspective. Research in Organizational Behavior, 25, 189–244.
- Katzenback, J. R., & Smith, D. K. (2003). *The wisdom of teams. Harvard Business School Press, Boston.* Harper Business Essentials, New York, 320.
- Kelly J. R., & Barsade S. G. (2001). Mood and emotions in small groups and work teams. Organ. Behav. Hum. Decis. Process. 86, 99–130.
- Kerzner, H. R. (2013). Project Management: A Systems Approach to Planning, Scheduling and Controlling. 11<sup>th</sup> Edn., Wiley, New Jersey.
- Kerzner, H.R. and Saladis, F.P. (2013). Project Management Workbook and PMP/CAPM Exam Study Guide. 11th Edn., Wiley, New Jersey.
- Kirschman, J. S., & Greenstein, J. S. (2002). The use of groupware for collaboration in distributed student engineering design teams. *Journal of Engineering Education*, 91(4), 403-407.
- Knoll, K., & Jarvenpaa, S. (1995). Learning to work in distributed global teams. Paper presented at the *Proceedings of the Twenty-Eighth Annual Hawaii International Conference on System Sciences*, 4 92-101. Retrieved from http://dx.doi.org/10.1109/HICSS.1995.375740.
- Kozlowski, S., & Bell, B. (2003). Handbook of psychology: Industrial and organizational psychology. W. Borman and D. Ilgen, New Wily & Sons, Inc, New York, 333-375.
- Kutscha, E. (2007). The measurement of performance in IT projects, *International Journal Electronic Business*, 5(4), 415-26.
- Lavrakas, P. J. (2008). *Encyclopedia of survey research methods* Thousand Oaks, CA: SAGE Publications Ltd doi: 10.4135/9781412963947.

- Ling, Y., Simsek, Z., Lubatkin, M. H., & Veiga, J. F. (2008). Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEOTMTinterface.
- Luca, J., & Tarricone, P. (2001). Does emotional intelligence affect successful teamwork? Proceedings of the18th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education at the ASCILITE, p. 367 – 376, Melbourne: University of Melbourne.
- Marks, M. A., Zaccaro, S. J., & Mathieu, J. E. (2000). Performance implications of leader briefings and team interaction training for team adaptation to novel environments. *Journal of Applied Psychology*, 85, 971-986.
- McCorcle, M. (1982). Critical issues in the functioning of interdisciplinary groups. *Small Group Research*, *13*(1), 291-310.
- McGrath, J. E. (1964). Social psychology: A brief introduction. Holt, Rinehart and Winston
- McLaughlin, M., & Peyser, G. (2004). *The new encyclopedia of icebreakers*. San Francisco, CA: Wiley.
- Mills, A. J., Durepos, G. & Wiebe, E. (2010). *Encyclopaedia of case study research* Thousand Oaks, CA: SAGE Publications Ltd doi: 10.4135/9781412957397.
- Mitra, S. & Tan, A. W. K. (2012). Lessons learned fromlarge construction project in Saudi Arabia. *Benchmarking: International Journal*, *19*(3), 308-324.
- Mohammed, S., & Dumville, B. C. (2001). Team mental models in a team knowledge framework: Expanding theory and measurement across disciplinary boundaries. *Journal of Organizational Behavior*, 22, 89-106.
- Mohrman, S. A., Cohen, S. G., and Mohrman, A. M. (1995). *Designing team-based* organizations: new forms for knowledge work. Jossey-Bass, San Francisco, 389.
- Molleman, E., Nauta A. and Jehn, K.A. (2004). Personjob fit applied to teamwork: A multilevel approach.*Small Group Research*, *35*(5), 515-539.
- Morgan, B. B., Salas, E., & Glickman, A. S. (1993). An analysis of team evolution and maturation. *Journal of General Psychology*, *120*, 277-291.

- Nawaz, A., Ghafoor, M. M., & Munir, Y. (2016). The Impact of Project Leadership and Team Work on Project Success. *International Journal of Humanities and Social Science*, 6(11), 270-278.
- Parker, G. M. (2008). *Team Players and Teamwork: New Strategies for Developing Successful Collaboration*. 2nd Edn., Jossey-Bass, SanFrancisco.
- PMI (2000). A Guide to the Project Management Body of Knowledge (PMBOK® Guide),
  2000 edn, Project Management Institute, Inc., Newtown Square, Pennsylvania USA.
- Pratt, D. (2010). *Pragmatic Project Management: Five Scalable Steps to Success*. Management Concepts, Vienna, VA.
- Rad, P.F. and Levin, G. (2006). *Project Portfolio Management Tools and Technique*. International Institute for Learning, New York.
- Rameezdeen, R. & Gunarathna, N. (2003). Disputes and Construction Industry Cultures. CDR241-CDR248.
- Rani, S. (2004). Bioequivalence: An overview of statistical concepts. *Indian Journal of Pharmacology*, 36(4), 209-216.
- Robertson, R. (2004). An empirical study of the relationship between the health of project teams and their overall performance', Doctor of Philosophy thesis, University of Alabama.
- Shenhar, A. J., Dvir, D., Levy, O. & Maltz, A. C. (2001). Project success: A multidimensional strategicconcept. *Long Range Planning*, *34*(2), 699-725.
- Spatz, D. M., (2000). Team-building inconstruction. *Practice Periodical Struct. Des. Construct.*, 5(3), 93-105.
- Standifer, R. L., Raes, L. R., Peus C., Passos, A. M., Santos, C. M., & Weisweiler, S. (2015). Time in teams: cognitions, conflict and team satisfaction. *Journal of Managerial Psychology*, 30(6), 692 – 708.
- Sumner, M., & Hostetler, D. (2000). A comparative study of computer conferencing and face-toface communications in systems design. Paper presented at the *Proceedings of*

*Computer Personnel Research 2000 Conference*, 93-9. Retrieved from http://dx.doi.org/10.1145/333334.333361

- Thamhaim, H. J. (2004). Linkages of project environment to performance: lessons for team leadership. *International Journal of Project Management*, 22(7), 533-44.
- Tuckman, B. (1965). Development sequence in small groups. *Psychological Bulletin, 63*, 384-399.
- Tukel, O. & Rom, W. (2001). An empirical investigation of project evaluation criteria. International Journal of Operation & Production, 21(3), 400-409.
- Uher, T. E., & Loosemore, M. (2004). *Essentials of Construction Management*. UNSW Press, Sydney, Australia, 408.
- Vinsonhaler, J. F., Braunstein, L., Boman, R., Johnson, J. J., Henderson, D., & Gilliland, R. (1998). A comparison of collaborative problem solving using face to face versus desktop video conferencing. Paper presented at the *Proceedings of the Thirty-First Hawaii International Conference on System Sciences*, 1 127-34. Retrieved from http://dx.doi.org/10.1109/HICSS.1998.653092
- Wegner, D. M. (1986). Transactive memory: A contemporary analysis of the group mind. B.Mullen & G. R. Goethals (Eds.). *Theories of group behavior* (pp. 185-208). New York: Springer-Verlag.
- Weinrich, K., & Simmons, W. (1998). *Team-building: Participant's workbook*. Unpublished manuscript.
   Retrieved Feb. 4 2009, from http://www.stxd.org/PGI/Web%20Workshops/Team\_building-participant.pdf
- White, D & Fortune, J (2002). Current Practices in project management an empirical study. *International Journal of Project Management*, 20(1) 1-11.
- Winch, G.M., (2009). Managing Construction Projects.2nd Edn., Wiley-Blackwell, Singapore.
- Yamane, T., (1967), *Statistics: An Introductory Analysis*(2<sup>nd</sup>Ed.). New York: Harper and Row.

Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. Leadership Quarterly, 12, 451-483.

## APPENDIX

## **QUESTIONNAIRE**

## Dear Respondent,

This survey is an inquiry into the contribution of team bonding practices to project success. I will be grateful if you will take time to respond to the questions in the questionnaire. The responses you provide will help in developing and promoting appropriate team bonding practices and recommendations for project success in your firm and the industry as a whole. Please be assured that all the information you provide will be held in confidence and used only for the said purpose. Thank you for your time.

**INSTRUCTIONS:** From the list of questions below, some pre-determined responses have been provided. Please <u>tick</u> the most appropriate response to each question. Where applicable, please provide in writing any other response that was not captured in the categories provided.

## SECTION A: SOCIO DEMOGRAPHIC DATA

- 1. Highest level of education [] Middle school/JSS [] SHS/Technical [] Tertiary
- 2. Years of service in organisation [] One [] 2-4 [] 5-7 [] 8-10 [] More than 10
- 3. Professional background .....
- 4. Role in organisation \_\_\_\_\_

## FACTORS CONSIDERED TO AFFECTTEAM BONDING BY TEAM MEMBERS

From the table below, on a scale of one representing strongly disagree through to five representing strongly agree, please indicate your level of agreement by ticking the appropriate box under each statement as inducing team bonding.

s/n	Factors	1	2	3	4	5
1	Trust among team members					
2	Regular communication and speed					
3	Understanding among team members					
4	High technical expertise within the team					
5	Respect for team members					
6	Constructive criticisms within the team					
7	Concern for wellbeing of team members					
8	Addressing grievances timely					

9	Protecting integrity of team members			
10	Effective supervision			
11	Effective project time management			
12	Learning from each team member			
13	Team loyalty			
14	Substituting for a team member in his/her absence			

## CHALLENGES TO FACTORS AFFECTING TEAM BONDING

From the table below, on a scale of one representing strongly disagree through to five representing strongly agree, please indicate your level of agreement by ticking the appropriate box under each statement as team bonding challenge.

s/n	Challenges	1	2	3	4	5
15	Suspicion of bad acts					
16	Acts lacking integrity					
17	Division into factions					
18	Inadequate project funding support					
19	Reshuffling of team members					
20	Inadequate logistical support					
21	Mistrust					
22	Management interference in team activities					
23	Misinformation					
24	Delay in communications					
25	Laziness on the part of some team members					
26	Low financial motivation					
27	Lack of consensus on project objectives					
28	Poor time management by team members					
29	Inexperienced team leader					

## FACTORS AFFECTING TEAM BONDING ON PROJECT SUCCESS

From the table below, on a scale of one representing strongly disagree through to five representing strongly agree, please indicate your level of agreement by ticking the appropriate box under each statement on how team bonding affects project success.

s/n	Project Success	1	2	3	4	5
30	Cordial working relationship					
31	Timely execution of individual tasks by team members					
32	Projects are executed on time					
33	Positive appraisal from project supervisors					

34	Project specifications are met			
35	Manage scarce resources to achieve project objectives			
36	Internal group monitoring leading to project success			
37	Objective evaluation of team work			
38	Setting of specific objectives by team members			
39	Team bonding produces coordination for project success			
40	Interdependence leading to successful projects			
41	Division of labour			
42	Team bonding affects project success through dedication			
43	Team bonding reduces miscellaneous costs			
44	Project success is achieved through adherence to standards			
	through team bonding			

Thank You