

CHRISTIAN SERVICE UNIVERSITY COLLEGE

**EVALUATION OF PROJECT MANAGEMENT PRACTICES ON
EFFECTIVE IMPLEMENTATION OF ROAD PROJECTS IN THE
WESTERN NORTH REGION OF GHANA: A CASE STUDY OF THE
BENCHEMA JUNCTION-ADJOAFUA ROAD PROJECT.**

BY

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REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE
IN CORPORATE PLANING AND GOVERNANCE**

SEPTEMBER 2023

DECLARATION

STUDENT'S DECLARATION

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this University or any other University.

Candidate's Signature Date

Name: Louis Owusu Agyepong

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of the dissertation laid down by Christian Service University College.

Supervisor's Signature..... Date

Name: Dr. Joseph Kofi Nkuah

ABSTRACT

The purpose of this study was to examine the effect of Project Management Practices on effective implementation of road construction Projects in Western North Region of Ghana. This study adopted a descriptive survey design. The target population of the study were the capital-intensive building construction projects undertaken by the licensed architectural, quantity surveyor firms and engineering firms, who totaled to 703. The study used stratified sampling to select 96 projects. The sample size was calculated using Krejcie and Morgan's formula. This study used primary data which was collected through use of a questionnaire. The questionnaires were self-administered with the help of research assistants. Inferential and Descriptive statistics such as percentages, mean and standard deviations were used to perform data analysis. After data had been collected through questionnaires, it was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into statistical package for social sciences (SPSS) computer software for analysis. The study finding was that resource planning, monitoring, top management support and communication were significantly and positively related with effective implementation of road construction projects of the Western North region of Ghana. The study recommends the management of firms undertaking building construction projects to set up rules and regulations that will guide the adoption of these management practices in order to effectively implement the projects they undertake. They should make objectives that incorporate these practices. The study also recommends that the agents regulating the firms undertaking road projects to formulate policies that will ensure that proper management practices are adopted in these firms. They can also support the firms by providing training programs for the management to train on these aspects.

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DEDICATION

This work is dedicated to my wife and children who have been an inspiration to me towards achieving this feat.



TABLE OF CONTENTS

DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
DEDICATION	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER ONE	1
INTRODUCTION	1
Background of Study	1
Problem Statement	3
General Objectives of the Study	5
Specific Objectives	5
Research Questions	6
Significance of the Study	6
Scope of the Study	7
Limitation of the Study	7
Organisation of the Study	8
Definition of Terms	8
CHAPTER TWO	11
LITERATURE REVIEW	11
Introduction	11
Background	11
Overview of Road Construction Industry in Ghana	12
Extension of Time Claims	13
Theoretical Framework	15
Resource Mobilization Theory	15
Conceptual Framework	17
The Project Life Cycle and the Project Cycle Management	17
Project Management	19

Monitoring and Evaluation	20
Project's Success Factors	22
Factors Affecting Project Success	24
Planning	24
Theory of Planning	25
Time, Cost and Quality Factors	27
Empirical Literature Review	30
Factors Contributing to Extension of Time	30
Summary of Literature Review	33
CHAPTER THREE	35
RESEARCH METHODOLOGY	35
Background	35
Research Design and Approach	35
Population of Study	35
Sampling Technique	36
Data Collection	36
Pilot Testing of the Instruments	36
Data Analysis	37
Ethical Consideration	37
Profile of Study Area	37
Administrative Divisions	38
Population	39
Climate (Temperature and Rainfall)	39
Vegetation	40
Relief and Drainage	40
CHAPTER FOUR	42
PRESENTATION OF DATA, ANALYSIS AND DISCUSSION	42
Introduction	42
Background Information of Respondents	42
Gender	42
Correlation and Regression Analysis	44

Research Question One: Regression Analysis for Resource Planning and Effective Implementation of Road Construction Projects	45
Research Question two: Influence of monitoring on effective project implementation.	46
Regression Analysis for Monitoring and Effective Implementation of Road Construction Projects	47
Research Question three: Influence of Top Management Support on Effective Project Implementation.	48
Regression Analysis for Top Management Support and Effective Implementation of Road Construction Projects	49
Regression of Coefficient Results for Top Management Support and Effective Implementation of Road Construction Projects were further shown.	50
Research Question 4: Influence of Communication on Effective Project Implementation	50
Regression Analysis for Communication and Effective Implementation of Road Construction Projects	51
Overall Regression Analysis	52
CHAPTER FIVE	55
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	55
Introduction	55
Summary of Key Findings	55
Conclusions And Recommendation	56
Conclusion	56
Recommendation	57
REFERENCES	59
APPENDIX	64

LIST OF TABLES

Table 1: Gender	43
Table 2: Work Experience of Respondents	43
Table 3: Educational Background of Respondents	44
Table 4: Correlation Analysis	45
Table 5: Model Fitness	45
Table 6: ANOVA Results	46
Table 7: Regression of Coefficient Results	46
Table 8: Correlation Analysis	46
Table 9: Model Fitness	47
Table 10: ANOVA Results	47
Table 11: Regression of Coefficient Results	48
Table 12: Correlation Analysis	48
Table 13: Model Fitness	49
Table 14: ANOVA Results	49
Table 15: Regression of Coefficient Results	50
Table 16: Correlation Results	50
Table 17: Model Fitness	51
Table 18: ANOVA Results	51
Table 19: Regression of Coefficient Results	52
Table 20: Model of Fitness Results	52
Table 21: ANOVA Results	53
Table 22: Regression of Coefficient Results	53

LIST OF FIGURES

Figure 1 Conceptual Framework	17
Figure 2 Project Life Cycle	19
Figure 3: The Triple Constraint	27
Figure 4 Map of Western North in National and Regional Context	39
Figure 5 Map of Western North in National and Regional Context	41



CHAPTER ONE

INTRODUCTION

Background of Study

The road construction industry in Ghana contributes significantly to the development of the country's economy. Good and safe roads for instance, facilitate timely and smooth evacuation of cocoa which contributes to the country's economic backbone from the growing areas to the marketing centres or depots. The importance of the road sector in Ghana is further highlighted by the observations of Gidisu (2009) who noted that the road transport is significant in Ghana's economy as it is the most widely available form of transport in Ghana; it links all major cities, towns, villages; it also links agricultural production areas with local, regional and national markets, and carries in excess of 97% of all passenger and freight traffic. However, road condition survey data in Ghana over the years suggest that about 40 to 50% of the country's entire roads are in poor condition (Ministry of Roads and Highway, 2018). Governments have therefore been trying to channel a lot of funds into the road sector with the view to maintaining or improving the state of the roads.

In Ghana, Donor agencies such as Danish International Development Agency, DANIDA (2000) and the British Government have been helping in this regard. Unfortunately, most of these maintenance projects and indeed some development projects are bedevilled with time, quality and cost objectives of the client. This phenomenon is not peculiar to the road sector alone. Indeed, the road industry and therefore the entire construction industry in the country are affected by this problem.

The success of a construction project can be measured using key parameters such as completion within schedule and allocated budget, whether the project was completed according to specification, whether the project meet the expectations of the

client and the extent of variations (Khoshgoftar et al., 2010). It is believed that one of the top problems in the construction industry are delays (Jamil et al., 2012). Nevertheless, Buerthey et al. (2012), attributed these delays to occurrences that might be caused by the client, the owner or an act of God. The risk of delaying completion of work is therefore borne by either the employer or the contractor and is usually allocated by the clauses covering an extension of time and liquidated damages in the contract (Tan, 2010). It must be noted that there are problems associated with the application and assessment of extension of time claims. In most instances, these problems lead to disputes which brings the entire project to halt. Danuri et al., (2006), attributed the problems with extension of time claims to lack of clear guidance in assessing claims. Road construction contracts in recent times have been characterized by claims of extension of time. Yusuwan and Adnan (2013b), cited a survey conducted by Waldron (2006) involving both public and private stakeholders of the construction industry which revealed that extension of time claims was ranked the third most disputed issue in the industry. Delays where the contractor is not at fault would normally constitute a valid claim for extension of time (Maritz and Prinsloo, 2016). Contractors often link delays to increased overhead costs as a result of a prolonged work period, increased cost of labour and materials due to inflation. (Assaf and Al-Hejji, 2006). However, lack of proper and transparent assessment of extension of time claims in the Ghanaian road construction industry has resulted in time and cost overruns on most road infrastructural projects. Although similar study was done by *Amoatey and Ankrah (2017), by exploring on critical road project delay factors in Ghana. They failed to establish the Significant Factors that lead to extension of time within the Road Construction sector in Ghana, notwithstanding the numerous problems that are always associated with the application and assessment of extension of time claims in road projects especially in the Western*

North Region of Ghana. This study, therefore, seeks to assess the significant factors and challenges contributing to extension of time in road construction contracts in the Western North Region of Ghana that will go a long way to contribute to the effective management of time claims at reasonable cost in the road contraction sector.

Problem Statement

The success of a construction project can be measured using key parameters such as completion within schedule and allocated budget, whether the project was completed according to specification, whether the project meet the expectations of the client and the extent of variations (Khoshgoftar et al., 2010). It is believed that one of the top problems in the construction industry are delays (Jamil et al., 2012). Nevertheless, Buerthey et al. (2012), attributed these delays to occurrences that might be caused by the client, the owner or an act of God. The risk of delaying completion of work is therefore borne by either the employer or the contractor and is usually allocated by the clauses covering an extension of time and liquidated damages in the contract (Tan, 2010). It must be noted that there are problems associated with the application and assessment of extension of time claims. In most instances, these problems lead to disputes which brings the entire project to a halt. Danuri et al., (2006), attributed the problems with extension of time claims to lack of clear guidance in assessing claims. Road construction contracts in recent times have been characterized by claims of extension of time. Yusuwan and Adnan (2013b), cited a survey conducted by Waldron (2006) involving both public and private stakeholders of the construction industry which revealed that extension of time claims was ranked the third most disputed issue in the industry. Delays where the contractor is not at fault would normally constitute a valid claim for extension of time (Maritz and Prinsloo, 2016). Contractors often link delays to increased overhead costs as a result of a prolonged work period, increased

cost of labour and materials due to inflation. (Assaf and Al-Hejji, 2006). However, lack of proper and transparent assessment of extension of time claims in the Ghanaian road construction industry has resulted in time and cost overruns on most road infrastructural projects. Although similar study was done by *Amoatey and Ankrah (2017)*, by exploring on critical road project delay factors in Ghana, they failed to establish the Significant Factors that lead to project delays and therefore request for extension of time within the Road Construction sector in Ghana, notwithstanding the numerous problems that are always associated with the application and assessment of extension of time claims in road projects.

A case in point is the Benchema - Adjoafua road construction, which was initially supposed to begin in 2011 and 2014 but has faced delays in both years after the contract was terminated on the advice of the Cocoa Roads Audit Committee when the NPP assumed office in 2016.

The pomp and pageantry associated with the sod cutting of this project by His Excellency the Vice President of the Republic of Ghana on 21st December, 2019 and due to be completed in 24 months is still less than 50% complete (Myjoyonline,2017).

Many of the earlier studies including *Ndagy J (2017)*, more planning and coordination, capacity road, data demand and use and research and surveillance as well as incorporation of ethics in Monitoring and Evaluation to enhance efficiency and effectiveness sustainability of agricultural food crop projects and also *Callistus & Clinton (2018)*, identify the barriers to effective implementation of project monitoring and evaluation on construction industry and add their own contribution to the concept of M&E and state their own policy implication these were inclined towards outside of

Ghana. The finding of the study in one country may not serve to another due to the environment and time is different; their policy and implementation procedures are not the same. Accordingly, there is no previous research conducted on road projects on the same issue, due to this the researcher decided to conduct a study and fill the gap as well as analyze the practice and challenges of project M&E: the case of road construction projects in Ghana Highway Authority by considering institutional capacity, resources and budgetary allocations for M&E, the linkage between planning, budgeting, and M&E, demand for and utilization of M&E results, data quality and consistencies.

General Objectives of the Study

The main objective of the study is to assess the use of effective project management practices contributing to road construction completion delays in the Western North Region of Ghana.

Specific Objectives

The specific objectives of this study are to:

- i. To determine the effect of resource planning on effective implementation of road construction in the Western North Region of Ghana.
- ii. To investigate the effect of monitoring on effective implementation of road construction projects in Western North Region of Ghana.
- iii. To determine the effect of top management support on effective implementation of road construction projects.
- iv. To establish the effect of communication on effective implementation on road projects in Western North Region of Ghana.

Research Questions

- i. What are the effects of resource planning on effective implementation of road construction in the Western North Region of Ghana?
- ii. What are the effects of monitoring on effective implementation of road construction in the Western North Region of Ghana?
- iii. What are the effects of top management support on effective implementation of road construction in the Western North Region of Ghana?
- iv. How does effective of communication affect implementation of road projects in Western North Region of Ghana.?

Significance of the Study

The research will have significance for better project management practices, project performance, and success improving the overall project management of the country contributing specifically to the following parties.

For Development practitioners and managers working in road authority, the study will increase their awareness of monitoring and evaluation for project success through implement the plan in a better way, to use resources properly, to ensure transparency and accountability, to coordinate the working system, and to take lessons and to strengthen the culture of use of monitoring and evaluation results to make decision. Ghana Highways Authority and Minister of Road and Transport can use the findings of this study to refer and adapt findings and recommendations to strengthen if their practice is best and may the finding indicate their gap to undertake further research on M&E practice or may take simply lessons from research recommendations. Similar project leaders can learn from the research result, about the underlying challenges in M&E practice for better project accomplishment and success. Any Universities and

researchers can refer to this study for further studies about the subject matter and related issues. As a result, the study positively contributes to the betterment of road project management in general and M&E practice in particular.

Scope of the Study

The research evaluates national road project monitoring and evaluation practices by combining the monitoring and evaluation practices of clients, contractors and consultants engaged in national road projects. This study will address road projects managed by the national government that concentrate on issues, overall M&E practices.

The study does not consider road projects by regional coordinating councils and subsequent administrative hierarchies. That is, the M&E practices done by other government organs like Ministry of Finance and Economic Planning (MoFep) and National Planning Development Commission (NDPC) and also donor organizations on national road projects is not included in this study.

Limitation of the Study

The most challenging aspect of this study was gathering data from respondents, which took a long time because the respondents were preoccupied with filling out the questionnaires. Due to time constraint, all of the respondents were not able to participate in the questionnaire, and it took time for the respondents to assess the data they were given. Financial Constraints was also another challenge limiting the researcher from reaching all the participants. One of the limitations was the difficulty in getting information about what happens during project implementation. This may have been because the study was conducted where the researcher is employed. The other limitation is that the data may have some bias as the respondents may have provided information which they expected the researcher to hear.

Due to the role the research plays in the organization, it was difficult to convince the respondents that the data they provided was for academic purposes despite going through the consent form together.

Organisation of the Study

This research is organized into five chapters. The first chapter presents the introduction where the background of the study, statement of the problem, research questions, research objectives both general and specific, significance of the study, scope, limitation of the study and ethical considerations are clearly described. The second chapter deals with a review of related literature on monitoring and evaluation concerns. In this chapter, previously conducted studies are reviewed in order to explore basic concepts and main practical activities on monitoring and evaluation and related concerns both at global and local levels. The third chapter presents the research design and methodology that will be administered in the research where the intended research approach, design, population, sampling and data source, analysis methods, validity and reliability are stated. The fourth chapter deals with the analysis of the data collected and is presented. The final Chapter five makes conclusions from the analysis and gives a recommendation.

Definition of Terms

Estimation

In a project context, estimation is the way to make accurate budgets or timelines for a project. There are various techniques in estimating to help you get the most accurate predictions of cost and time.

Feasibility study

A feasibility study is a way to ascertain whether the proposed plan or methodology prescribed is practical in terms of fulfilling the goals of a project. For large projects, these can be detailed research studies. For smaller projects, they can be more informal assessments using existing business documentation like market research and informal internal polls with key stakeholders.

Initiation

This refers to the first phase in the lifecycle of a project, according to traditional project management practices. It's the stage in the process where the project is first conceived and scoped. It also involves the hiring of a team, setting up a project office and reviewing the project, as well as gaining approval for the project.

Key Performance Indicators (KPIs)

A quantifiable measurement that is used to evaluate a project and determine if it is performing as planned. KPIs can be anything from cost to time, scope or quality.

Monitoring

This is a phase in the project management lifecycle, specifically the act of continuous awareness of the course of a project plan. Project monitoring involves checking whether a project is proceeding according to schedule and within the proposed budget, as well as checking into the health of your team. Monitoring can be accomplished through reporting, dashboards and active management with a team.

Project

An activity with a defined start and end date. This is versus ongoing operational work in organizations. Projects can be managed differently due to their temporary nature, even if they are multi-year in length.

Project management

The name for a discipline that involves the planning, organizing, motivating and controlling of resources to achieve a specific goal. It is based on a temporary course of action, usually creating a product or service, and so is constrained by a deadline as well as a budget.



CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter provides theoretical and empirical information from publications on topics relevant to the research problem and research questions. The chapter is presented under the following section: theoretical review, empirical review, conceptual framework and chapter summary.

Background

The success of a construction project can be measured using key parameters such as completion within schedule and allocated budget, whether the project was completed according to specification, whether the project meet the expectations of the client and the extent of variations (Khoshgoftar et al., 2010). It is believed that one of the top problems in the construction industry are delays (Jamil et al., 2012). Nevertheless, Buertey et al. (2012), attributed these delays to occurrences that might be caused by the client, the owner or an act of God. The risk of delaying completion of work is therefore borne by either the employer or the contractor and is usually allocated by the clauses covering an extension of time and liquidated damages in the contract (Tan, 2010). It must be noted that there are problems associated with the application and assessment of extension of time claims. In most instances, these problems lead to disputes which brings the entire project to halt. Danuri et al., (2006), attributed the problems with extension of time claims to lack of clear guidance in assessing claims. Road construction contracts in recent times have been characterized by claims of extension of time. Yusuwan and Adnan (2013b), cited a survey conducted by Waldron (2006) involving both public and private stakeholders of the construction industry which revealed that extension of time claims was ranked the third most disputed issue

in the industry. Delays where the contractor is not at fault would normally constitute a valid claim for extension of time (Maritz and Prinsloo, 2016). Contractors often link delays to increased overhead costs as a result of a prolonged work period, increased cost of labour and materials due to inflation. (Assaf and Al-Hejji, 2006). However, lack of proper and transparent assessment of extension of time claims in the Ghanaian road construction industry has resulted in time and cost overruns on most road infrastructural projects. Although similar study was done by *Amoatey and Ankrah (2017)*, by exploring *on critical road project delay factors in Ghana. They failed to establish the Significant Factors that lead to extension of time within the Road Construction sector in Ghana, notwithstanding the numerous problems that are always associated with the application and assessment of extension of time claims in road projects.* This study, therefore, seeks to assess the significant factors contributing to extension of time in road construction contracts in Ghana that will go a long way to contribute to the effective management of time claims at reasonable cost in the road contraction sector.

Overview of Road Construction Industry in Ghana

Road infrastructure development is very important to the Ghanaian economy (Akomah and Jackson, 2016). Most urban and intercity transportation in Ghana is by road. In December, 2013 Ghana recorded a total road network of 68,156 kilometers, of which 13,367 kilometers were trunk roads, 42,189 kilometers feeder roads and 12,600 kilometers of urban roads (GIPC, 2018). The road networks provide inter-regional connectivity purposes, connect rural farming and fishing communities to nearby markets and serve as a link between Ghana and its neighboring countries. The institution responsible for policy formulation, coordinating and tracking the performance of the road sector is the Ministry of Roads and Highways. This ministry operates through the Ghana Highway Authority (GHA), Department of Feeder Roads

(DFR) and Department of Urban Roads (DUR), (MOFEP, 2017). The Ghana Highway Authority is in charge of the administration, planning, controlling, and maintenance of trunk roads and its related facilities in Ghana. In a likewise manner, the Department of Feeder Roads is charged with the responsibility of administrating, planning, controlling, and maintenance of feeder roads and related facilities in Ghana. The vision of the Department of Feeder Roads is to provide roads which are accessible in all-weather at an optimum cost, which intend to facilitate the movement of people, freight and services in other to promote socio-economic development especially within the Agriculture sector. The vision of the department is providing reliable transport at a lesser cost to improve rural access to social facilities and services as well as employment opportunities most especially for women (MRH 2007). The Department of Urban Roads is charged with the responsibility of administrating, planning, controlling, and maintenance of urban roads and related facilities in Ghana. The urban road network provides all weather, city road access in support of the economic development taking place in all Metropolitan and Municipalities across the Country. The main sources of funding for road construction and maintenance are the Government of Ghana Consolidated Fund, the Ghana Road Fund and Donor Funds (Danida 2000). The consolidated fund is earmarked for development works, minor rehabilitation and upgrading. The Donor funds are channelled mainly toward maintenance and developmental works of huge financial volume. The road fund is dedicated to the maintenance of roads in general (MRH, 2018).

Extension of Time Claims

As a result of the unique nature of each construction project (Chaphalkar and Iyer, 2014), and existence of complex interrelationships between a large number of parties involved in construction projects, claims in the construction industry is

inevitable (Chaphalkar and Iyer, 2014). Claims have different sources, however, Chaphalkar and Iyer (2014) argue that delay claims are the most common. In line with this, Yusuwan and Adnan (2013b) have reported that an extension of time claims is inevitable and require effective management to ensure fair settlement.

It is relevant for the contractor to produce an adequate document which absolves him from being responsible for the delay and gives evidence that other parties are responsible for the delay (Yusuwan and Adnan, 2013a; Alnaas et al., 2014). An extension of time claim must be accompanied by an analysis of the delay to quantify and demonstrate the time impact the delay has on the critical path of the approved work programme (Yusuwan and Adnan, 2013a).

It is emphasized that the client is denied the use of the property by the earliest completion date, resulting in a loss of revenue (Fugar and Agyakwa-Baah, 2010; Clough and Sears, 1994). Furthermore, time overruns lead to additional cost of supervision. The Public Procurement Manual provides guidelines for dealing with delay claims in procurement of works contracts. Provision of extension of time renders a contractor not liable for liquidated damages if a delay is encountered.

It is the responsibility of the Project Manager to indicate relevant clauses and the conditions attached to extension of time to deal with extension of time claims. Oyegoke (2006) postulate that the FIDIC conditions of contract clauses 6.3, 6.4, 12.2, 42.2 and 44.1 and Public Procurement Act (PPA) Conditions of Contract for medium sum works contract, Clause 28 deal with extension of time and reimbursement of any costs which may have been incurred by the contractor with regards to a delay by the employer. The clauses expressly provide that, extension of the intended date may be granted a compensation if the event occurs.

Theoretical Framework

Resource Mobilization Theory

This study is guided by the resource mobilization theory of social developments which holds that a social development emerges from the extension of institutional actions due to institutional change that attempt to change the elements of social structure and the reward of distribution of society (Jenkins, 2003).

The resource mobilization hypothesis, includes an action orientation towards clearly defined and fixed goals with a centralized organisational control over the resources and assets and very clearly demarcated outputs that can be evaluated in the form of tangible gains. This co-operation between social developments and institutional actions gives a view of a person's decisions about the management of investments and assets (Khan, D. B, 2013). Resource mobilization hypothesis of social developments clarifies how social developments assemble assets, from inside and outside their development, to achieve objectives (Jenkins, 2003).

Resource mobilization hypothesis contends that social developments prevail through the compelling assembly of assets and the advancement of political doors for individuals. Social developments can assemble both tangible and non-tangible/human assets. Tangible assets incorporate cash, associations, labor, innovation, methods for correspondence, and broad communications, while non-tangible assets incorporate authenticity, reliability, social connections, systems, individual associations, open consideration, specialist, moral responsibility, and solidarity (Bordoli D.W., and Baldwin N.A. (1998),).

Resource mobilization theory holds that social development associations with powerless or asset poor beneficiaries require outside help and financing. There are two

sorts of individuals having a place with social development associations: conscience constituents and beneficiary constituents. Social developments frequently search out and acquire assets from conscience constituents. Conscience constituents allude to people or gatherings outside of the social development that have an ethical organization together with the social development's motivation, objective, or mission. The social development and the mass media are in charge of defining the social movement's message and character. Resource mobilization theory research scholars have discovered that conscience constituents have a tendency to contribute more when beneficiary constituents are encircled, by the social development itself or mass media, to emphasize shared goals with conscience constituents (Larson, E. W. and Gray, C. F., 2011)

Resource mobilization scholars trust that the results of social developments are affected by vital decisions, the positions and activities of elites, the help of compelling associations, and representing coalitions and administrations. There are four results for social association: full achievement, acknowledgment without advantages or picks up, advantages and picks up without acknowledgment, and disappointment. The mass communications is a vital piece of the political support exertion by social movements. It impacts the governmental issues of social developments by educating the elites and open about the activities of social developments and in addition, translating these activities (Jenkins, 1983).

Conceptual Framework

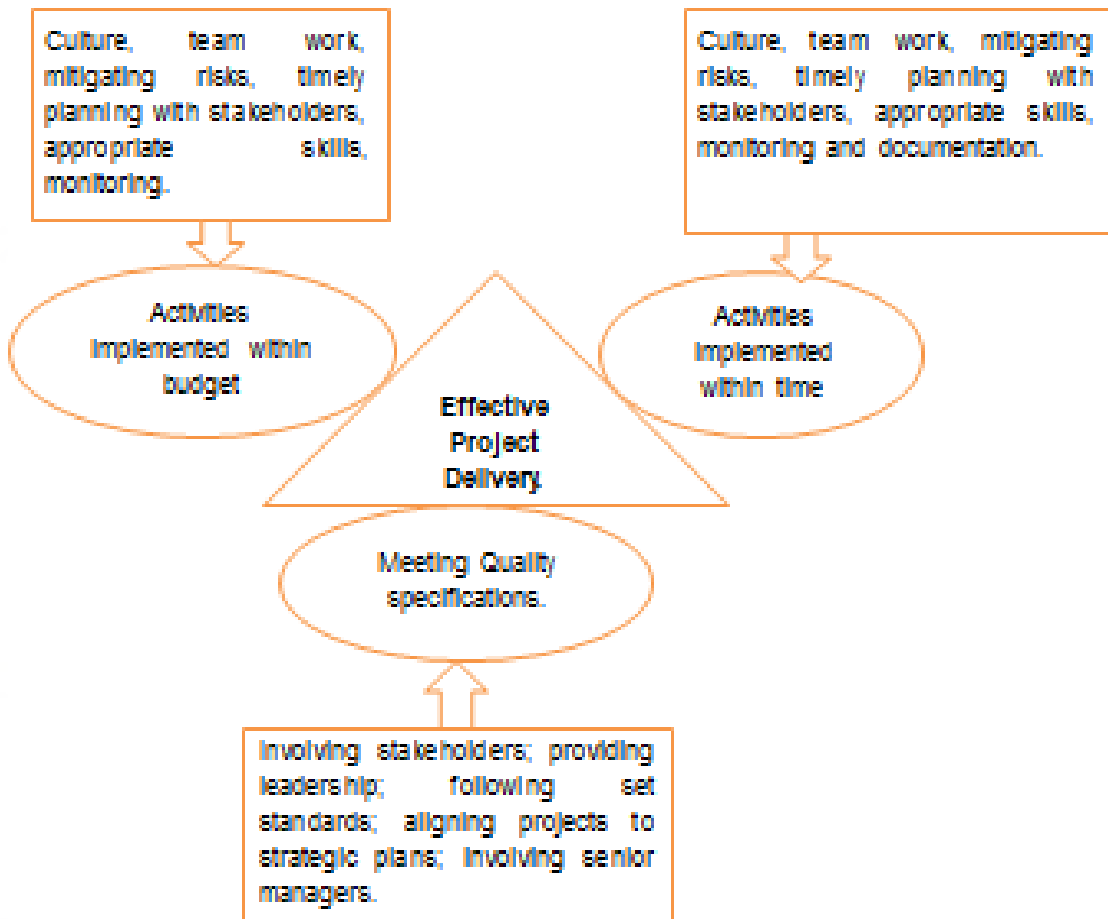


Figure 1 Conceptual Framework

Source: Researchers Own Construct, 2023

The Project Life Cycle and the Project Cycle Management

A project's life cycle is the sequence of stages that a project goes through from start to finish. The names and numbers of the phases are determined by the management and control needs of the company or organizations involved in the project, as well as the nature of the project and its implementation area. Functional or partial goals, intermediate outcomes or deliverables, particular achievements within the overall scope of work, or financial availability may all be used to break down the phases. Phases normally have a beginning and an end, as well as a control point. A methodology can be used to document a life cycle. The specific aspects of the organization, industry, or

technology used may define or shape the project life cycle. Although every project has a clear beginning and end, the exact deliverables and activities that occur in between can differ depending on the project. Regardless of the particular work involved, the life cycle provides the fundamental framework for project management (PMI, 2013).

PMI, (2017) states that many of the monitoring and control processes are ongoing from the start of the project, until it is closed out. The Monitoring and Controlling Process Group monitors and controls the work being done within each knowledge area, process group, life cycle phase, and the project as a whole. It also calls for continuous monitoring and evaluation during the project lifecycle's four phases. Each stage of the project life cycle generally requires a different level of management effort. Similarly, each stage of the project life cycle involves a particular degree of monitoring and evaluation effort.

The significance of life cycles is that they illustrate the logic that regulates a project. They also assist us in developing our project implementation plans. They assist us in making decisions such as when to allocate resources to the project, how to measure its performance, and so on. Consider the simplified model of the project life cycle shown in Figure 1, which divides the life cycle into four distinct phases: conceptualization, planning, execution, and termination (Pinto, 2016).

Conceptualization (Defining)- refers to the formation of a project's initial objective and technical specifications. The scope of the work is defined, the resources needed are identified (people, money, physical plant) and significant organizational contributors or stakeholders are signed on.

Planning- is a stage where all comprehensive specifications, schematics, schedules, and other plans are formulated. Individual project pieces, known as work

packages, are broken down, specific activities are generated, and the completion process is clearly identified.

Execution-the actual project work is performed or carried out, the system designed or the product produced and manufactured. It is during the implementation stage where the majority of project team work is carried out. As Figure 1 shows, project costs (in man hours) ramp up rapidly during this stage.

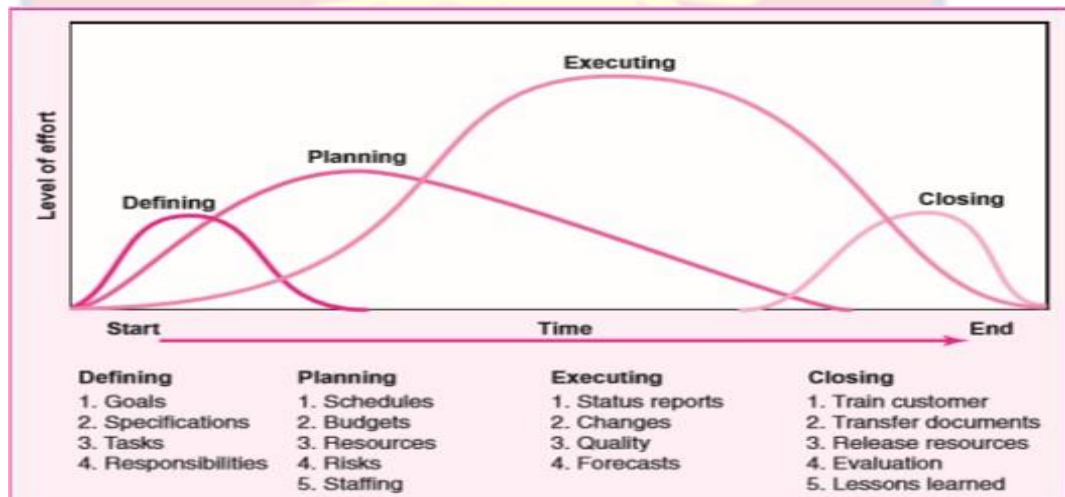


Figure 2 Project Life Cycle

Source: Larson & Gray, 2011, p.7)

Project Management

The application of knowledge, expertise, methods, and strategies to project activities in order to accomplish project specifications is known as project management. The project management processes of initiating, planning, implementing, tracking and managing, and closing are used to achieve the overall project management process (PMI, 2012).

According to Lewis (2011) tools, people, and systems are all part of project management. Work breakdown structures, PERT scheduling, earned value analysis,

risk analysis, and scheduling software are among the resources available (to name a few). Many companies that want to incorporate project management put great emphasis on tools. The use of software is an essential but not sufficient condition for project management performance. The procedures or methods are often more critical, because if you don't use the right management processes, the tools can only help you meticulously track your failures.

As a concept, Project Cycle Management is not that different from project management except it emphasizes the management of a project effectively and efficiently throughout its phases.

Monitoring and Evaluation

Monitoring and evaluation (M&E) has often been viewed as a separate function and planning responsibility. However, it is incredibly difficult to track and assess a project that has been poorly designed. M&E personnel and experts often find themselves needing to return to basic planning concepts before being able to assist with M&E (Mani, R. K. 2007).

Monitoring is the practice of observing and evaluating a project's progress when it is in progress. Monitoring a project's activities helps a manager to define and evaluate:

- the strengths and weaknesses of the system
- problems that had not anticipated
- and implement solutions to those problems as quickly as possible.

Monitoring will most definitely be conducted as part of the project team's daily and monthly activities. A monitoring review will be undertaken every two to three

months to promote communication between the different partners, and the outcomes will be conveyed to stakeholders via reports. Monitoring may also be described as monitoring the degree to which planned activities (what should happen) vary from when the plan is executed (what actually happened), which will assist us in deciding what should occur (Mani, 2007).

In the other hand, evaluation is usually performed at the completion of a project cycle. It is a tool for project stakeholders to evaluate the project's success: Was the project able to achieve its objectives? What were the results? What factors supported or hindered this process? The information for the evaluation comes from the monitoring process, stakeholder focus groups, individual interviews and informal discussions with stakeholders and those impacted, and commentators who specialize in the areas involved.

Putting this information together will assist in deciding if the project is meeting its objectives. The evaluation compares the trend of the desired outcomes with the actual results. Depending on the size and nature of the project this could be for the entire project or for an element component. Ongoing evaluation is also an essential element of project management. The purposes of evaluation are to:

- Determine the scope of achievement of certain project goals (this helps fulfill the accountability requirement)
- provide an opportunity to step back, think about the conduct of specific projects and why they are implemented (this fulfils the requirement to judge the state of progress)
- help a project progress by providing the necessary changes indicated in an evaluation with a clear and concrete direction, to improve project delivery

- significantly increase what you can gain from project implementation experience
- to make all stakeholders, team members and those involved, plus anyone with relevance to such a project, be aware of the information collected during the evaluation process and at the end of the project
- identify the costs and benefits to the beneficiaries and those affected
- determine whether the project generated adequate returns on investment with key stakeholders, particularly funding entities and governments
- provide the project team with feedback on the success of the used strategies, the unforeseen project factors and the effectiveness of corrective action adopted during the implementation of the project
- provide guidance on how to plan future activities and assist other groups in the same field or those wishing to improve the designs of their projects by spreading and making available evaluation results to the public.

Project's Success Factors

Success factors can be perceived as main variables that contribute to projects' success (Dvir, 1998), as levers that can be operated by project managers to increase chances of obtaining the desired outcomes (Westerveld: 2003). A combination of factors determines the success or failure of a project and influencing these factors at the right time makes success more probable (Adinyira, E. and Ayarkwa, J. (2010). In earlier project management literature the main focus was on identifying generic factors that contribute to projects' success. Within the last years, authors emphasized on the existence of different success factors depending on project type. The struggle to

identify the critical success factors is an ongoing topic, approached by many researchers especially due to the pressure of implementing successful projects in a dynamic global market and ever changing business world (Gyadu-Asiedu, William (2009)), where continuous innovation is a must in order to achieve competitive advantage (Amoatey C.T. and Ankrah A.N.O., 2017).

Amoatey C.T. and Ankrah A.N.O., (2017) studies project management success in literature from 1970s to present, classifying the evolution of success factors into decades. According to this study, approaches of success factors evolved from focusing on the operation level of a project in 1970s to embracing a stakeholder focused approached after 2000s (Amoatey C.T. and Ankrah A.N.O., 2017). As a result of the numerous studies that approached the topic of project success, several lists of success factors exist. Pinto and Slevin's paper from 1987 represents a reference point by establishing a list of ten success factors, recognised by other authors as accurate (Turner, Müller, 2005): project mission, top management support, schedule and plans, client consultation, personnel, technical tasks, client acceptance, monitoring and feedback, communication, trouble-shooting (Pinto, Slevin, 1987). Amoatey C.T. and Ankrah A.N.O., (2017) adopted in her paper a set of nine themes in order to describe success factors of projects: cooperation and communication, timing, identifying/ agreeing objectives, stakeholder satisfaction, acceptance and use of final products, cost/budget aspects, competencies of the project manager, strategic benefits of the project and top management support. These lists of factors mentioned above, completed by inputs from practitioners, are the basis of the empirical research presented in this study.

Factors Affecting Project Success

Planning

Planning plays an important role in successful project management as the success of any organization is associated with its capacity to deliver positive outcomes and ability to constantly develop effective strategies that address beneficiary needs (Monique et al: 2007). Monique et al : (2009) defines project planning as a process that is done at the beginning of any project with the purpose of defining the scope and identifying tasks of a project as well as allocating time and resources. Lester, A., (2007) defines project planning as a process of breaking down tasks into sub tasks, assigning tasks to individuals and allocating time to tasks. Planning therefore requires that one takes into consideration the time to deliver an activity, the cost to deliver that activity and the quality specifications.

Many organizations that use planning to improve the internal and external functionality make sure that projects address the current needs of beneficiaries (Asiedu, W. G., 2009). However, an organization that does not effectively plan cannot expect to achieve anything (Asiedu, W. G., 2009). It is further argued that planning in organizations provides different significant benefits such as improving competitiveness, improving financial performance, enhancing employees and client satisfaction and most importantly leading the organization towards continuous improvement and sustainability (Asiedu, W. G , 2009).

Coninck, J.D, Chaturredi, K., Haagsma, B., Griffioen, H., & Glas, M. (2008) argues that the planning process is very challenging and important for organizations as it leads an organization to success as well as making the organization compete with other players effectively. Coninck, J.D, Chaturredi, K., Haagsma, B., Griffioen, H., & Glas, M. (2008) also highlight that planning for organizations is necessary to deal with

the diversities and the complex market situations. Coninck, J.D, Chaturredi, K., Haagsma, B., Griffioen, H., & Glas, M. (2008) argues that when planning is well executed it leads to continuous improvement and organizational innovation.

Project planning involves identifying activities (creating the Work Breakdown Structure [WBS], estimating time durations, allocating resources, identifying dependencies; scheduling activities, reviewing and implementing the plan (PMI: 2003). It is therefore important to follow the various steps in project planning for successful delivery of projects. The European Commission (2004) adds that planning also ensures that adequate time and resources are committed to the effective implementation of relevant and feasible projects. Blackman (2003) argues that project plans should be regularly reviewed throughout the project lifecycle. Safaricom Foundation (2011) and Amponsah (2012) argue that poor project planning is a factor that contributes to project failure. On the other hand, Munns and Bjeirmi (1996), contend that unclear objectives and poorly defined objectives are some of the factors that contribute to project failure.

Theory of Planning

According to Stockbridge, M., & Smith, L. (eds.). (2011) planning is defined as the process of deciding what to do, when to do and how to do prior to the actual doing. Project planning can be seen as a continuous process that involves the project team and stakeholders. This plan becomes the reference for work during project implementation and therefore collaborative planning increases chances of project acceptability and success. Success or failure of a project can partly be attributed to factors to do with program planning, execution and control. Hence, apart from the theories outlined above other theories on which the study was anchored are those that are concerned with planning, execution and control. According to UNDP. (2009), project management is guided by theories of planning, execution and control.

Theory of Planning assumes that plan production is synonymous with action. In other words, it assumes that when plans are made, action or implementation is also done. The theory of planning assumed that the organization consists of a management part and an effector part.

Management at the operations level is seen to consist of the centralized creation, revision and implementation of plans. It takes plan production to be essentially synonymous with action.

According to Kissi, E., Agyekum, K., Baiden, B. K., Tannor, R. A., Asamoah, G.E., & Andam, E. T (2019). , projects are rarely delivered within specified time and budget as many projects show massive cost and time overruns. Therefore, if such happens, the organizations affected have to increase project time and cost (Turner: 2004). However, it is argued that generally, the problems of project delays and cost overruns are avoidable (Lahey. R. 2010). In effective project delivery there is therefore need to balance the elements of the triple constraints for the project to be successfully delivered.

The Triple Constraint Theory: Certain Constraints under which a project is implemented (Time, Cost and Scope) illustrated as follows:-



Figure 3: The Triple Constraint

Source: (Haughey:2011)

Time, Cost and Quality Factors

It is argued that projects are meant to deliver specified business products and that the project objective is divided into time, cost and quality (Lahey. R. 2010)). Therefore, projects are expected to meet deadlines; be implemented within budget; and meet quality standards. However, sometimes projects fail to meet one or all the set standards. Lester, A., (2007) states that projects are designed to meet a particular goal and all must be expertly managed to deliver the on-time, on-budget, learning and integration that organizations need.

According to Amponsah (2012) organizations carryout projects under traditional constraints which include cost, time and scope which are commonly called the triple constraints. It is further argued that when you reduce the projects' cost, you will either have to reduce its scope or increase its time; when you reduce the projects' time, you will either have to increase its cost or reduce its scope; and that most projects fail in the area of scope as projects are not usually fully defined or understood at the

start and that increasing the project scope will entail either increasing its cost or time (Amponsah, 2012).

Asiedu, W. G., (2009) argues that project managers need to weigh one constraint against another to reach the best result. As a project manager you need to be aware of the project management triple constraint, create the best balance and be aware of all changes that impact cost, time and scope. The triple constraint represents the key elements of a project that when balanced well leads to success (Asiedu, W. G., 2009).

Cost: The financial constraints of a project, also known as the project budget. These are the resources needed to effectively implement a project and include both financial and human resources.

Scope: The tasks required to fulfil the project's goals. This needs to be well defined and fully defined from the start of the project. It also includes managing the stakeholder expectations.

Time: The schedule for the project to reach completion. A Work Breakdown Structure (WBS) is used to take the large project goal and break it down into a series of more manageable tasks. These tasks are then prioritized; dependencies are linked, and then placed on a timeline. A Gantt chart is one way to visualize the project schedule, with each task a point on that timeline, with task dependencies linked, and durations determined.

Quality: This involves meeting the stakeholder requirements. It involves quality planning, quality assurance, quality control and continual improvement.

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Project: A project is a sequence of unique, complex and connected activities having one goal or purpose that must be completed by a specific time, within budget and according to specification. The activities in a project must be unique meaning such a project has never happened before and will never happen again under the same conditions (Wyzocki, 2003).

Program: A program is a set of organized activities supported by appropriate resources to achieve an intended result. It may be narrow or broad in scope with the

target being individual, group, system, or community. In a program, inputs undergo particular processes in order to produce results. A result is a describable or measurable change in state that is derived from a cause and effect relationship. Results are the effects generated by a programme. There are three different types of results and these are outputs, outcomes and impacts. Outputs are products and services that result from the completion of activities within a development intervention. Outcomes are the intended or achieved short and medium-term effects of an intervention. They represent changes in development conditions which occur between the completion of outputs and the achievement of impact. Impacts are positive and negative long-term effects on identifiable population groups produced by a development intervention, directly or indirectly, intended or unintended. These effects can be economic, socio-cultural, institutional, environmental and technological or of other types (UNDP, 2002).

Empirical Literature Review

Factors Contributing to Extension of Time

Delays which are not the responsibility of the contractor, often referred to as excusable delays, constitute the basis for extension of time in construction (Oyegoke, 2006; Trauner et al., 2009; Jamil et al., 2012; Yusuwan and Adnan, 2013b). Yates and Apstein (2006) as cited by Yusuwan and Adnan, (2013b) enumerated examples of excusable delays as force majeure, shortages of labour and materials, unavailability of required plant beyond the expectations of both parties, owner failure to give possession of the site to the contractor, change order, defective design and different site conditions. A study conducted by Jamil et al. (2012) in Pakistan into the analysis of time slippage for public sector projects revealed that, excusable delay factors encountered in project execution include inadequate funding, design changes, delay in approvals from statutory authorities, non-payments, late payments, change orders, suspension of work,

inadequate design details at the start of the project, and change of government. These contribute to delays of a government funded project exceeding their completion time up to 100% coupled with significant cost overruns (Jamil et al., 2012). Similarly, Yusuwan and Adnan (2013b) in their study of issues associated with extension of time claim in a Malaysia construction industry, re-echoed these factors as causative agents in claims of extension of time. A number of extensions of time factors were also identified by Sambasivan and Soon (2007) in a study conducted in Malaysia. The key among them were mistakes during construction, lack of experience by contractor, delay in payment for work done, problems with subcontractors, labour shortage, unavailability of or breakdown of equipment, material shortages, poor communication between team members and poor site management by the contractor. In light of these findings, Gardezi et al. (2014) set out to investigate the most influential extension of time factors in Pakistan. The research revealed these ten (10) influential factors as follows; changes in design, war and terrorism, law and order situations, poor site management, political bureaucracies, currency inflations, delay in payments, inadequate funding by client and unrealistic project durations. There is an indication that the causes of delay claims found by a number of authors across the globe are not different from the situation in Ghana. Jackson and Akomah (2016) affirm to this by postulating that most of the delays in the road construction sector in Ghana could be attributed to unfavorable site conditions, delays in releasing funds, poor weather condition, changes in client orders, problems with assessing loans from banks, delays in honoring payment of certificate and delays by consultant in providing instructions. Yusuwan and Adnan (2013b) and Braimah (2013) indicated that most standard forms of contract across the globe adequately list out relevant events that allow a contractor to seek a time extension during the execution of the contract. The contract forms

available for procurement of works in Ghana are of no exception. Clause 28 of the PPA Conditions of Contract for medium sum works contract stipulates compensations events that allow the contractor to apply for a time extension from the employer. Assaf and Al-Hejji (2006) in a survey conducted in Saudi Arabia to identify causes of delay in large construction projects, came out with a list of causes of delay of which change orders were the most common. Alnass et al. (2014), reported that, delays in issuing drawings, specifications and site instruction constitute compensation events which result in time extensions. The conditions of contract provide that, the prime contractor obtains approval of the project manager before the services of a subcontractor can be engaged. A study conducted by Khoshgoftar, et al. (2010), revealed that, despite the benefits of subcontracting, inefficient management can result in waste of productive time in the execution of contracts. Delays caused by the project manager in failing to approve a subcontract without a substantive reason would constitute fair grounds for an extension of time claim. Changes in ground conditions result in contract variations which are breeding grounds for monetary and time extension claims (Bio, 2015). Re-scoping of a road contract may occur as a result of prevailing unforeseen factors at the design stage of the project, changes in government policy and changes in client's needs (Olanrewaju and Anavhe, 2014). Such delays often impact adversely on key factors of the project such as the project cost, completion time, and quality of work and safety of the project (Gardezi, et al., 2014). Several factors may occur during contract performance, such as sudden financial constrain, climatic condition, safety and security reason and so on that compels a client to order suspension of work, or a work stoppage (Cmguide 2017). In contract works execution, adverse weather conditions such as excessive rainfall may prevent the timely completion of the project (Alnass et al., 2014; Al-Momani, 2000). The complexity of civil engineering projects seems to suggest that,

no contract can be executed without the occurrence of variations during the implementation stage (Bio, 2015). According to Fugar and Agyakwah-Baah (2010), bad weather is considered the most important delay factor by Ghanaian contractors in project execution. However, bad weather, is a natural phenomenon which parties to a contract have no control on. Delay in honouring payment certificates and other factors such as an underestimation of the costs of projects and underestimation of the complexity of projects, has been found by Fugar and Agyakwah-Baah (2010) as some of the leading factors affecting construction time.

Summary of Literature Review

The reviewed literature revealed various studies in different parts of the world that have largely touched on monitoring and evaluation issues. Mugambi,F., and Kanda,E. (2013)'s, findings on determinantes of effective monitoring and evaluation of strategy implementation of community based projects. Callistus and Clinton's (2018) findings of ten possible challenges that will face in conducting M&E in their study of evaluating barriers implementation of project monitoring and evaluation in Ghanaian constructionindustry.

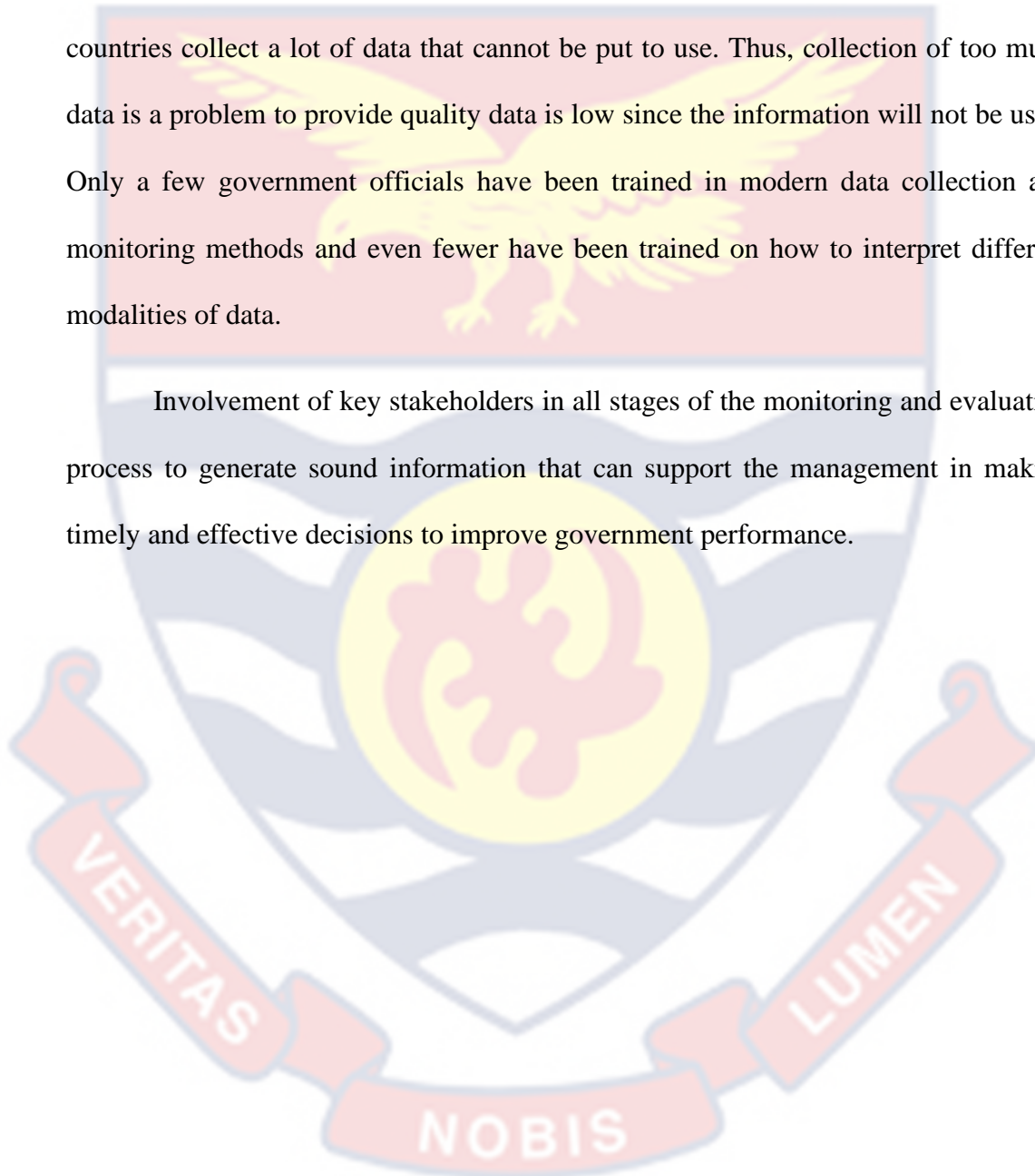
In most developing countries there is shortage of human capacity, particularly in skills and knowledge to develop and sustain monitoring and evaluation systems and recommended that officers need to be trained in modern data collection methods and analysis.

Project planning and field visits arepresentl tool for monitoring and evaluation and should be planned for and carried out at appropriate times so as to ensure that the staff is well aware of the success and failure factors for projects. In addition, Budgeting

and resource allocation are other issues that are likely to affect monitoring and evaluation in agriculture, banking and construction sectors of Ghana Amponash (2012).

The problem of African countries, other regions and sector ministries collect a range of performance information the quality of data is often poor. Some developing countries collect a lot of data that cannot be put to use. Thus, collection of too much data is a problem to provide quality data is low since the information will not be used. Only a few government officials have been trained in modern data collection and monitoring methods and even fewer have been trained on how to interpret different modalities of data.

Involvement of key stakeholders in all stages of the monitoring and evaluation process to generate sound information that can support the management in making timely and effective decisions to improve government performance.



CHAPTER THREE

RESEARCH METHODOLOGY

Background

This chapter contains the research design and methodology which are useful to carry out the research. It presents research design and approach, the population of the study, Sampling Size and Sampling Technique, source of data, data collection method, and data analysis method.

Research Design and Approach

This study adopted a descriptive survey design. Data was collected through distributing both types of questionnaires closed and open-ended questionnaires to employees of Ghana Highway Authority, Department of Urban Roads and the Department of Feeder Roads and to accomplish the study the researcher used a descriptive research design to assess and describe the existing situation under the study and to describe a phenomenon and its characteristics. These observation and survey tools are often used to gather data (Gall, Gall, & Borg, 2007) as cited in (Nassaji, 2015). The collected data was analyzed using frequencies, percentages and other statistical analyses of mean and standard deviation. This descriptive research design is appropriate for the study since the study is to assess project management practice and challenges of monitoring and evaluation of the construction of road projects.

Population of Study

The target population for the study were management professionals of Ghana Highway Authority, Department of Feeder Roads and Department of Urban Roads in the Western North Region who are directly involved in procurement of road infrastructural projects. A total population of licensed architectural, quantity surveyor firms and engineering firms, who totalled 703 were the respondents in this study.

Sampling Technique

The study used stratified sampling to arrive at a sample size of 96. The sample size was calculated using Krejcie and Morgan's formula.

Data Collection

This study used primary data which was collected through use of a questionnaire. The questionnaires were self-administered with the help of research assistants. Questionnaires were distributed and retrieved from respondents in person. The research imbibed this method of distributing and collecting questionnaires as Ahadzie (2007) asserted that distributing questionnaire in person helps in making sure that questionnaires get to the intended respondents as well as increase the response rate. After the questionnaires were distributed, follow-ups were made to remind respondents to attend to the questionnaires. The follow-up were done through phone calls and visits.

Pilot Testing of the Instruments

Mugenda & Mugenda (2003) had maintained for a sample to be considered in the pilot study, it has to comprise 10% of the predetermined sample. Additionally, conducting a pre-test study exposes challenges that might arise in the main study such as vague questions and they can be rectified before the actual research. The study conducted the pre-test before survey forms were sent out to the 70 actual respondents sampled. The refined population was easy for respondents to understand and respond to. Additionally, questions that did not appear valid or reliable for use in the study were eliminated. Mugenda and Mugenda (2003) had also noted the participants of this pilot test could range from 1% to 10% depending on the size of sample under study. Since the study intended to focus on 96 respondents, 10% (10.) randomly selected respondents participated in the pre-test. The pre-tested questionnaires would then be administered to the seven respondents who were requested to respond to the

questionnaires then encouraged to give feedback regarding the questions in the research instrument. Any problem encountered while filling the questions, the questions was rephrased by the researcher based on the feedback and then returned to the respondents to fill again. The process of incorporating feedback from the pre-test sample was done until the questions were fine and errors in the questionnaires were corrected to ensure effective data collection process. The participant's findings were not included in the main study.

Data Analysis

Descriptive statistics such as percentages, mean, and standard deviations were used to perform data analysis. After data had been collected through questionnaires, it was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into statistical package for social sciences (SPSS) computer software for analysis. SPSS was used to produce frequencies, descriptive and inferential statistics which were used to derive conclusions and generalizations regarding the population.

Ethical Consideration

Research ethics such as respect for other people views; observing time; being sensitivity to cultural norms among others were taken into consideration when conducting the research. Forexample, face to face interviews were conducted in private places and all the views expressed by the respondents were treated with all the confidentiality required.

Profile of Study Area

The Western North Region is one of the six (6) new Regions of Ghana created in 2019. The main reason for the creation of the region is the difficulty of the people of

Sefwi getting essential government developmental projects or services from the former Regional communication. Sekondi-Takoradi. Therefore, the six paramount chiefs in the present day, the Western North Region became responsive to the calls of their subjects and united which had led to the creation of the Western North Region.

Administrative Divisions

The political administration of the Region is through the local government system. The Region is divided into nine (9) Municipal and District Assemblies made up of three (3) Municipalities and six (6) Districts (MDAs). These MDAs report to the Western North Regional Coordinating Council. Each Municipal/District Assembly, is administered by a Chief Executive, representing the Central Government. The Municipal/District Assemblies in the Region are; Sefwi Wiawso Municipal Assembly with Sefwi Wiawso as its administrative capital, Bibiani-Anhwiaso-Bekwai Municipal Assembly with Bibiani as its administrative capital and Aowin Municipal Assembly with Enchi as its administrative capital. Sefwi Akontombra District Assembly with Akontombra as its administrative capital, Suaman District Assembly with Didiaso as its administrative capital, and Bodi District Assembly with Bodi as its administrative capital. The rest are Juaboso District Assembly with Juaboso as its administrative capital, Bia West with Essam as its administrative capital and Bia East Districts with Adabokrom as its administrative capital. (<http://ghana.gov.gh/index.php/governance>)

The Region is bounded by La Cote D'ivoire on the West, the Central Region in the South-East, and the Ashanti, Ahafo, and Bono Regions in the North and Western Region to South-West

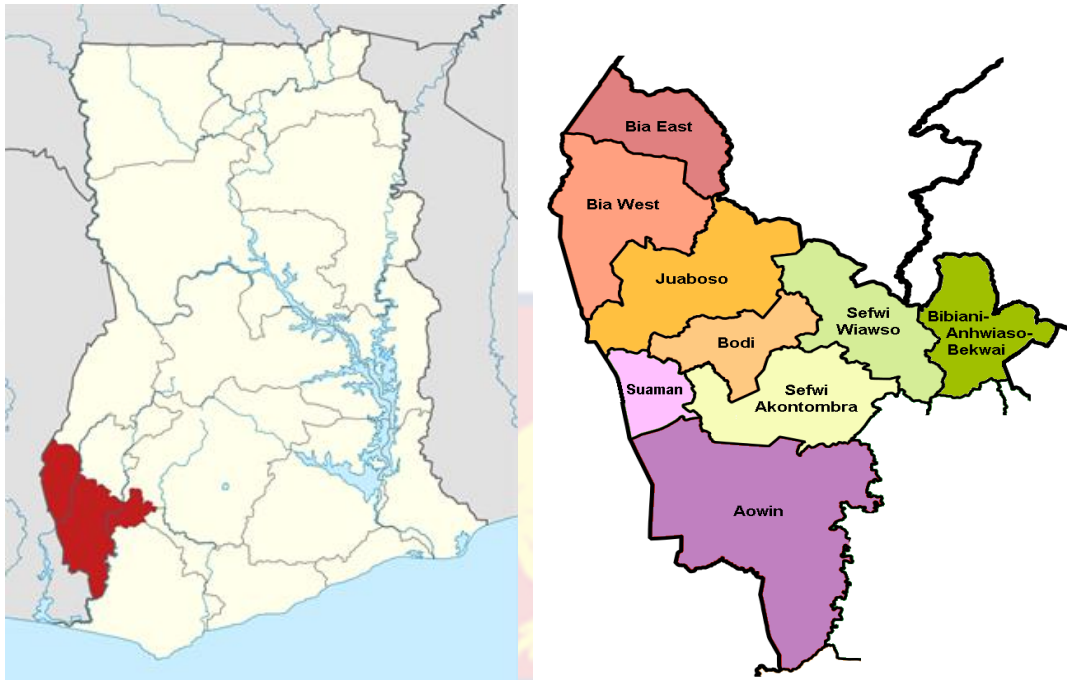


Figure 4 Map of Western North in National and Regional Context

Source: Ministry of Local Government and Rural Development, 2019

Population

According to Ghana Statistical Service, the projected population for Western North Region is 949,094 with 2.9% Annual Population Change from 2010 to 2020 (Ghana Statistical Service Web)

Climate (Temperature and Rainfall)

The Western North Region falls within the tropical rainforest climatic zone with high temperatures throughout the year between 25⁰C and 30⁰C and moderate to heavy rainfall pattern between 1200mm and 1780mm per annum. It comes with double maxima characteristics in June-July and September-October as its peaks. Humidity is relatively high, which is about 90% at night falling to 75% during the day.

The rainfall pattern is unique and suitable for agricultural activities in the Region. It has two long wet seasons separated by relatively short dry season. The dry

season is marked by relatively low humidity with hazy conditions occurring from November to January. The Region experiences fewer or no bush fire outbreaks due to the relatively short dry season.

The Region often experiences concentrated downpours up to 178mm rainfall in a day, which often causes widespread flooding at some settlements due to the nature of the soil.

The implication of the climate of the Region is that it is suitable for the growing of various crops particularly both cash and food crops. This is the reason why the Region is one of the leading producers of the cash crop like cocoa in Ghana.

Vegetation

The Region's vegetation is of the moist semi-deciduous (equatorial rain forest) type. The forest vegetation is made up of many different tree species including wawa (*Triplochiton selerexylon*), mahogany (*Khaya invorensis*), esa (*Celtis*), ofram (*Terminalia superba*), edinam (*Entandro phragma ivorensio*), onyina (*Ceiba petandra*), kyenkyen (*Antiaris Africana*) and odum (*Milicia exelsa*), Sapele etc. Hence, the Region is a suitable location for the establishment of timber firms. There are a number of forest reserves dotted in the Region, however, there is a high degree of depletion of the original forest due to improper farming practices, logging and illegal mining activities. Therefore, most of them has become secondary forest.

Relief and Drainage

Most part of the Region is generally undulating and lies between 152.4m – 660m above sea level. The highest point is also the highest in the Western North Region at Attanyamekrom (Adiembra), near Sefwi Bekwai which is 660m. Other highest peak

are the Krokoa peak which is 510m above sea level lies roughly to the South-West of Sefwi Wiawso.

Three of the major rivers in the country are found in the Western North Region. They are Rivers Ankobra, Bia and Tano. The Region is also endowed with some streams which serves as tributaries of these major rivers. These are Krodua, Atronsu, Subriso, Kroseini, Suraw, Chira and Akataso Suhien, Kunuma, Disue etc.



Figure 5 Map of Western North in National and Regional Context

Source: Ministry of Local Government and Rural Development, 2019

CHAPTER FOUR

PRESENTATION OF DATA, ANALYSIS AND DISCUSSION

Introduction

This chapter presents results and discussion of project management practices with empirical evidence from the Western North Region of Ghana. The analysis covers several variables with more focus on the objective of the study. First, the analysis is done on background responses of respondents. The results are presented with descriptive and inferential statistics with implications on project management practices and its effects on successful completion of road projects in Western North Region of Ghana.

Background Information of Respondents

Respondents' socio-demographic characteristics are presented and discussed under this section. They include gender, age, level of education, and experience as measured by the number of years in job.

Gender

Results of the survey indicate a relatively high gender disparity among the respondents. Men population dominates over female as shown in Table 4.1. It was discovered that 80.0% of the sample population are males while 20.0% represents female.

Table 1: Gender

Gender	Frequency	Percent
Male	77	80.0
Female	19	20.0
Total	96	100.0

Source: Field Survey, 2023

From Table 4.1, out of 96 observed sample for the study, 77 respondents representing 80.0% were males. The remaining 19 respondents were female representing 20.0% of the sample population. The results imply that the road construction are male dominated.

Table 2: Work Experience of Respondents

Features	Frequency	Percentage (%)
Years with the Road Construction Industry		
Below 1 year	6	6.25
1 – 5 years	10	10.42
6 – 8 years	30	31.25
Above 8 years	50	52.08
Total	96	100

Source: Field Data, 2023

With regard to the years of service in the road construction industry, as six (6) respondents representing 6.25% have served below one (1) year, ten (10) representing 10.42% have served between 1-5 years, thirty(30) representing 31.25% have also served between 6-8 years and the remaining fifty(50) respondents representing 52.08% have served over 8 years. Data on the years of service of respondents in the industry shows that, largely, respondents have accumulated several years of experience in the

study organization and thus had accumulated long years of experience to be the right respondents to participate in the study.

Table 3: Educational Background of Respondents

Features	Frequency	Percentage (%)
Educational Qualification		
Certificate		
Diploma	14	14.58
Degree	66	68.75
Master's and above	16	16.67
Total	96	100.0

Source: Field data, 2023

In relation to educational status of interviewees, it's worthy to note that participants were highly educated and were better in a position to understand the questions and provide appropriate answers to them. This is evident with the data which shows that, eighty-two of them representing 85.42% have bachelor's degree and above.

Correlation and Regression Analysis

Correlation analysis is used to determine the strength of the relationship between the variables. In this study, correlation analysis was used to determine the relationship between the independent variables, resource planning, monitoring, top management support and communication and the dependent variables effective project implementation.

Table 4: Correlation Analysis

	Resource Planning	
Resource Planning	Pearson CorrelationSig. (2-tailed)	
Effective Project Implementation	Pearson Correlation	.296
	*Sig. (2-tailed)	0.018

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The correlation results revealed that the variable resource planning have a positive and significant relationship with effective project implementation variable $r=0.296$, $p=0.018$). This was in line with results of Thuva (2011) who found that there was a strong positive correlation between project resource planning and project implementation.

Research Question One: Regression Analysis for Resource Planning and Effective Implementation of Road Construction Projects

Linear regression analysis was conducted to determine the relationship between the variable resource planning and effective implementation of road construction projects. Model fitness indicates the percentage of the dependent variable that is influenced by the dependent variables.

Table 5: Model Fitness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.453a	0.205	0.196	0.44525

The results indicated that the variable resource planning was satisfactory in explaining the independent variable effective implementation of road construction projects as shown by an Rsquare of 20.5%. Therefore, the variable was found to explain 20.5% of the independent variable effective implementation of road construction projects.

Table 6: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.357	1	4.357	21.977	.0230b
Residual	16.851	62	0.198		
Total	21.208	63			

The ANOVA results revealed that resource planning has a significant relationship with effective implementation of road construction projects ($p=0.023$). The results also revealed that resource planning is a good predictor of effective implementation of road construction projects as indicated by an F statistic of 21.977 and a corresponding p value of 0.000.

Table 7: Regression of Coefficient Results

	B	Std. Error	t	Sig.
(Constant)	2.155	0.373	5.771	0.000
Resource Planning	0.471	0.1	4.688	0.001

Regression of coefficient results indicated that resource planning had a positive and significant relationship with effective implementation of road construction projects ($\beta= 0.471$, $p=0.001$). The findings were further supported by a t statistic of 4.688 which was greater than the calculated t statistic of 1.96.

Research Question two: Influence of monitoring on effective project implementation.

Table 8: Correlation Analysis

		Monitoring
Effective Project Implementation	Pearson Correlation	.275*
	Sig. (2-tailed)	0.028

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The results further indicated that the independent variable project monitoring and effective project implementation have a positive and significant relationship

($r=0.275$, $p=0.028$). These findings were consistent with those of Phiri (2015) who found that there is a positive correlation between project monitoring and project implementation.

Regression Analysis for Monitoring and Effective Implementation of Road Construction Projects

Linear regression analysis was conducted to determine the relationship between the variable monitoring and effective implementation of road construction projects.

Table 9: Model Fitness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.515a	0.265	0.256	0.42829

The results indicated that the variable monitoring was satisfactory in explaining the independent variable effective implementation of road construction projects as shown by an R square of 26.5%. Therefore, the variable was found to explain 26.5% of the independent variable effective implementation of road construction projects.

Table 10: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.616	1	5.616	30.615	0.03
Residual	15.592	62	0.183		
Total	21.208	63			

The ANOVA results revealed that monitoring has a significant relationship with effective implementation of road construction projects ($p=0.03$). The results also revealed that monitoring is a good predictor of effective implementation of road construction projects as indicated by an F statistic of 30.615.

Regression of coefficient results for monitoring and effective implementation of road construction projects were further shown.

Table 11: Regression of Coefficient Results

	B	Std. Error	t	Sig.
(Constant)	1.781	0.384	4.639	0.000
Monitoring	0.557	0.101	5.533	0.01

Regression of coefficient results indicated that monitoring has a positive and significant relationship with effective implementation of road construction projects ($\beta=0.557$, $p=0.01$). The findings were further supported by a t statistic of 5.533 which was greater than the calculated t statistic of 1.96.

Research Question three: Influence of Top Management Support on Effective Project Implementation.

Table 12: Correlation Analysis

		Top Management Support
Effective Project Implementation	Pearson Correlation	.327**
	Sig. (2-tailed)	0.008

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Furthermore, results indicated that the variable top management support has a positive and significant relationship ($r=0.327$, $p=0.008$). These findings agreed with those of Jitpaiboon and Kalaian (2015) who established a positive correlation between top management support and project implementation.

Regression Analysis for Top Management Support and Effective Implementation of Road Construction Projects

Linear regression analysis was conducted to determine the relationship between the variable top management support and effective implementation of road construction projects.

Table 13: Model Fitness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.519a	0.269	0.261	0.42704

The results indicated that the variable top management support was satisfactory in explaining the independent variable effective implementation of road construction projects as shown by an R square of 26.9%. Therefore, the variable was found to explain 26.9% of the independent variable effective implementation of road construction projects.

ANOVA Results for Top Management Support and Effective Implementation of Road Construction Projects are Presented.

Table 14: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.707	1	5.707	31.297	0.021
Residual	15.501	62	0.182		
Total	21.208	63			

The ANOVA results revealed that top management support has a significant relationship with effective implementation of road construction projects ($p=0.021$). The results also revealed that top management support is a good predictor of effective implementation of road construction projects as indicated by an F statistic of 31.297.

Regression of Coefficient Results for Top Management Support and Effective Implementation of Road Construction Projects were further shown.

Table15: Regression of Coefficient Results

	B	Std. Error	t	Sig.
(Constant)	1.781	0.38	4.691	0.000
Top management support	0.542	0.097	5.594	0.001

Regression of coefficient results indicated that top management support has a positive and significant relationship with effective implementation of road construction projects ($\beta = 0.542, p = 0.001$). The findings were further supported by a t statistic of 5.594 which was greater than the calculated t statistic of 1.96.

Research Question 4: Influence of Communication on Effective Project Implementation

Table 16: Correlation Results

		Communication
Effective Project Implementation	Pearson Correlation	0.484**
	Sig. (2-tailed)	0.010

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Moreover, the results revealed that the variable communication has a positive and significant relationship with effective project implementation ($r = 0.484, p = 0.010$). This concurred with Omwaka and Wanyoike (2016) who found that communication is positively correlated with effective project implementation.

Regression Analysis for Communication and Effective Implementation of Road Construction Projects

Linear regression analysis was conducted to determine the relationship between the variable communication and effective implementation of road construction projects.

Table 17: Model Fitness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.497a	0.247	0.235	0.44940

The results indicated that the variable communication was satisfactory in explaining the independent variable effective implementation of road construction projects as shown by an Rsquare of 24.7%. Therefore, the variable was found to explain 24.7% of the independent variable effective implementation of road construction projects.

Table 18: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.109	1	4.109	20.345	0.012
Residual	12.522	62	0.202		
Total	16.631	63			

The ANOVA results revealed that communication has a significant relationship with effective implementation of road construction projects ($p=0.012$). The results also revealed that communication is a good predictor of effective implementation of road construction projects as indicated by an F statistic of 20.345.

Table 19: Regression of Coefficient Results

	B	Std. Error	t	Sig.
(Constant)	1.893	0.444	4.262	0.000
Communication	0.538	0.119	4.511	0.019

Regression of coefficient results indicated that communication has a positive and significant relationship with effective implementation of road construction projects ($\beta = 0.538$, $p = 0.019$). The findings were further supported by a t statistic of 4.511 which was greater than the calculated t statistic of 1.96.

Overall Regression Analysis

Correlation analysis is used to determine the strength of the relationship between the variables. In this study, correlation analysis was used to determine the relationship between the independent variables, resource planning, monitoring, top management support and communication and the dependent variables effective project implementation.

A multivariate regression analysis was used.

Table 20: Model of Fitness Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812a	0.660	0.637	0.30953

The results of the model of fitness revealed that the R square which gives the amount of the dependent explained by the dependent variable was 66%. This means that project management practices explain 66% of the dependent variable effective project implementation.

Table 21: ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.978	4	2.745	28.646	0.03
Residual	5.653	59	0.96		
Total	16.631	63			

The ANOVA results showed that the relationship between project management practices and effective project implementation was significant ($p=0.03$). The results also indicated that project management practices are good predictors of effective project implementation as supported by an F statistic of 28.646.

Table 22: Regression of Coefficient Results

	B	Std. Error	t	Sig.
(Constant)	-0.441	0.425	-1.038	0.304
Resource Planning	0.236	0.095	2.487	0.016
Monitoring	0.556	0.104	5.326	0.002
Top Management Support	0.599	0.193	6.064	0.002
Communication	0.259	0.090	2.873	0.006

Overall regression of coefficient results indicated that resource planning had a positive and significant effect on effective implementation of projects ($\beta=0.236$, $p=0.016$). This implied that a unit increase in resource planning would lead to an improvement in effective implementation of projects by 0.236 units. These findings are consistent with those of Umulisa, Mbabazize and Shukla (2015) who found that project resource planning which includes financial resource planning, human resource planning, material and time resource planning has positive and yet significant relationship with project implementation.

Results also revealed that project monitoring had a positive and significant effect on effective implementation of projects ($\beta=0.556$, $p=0.002$). This implied that a unit increase in monitoring would lead to an improvement in effective implementation

of projects by 0.556 units. These results agreed with those of Wachaiyu (2016) who found that monitoring significantly influence project implementation success.

Results further revealed that top management support had a positive and significant effect on effective implementation of projects ($\beta=0.599$, $p=0.002$). This implied that a unit increase in top management support would lead to an improvement in effective implementation of projects by 0.599 units. These results were in line with those of Ahmed (2016) who established that top management support have significant positive influence on project implementation success.

Furthermore, results revealed that communication had a positive and significant effect on effective implementation of projects ($\beta=0.259$, $p=0.006$). This implied that a unit increase in communication would lead to an improvement in effective implementation of projects by 0.259 units. This concurred with Rao (2015) who found that effective communication has a positive and significant relationship with success of projects.

Therefore, the optimal model was presented as $Y = 0.441 + 0.236x_1 + 0.556x_2 + 0.599x_3 + 0.259x_4$

Where

Y = Effective Road Construction Projects X_1 = Resource Planning

X_2 = Monitoring

X_3 = Top Management Support X_4 = Communication

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This concluding chapter contains a summary of the objectives and methodology of the study, the key findings as well as the conclusions and recommendations for policy formulations.

Summary of Key Findings

From the results presented above, the study found that resource planning had a positive and significant effect on effective implementation of projects. This implied that increase in resource planning would lead to an improvement in effective implementation of projects. These findings were consistent with those of Umulisa, Mbabazize and Shukla (2015) who found that project resource planning which includes financial resource planning, human resource planning, material and time resource planning has positive and yet significant relationship with project implementation.

Results also revealed that project monitoring had positive and significant effect on effective implementation of projects. This implied that an increase in monitoring would lead to an improvement in effective implementation of projects. These results agreed with those of Wachaiyu (2016) who found that monitoring significantly influence project implementation success.

Results further revealed that top management support had a positive and significant effect on effective implementation of projects. This implied that an increase in top management support would lead to an improvement in effective implementation of projects. These results were in line with those of Ahmed (2016) who established that

top management support have significant positive influence on project implementation success.

The results revealed that communication had a positive and significant effect on effective implementation of projects. This implied that an increase in communication would lead to an improvement in effective implementation of projects. This concurred with Rao (2015) who found that effective communication has a positive and significant relationship with success of projects.

Conclusions And Recommendation

Conclusion

The study finding was that resource planning is significantly and positively related with and effective implementation of road construction Projects in Ghana. Based on this finding, the study concludes that resource planning affects effective project implementation in a positive and significant way.

Secondly, the study found that project monitoring has a positive and significant effect on effective implementation of road construction projects in Ghana. The study therefore concluded that project monitoring positively and significantly affects effective implementation of road construction projects.

In addition, the study found that top management support has a positive and significant effect on effective implementation of projects. This led to the conclusion that top management support on projects significantly and positively affects effective implementation of road construction projects.

Finally, the study found that communication has a positive and significant effect on effective implementation of projects. Therefore, the study concluded that

communication positively affects effective implementation of road construction projects.

Recommendation

The study recommends that project planners need to involve all stakeholders in designing the project, monitoring it, controlling it and evaluation. Project planning and implementation need to check each other to ensure the project is on schedule, budget and scope. Monitoring and Evaluation need to be applied in every project via participatory method which facilitates communication of challenges and successes in the project implementation process.

Project implementation cannot be effective without an excellent or good level of support from top management. The top managers from the construction companies should ensure proper planning, organizing is done according to the set objectives of the project and also lead and motivate the staff involved in the implementation of the projects.

The study recommends the management of firms undertaking road construction projects to setup rules and regulations that will guide the adoption of these management practices in order to effectively implement the projects they undertake. They should make objectives that incorporate these practices.

The study also recommends that the agents regulating the firms undertaking road construction projects to formulate policies that will ensure that proper management practices are adopted in these firms. They can also support the firms by providing training programs for the management to train on these aspects.

The study recommended that project activities should be communicated to every party concerned during implementation of projects and the manufacturing

companies should establish the right channels of delivery messages and feedback in both top-down and bottom-up communication.



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APPENDIX

Christian Service University College

Dear /Sir

I kindly request your participation and support on “AN ASSESSMENT OF PROJECT MANAGEMENT PRACTICES ON EFFECTIVE IMPLEMENTATION OF ROAD PROJECTS IN THE WESTERN NORTH REGION OF GHANA: A CASE STUDY OF THE BENCHEMA JUNCTION – ADJOAFUA ROAD PROJECT” which is being conducted as partial fulfillment of MSc in Monitoring and Evaluation. Any information you will provide will remain confidential and your participation is greatly appreciated.

You can **tick “√”, write in words, or rank** on the space provided.

The identity of the respondent shall be kept confidential. I would like to extend my gratitude for your help taking your precious time to respond to the questionnaire.

SUGGESTIONS FOR COMPLETION OF QUESTIONNAIRE

1. Please note that your response is anonymous and will be treated in absolute Confidentiality.
2. Writing your name is not required
3. The questionnaire comprises three parts and seven Sections and would take approximately 20 to 25 minutes to complete.
4. Should your company or organization wish to receive a copy of the final research report, you are welcome to write to:

THANK YOU

Part I. Demographic Information

1. Gender A. Male [] B. Female []
2. Age
- A. 18-25 [] B. 26 – 35 [] C. 36 – 45 [] D. 46 – 55[] E. 56 – 65 []
3. Level of education
- A. Certificate [] B. Diploma [] C. Degree [] D. Masters and above []
4. Work experience
- A. Below 1 [] B. 1 – 5 [] C. 6- 8 [] D. Above 8 []
5. Marital status
- A. Married [] B. Single [] C. Divorced [] D. Widowed []

Part II. Questions Related to Project Management Practices Section I. Resource Planning

1. Indicate your level of agreement with the following statements as regards monitoring and evaluation in the authority? Using a scale of 1 to 5 where 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 -agree, and 5 - Strongly agree

Key Focus of Resource Planning in your Organisation	SA	A	N	D	SD
Accountability					
Performance Management					
Impact Measure					
Compliance					
Value for Money					

Part III. Institutional capacity

1. Indicate your level of agreement with the following statements as regards monitoring and evaluation in the authority? Using a scale of 1 to 5 where 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 -agree, and 5 - Strongly agree

Questions on institutional capacity	SA	A	N	D	SD
M&E training have Provided to Monitoring and Evaluation staff employees					
Employees have adequate skills and knowledge to conduct M&E activities of the authority program					
Employees are ethically and legally rich toconduct M&E activities					
M&E employees have understood M & E guiding, framework, and manual harmonize M&E concepts					

Part IV. Resources and budgetary allocations for M&E

1. Indicate your level of agreement with the following statements as regards resources and budgetary allocations for M&E? Using a scale of 1 to 5 where 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 - agree, and 5 - Strongly agree

Questions related to resources and budgetary allocations for M&E	Very great extent	Great Extent	Moderate Extent	Lit extent	Not at all
Financial resources and budgetary allocations are adequate for project M&E					
There is an IT system to support M&E works and activities					
The M&E structure is organized through an adequate number and skill of expertise.					
M&E structure is organized with the required width and value for organization role and responsibility					
The authority has an investment to improve the monitoring and evaluation system					

Section V. linkage between planning, budgeting, and monitoring & evaluation

6. Which of the following aspects are specified the plan that guides M&E activities.			Agree	Neutral	
a) There is a clear plan or road map for					
b) There are a timeframe and schedule for data collection and processing					
c) There is a plan engagement stakeholder in and evaluation processes					
d) The project plan has a clear strategy for monitoring and evaluation					
e) Roles and responsibility of staff in M&E clear stated					
f) Resources needed for M&E are adequate					
g) Plan/schedule for the dissemination of finding					

Section VI. Data quality and consistencies

7. Does your organization regularly analyze data to assess achievements?

a. Yes b. No c. I have no idea

8. Does regularly M&E information provided to program managers/officers to assist indecision-making and planning? a. Yes, b. No

Section VII demand for and utilization of monitoring and evaluation results

9. In some organization, M&E expertise is asked to report M&E activities by differentstakeholders and organization through different format how about in your authority is asking? Yes [] No []

10. If your answer is yes, To what extent have a Burden on M&E expertise to report withdifferent reporting format to different stakeholder and organization

- a) very high []
- b) High[]
- c) Low []
- d) No []

Part III. Questions Related to main strengths and weaknesses of the organizationalapproach to M&E and to be a Challenges to implement M&E

Rate the possible challenges in M&E activities of projects in your organization

Possible	Agree	Neutral	Disagree		
Inadequate financial					
resourcesLack of expertise					
Uncommitted management					
Unavailability of funder					
Less involvement of stakeholder					
Inaccuracy in data collection					
Failure to process and analyze					
data Failure in planning					
Failure in selecting the correct performance					
Failure in evaluation design					
Managerially ineffectiveness or implementation					

Please mention any other challenges in monitoring and evaluation of any project in the organization.

Please mention any other monitoring and evaluation issues that might not have been covered above. Additional issue:

What recommendations would you give to help improve the M&E system of road projects?

