

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

**ASSESSING PROJECT MANAGEMENT PRACTICES IN AVOIDING PROJECT
DELAYS**

By

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(BSc. Construction Technology and Management)

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DECLARATION

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

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DEDICATION

I dedicate this work to my Wife, Children, Parents, Siblings, all Lecturers, especially Mrs. Theodora Oduro for her advice and encouragement. Students, Friends, and loved ones for being such an encouragement during my research for the project work.

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I am grateful to the Almighty God for assisting me to complete this work and sustaining me throughout my studies and also for granting me travelling mercies.

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God bless you all.

ABSTRACT

Projects in any form require project goals or objectives that set the directions for the entire project from start to finish including time constraints. Delayed projects generate risky, complex, and costly problems, and negatively affect parties or stakeholders. In that, a compensation is somewhat sought from the defaulter. This study sought to assess project management practices in avoiding project delays in the Ghanaian Construction Industry. Research questionnaires was designed to solicit responses from 96 respondents made up of project managers in the Construction Institution, Ministries, Associate bodies, Real Estates, and Construction Firms in both public and private sectors. The study revealed that the best project management practices that organization in the construction industry practice included the use of standardized software; development of competencies of staff, mentoring and coaching plans, roll out of Project Management Office (PMO) functions, and assessment of skills of staffs. Again, factors that ensure that project are successfully managed comprised sufficient financial support, availability of human resources, technology advancement, and adequate logistics. The impacts of project management practices on projects comprised building mutual trust or relationship, client satisfaction, project completion and delivery, and economic development. The project management process groups, that avoid project, delay project closing, project planning, project monitoring and controlling, projecting start or initiation, and project execution. It was recommended that, Project Managers, should inculcate into projects all Project Management practices in order to avoid projects delays and achieve a successfully project completion.

TABLE OF CONTENT

CONTENTS	PAGES
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT.....	v
TABLE OF CONTENT	vi
LIST OF TABLES.....	ix
LIST OF ACRONYMS	x
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study	1
1.2 Problem Statement	4
1.3 Research Aim.....	5
1.3.1 Objectives	5
1.3.2 Research Questions.....	5
1.4 Justification	6
1.5 Research Methodology	7
1.6 Research Scope	8
1.7 Organization of the thesis	8
CHAPTER TWO	9
LITERATURE REVIEW	9
2.1 Introduction.....	9
2.2. Project Management	9
2.2.1 Project Management Principles and Practices	11
2.2.2 Relevance of Project Management	13
2.3 Project Delay.....	14
2.4 Causes of Project Delays	15
2.4.1 Worldwide or Global Perspective	16
2.4.2 African Phenomenon.....	17
2.4.3 Ghanaian Context.....	18
2.5 Impacts of Project Delays	18
2.6 Proposed Solutions to Project Delays	19

2.7 Stakeholders in the Management of Project.....	19
2.7.1 Project Owners or Project Clients.....	20
2.7.2 Project Managers/Consultants.....	20
CHAPTER THREE	22
METHODOLOGY	22
3.1 Introduction.....	22
3.2. Research Design.....	22
3.2.1 Quantitative Research Approach.....	22
3.3 Unit of Analysis and Data Collection	22
3.4. Sources of Data Collection	23
3.4.1 Primary Data Collection.....	23
3.4.2 Secondary Data Collection.....	23
3.5 Population, Sample Size and Sampling Techniques.....	24
3.8 Data Collection Instrument	24
3.8.1 Reconnaissance Visit	24
3.8.2 Questionnaire Administration	25
3.9 Data Processing and Analysis.....	26
CHAPTER FOUR.....	27
RESULTS AND DISCUSSION	27
4.1 Introduction.....	27
4.2 Respondents Demographic Data.....	27
4.3. Types of Project Performed by Project Managers	29
4.4 Identification of Project Management Practices in the Ghanaian Construction Industry	30
4.4.1 Project Management Certification	30
4.4.3 Project Managers Certification Bodies	31
4.5 Organizations Best Practices Development	31
4.5.2 Organizations Desire to Establish Best Practices.....	33
4.6 Project Managing and Delivery Resources	33
4.7 Knowledge acquisition of PM Concepts.....	34
4.8 Project Management Factors and Tasks Consideration in Project Execution.....	35
4.9 Identification and Classification of Project Success and Failure Practices.....	37
4.9.1 Successfully Managed Projects.....	37
4.9.2 Identification of Project Success and Failure Practices	37
4.10 Observation of project management practices impacts.....	40

4.10.1 Positive and Negative Effects of Project Management Practices	40
4.10.2 Impacts of Project Management Practices on Projects	41
4.11 Contribution of Project Impacts on Avoiding Project Delay	42
4.11.1 Project Management Practices and Delay Avoidance and Implementation.....	42
4.11.2 PM Processes Avoiding Project Delay	43
CHAPTER FIVE	45
CONCLUSION AND RECOMMENDATIONS.....	45
5.1 Introduction.....	45
5.2. Review of Objectives	45
5.2.1 Objective One	45
5.2.2 Objective Two.....	46
5.2.3 Objective Three.....	47
5.3 Recommendations.....	47
5.4. Directions for Further Research.....	48
5.5 Study Limitations.....	48
REFERENCES	49
APPENDIX.....	57
ANNEX 1 Research Questionnaire.....	57

LIST OF TABLES

Table 4.1: Respondents Demographic Data.....	29
Table 4.2: Types of Project Performed by Project Managers	30
Table 4.3: Project Management Certification	31
Table 4.4: Project Managers Certification Bodies	31
Table 4.5: Best Practices Development of Organization	32
Table 4.6 Organizations Desire to Establish Best Practices	33
Table 4.7: Project Managing and Delivery Resources.....	34
Table 4.8: Knowledge acquisition of PM Concepts	35
Table 4.9: Project Management Factors and Tasks Consideration in Project Execution	36
Table 4.10: Successfully Managed Projects and Project Delay Experience.....	37
Table 4.11: Identification of Project Success and Failure Practices	39
Table 4.12: Positive and Negative Effects of Project Management Practices	41
Table 4.13: Impacts of Project Management Practices on Projects	42
Table 4.14: Project Management Practices and Delay Avoidance and Implementation	43
Table 4.15: PM Processes Avoiding Project Delay	44

LIST OF ACRONYMS

GSS	Ghana Statistical Service
IT	Information Technology
PM	Project Management
RII	Relative Importance Index
UAE	United Arab Emirates
WBS	Work Breakdown Structure

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Projects in any form require project goals or objectives that set the direction for the entire project from start to finish including time constraints (Cao *et al.*, 2015; Sha'ar *et al.*, 2017). This is because understanding the design of the project and its processes requires knowledge of modern management practices in the course of the management of the projects (Taylan *et al.*, 2014; Pournader *et al.*, 2015). The concept of project management (PM) has gained attention across all disciplines (Turner, 2007). This presupposes that the PM concept has certain unique characteristics that ensure successful completion of tasks (Söderlund, 2004). Hereto, numerous scholarly works have been done on the concept based on subject areas such as health, information technology (I.T), agriculture, financial, construction. Project management is deemed to be a process that entails the planning, monitoring, and controlling an all-in-one project or activity (Söderlund, 2004; Dinsmore and Cabanis-Brewin, 2011; Kerzner and Kerzner, 2017). The concept of project management is a combination of planning and management, and the management of change (Turner, 2007; Nasir *et al.*, 2016), and it is also deemed to solve complex organizational problems (Söderlund, 2004). The concept, according to Packendorff (1995) factors the direction and coordination of human and material resources through modern management application towards achieving successful completion of organization's objectives; it further involves a combination of resources such as quality, time and cost to complete activities (Atkinson, 1999; Walker, 2015), but Packendorff (1995) added that the concept entails the combination of participants satisfaction and scope of the project as well as cost, quality and time. Project time, cost and quality are known as the "Iron triangle" (Atkinson, 1999). This is a model that expresses the constraints of projects as cost, time and

scope or quality to be managed in order to successfully delivery projects. It is observed that the utilization of the combination of these resources to successfully complete a project could be exercised by the effort of a project manager (Packendorff, 1995; Akintoye and MacLeod, 1997; Meredith and Mantel, 2011). However, different projects or activities require different resources to execute it (Atkinson, 1999). This means that PM concept requires a mix of different resources depending on the type of project to be executed for its successful completion (Verzuh, 2015; Walke,r 2015). The practices of PM concept can be grouped into five phases, namely; the initial, planning, executing, monitoring and controlling, and closing phases (Burke, 2013; Larson *et al.*, 2014;). Moreover, the practices or principles of the PM concept that ensure successful project completion include: communication, stakeholder management, risk procurement, human resources, integration, quality, time, scope, and cost (Turner, 2014; Larson and Gray, 2015).

Projects are considered as human activities that achieve a clear objective against a scale of time (Walke,r 2015; Kerzner and Kerzner, 2017). Moreover, projects are considered as initiatives that have been programmed to be accomplished within a definite timeline, as well as a defined scope and resources (Larson and Gray, 2015; Heagney, 2016). In view of this, Binder (2016) ascertained that there are different kinds of projects in project management concept depending on the end product. Some of these include computer software development (building a new computer programme); administrative (installing office systems); design of building plans (engineering or architectural projects); construction project (for building or road construction); research project (investigating into issues or conducting a feasibility study) (Larson and Gray, 2015; Heagney, 2016; Harrison and Lock, 2017; Kerzner and Kerzner, 2017; Nicholas and Steyn, 2017). These projects entail a detailed or multitasking process ranging from the project design stages to completion stages (Winch, 2010; Kelly, Male and Graham, 2014). It was noted by Argyres *et al.* (2016) that projects need effective planning in order to be executed in a cost

effective manner, and further managed by project managers since they have the requisite knowledge or background (Marzouk and El-Rasas, 2014; He *et al.*, 2015). Projects are often time bound, meaning that, projects are executed within a specified time frame or duration, but there is a tendency for a project to delay (Verzuh, 2015; Harrison and Lock, 2017; Kerzner and Kerzner, 2017; Nicholas and Steyn, 2017). Hereto, project delay as described by Flyvbjerg (2014) and Kendrick (2015) are unexpected and unforeseen postponements of projects and its activities, and which could be attributed to certain incidents or events that hinder the project timeline (i.e. starting to finish time) (Kendrick, 2015; Larson and Gray, 2015; Kerzner and Kerzner, 2017). It is observed that the delivery of the objectives and goals of a project largely depends on the project duration and the extension of timeline causes project delay (Verzuh, 2015; Harrison and Lock, 2017; Kerzner and Kerzner, 2017; Nicholas and Steyn, 2017). Delays in project delivery are frequently initiated by conditions that create barriers to execute a project and further implement activities of the project (Flyvbjerg, 2014; Kendrick, 2015). Duat (2014) stated that owner-based, consultant-based, and contractor-based are categories of project delay causes. It is occasionally uncommon for a delay to be caused by the influence of a project sponsor, customer, but other project authorities or stakeholders (Larson and Gray, 2015; Heagney, 2016; Harrison and Lock, 2017). There are negative impacts on the results and activities of projects when project delays happen as a result of unexpected circumstances because they are uncontrollable and require extension of project activities as well as its duration and increments of the entire budget or project cost, in addition to extra consumption of project resources in order to achieve project completion or success (Argyres *et al.*, 2016; Harrison and Lock, 2017; Kerzner and Kerzner, 2017; Nicholas and Steyn, 2017).

1.2 Problem Statement

Delayed projects as stated by Alaghbari (2005) cited in Duat (2014) generates risky, complex, and costly problems. It was noted by Howick *et al.* (2009) that delayed project negatively affects parties or stakeholders, in that, a compensation is somewhat sought from the defaulter. Perhaps, there might be various factors or elements contributing to delay of projects. These factors in a broader perspective might necessarily differ among affected stakeholders. Halloum (2010) pointed out that, inconsistencies in project management concepts applications result into project delays. Moreover, improper management of such changes that are aimed at benefiting stakeholders, notably owners of project can negatively influence the process regarding cost overruns and time (Hao *et al.*, 2008; Halloum, 2010; Owolabi *et al.*, 2014). Numerous research studies under project management have investigated reasons as contributory factors to project failure and success (Atkinson, 1999; Bowen *et al.*, 2007; Isa *et al.*, 2013). Even though there are managerial supports attached to projects, however, projects continue to fail (Atkinson, 1999; Miterev and Nedelcu, 2012; Shah, 2016). This could be attributed to lack of implementation of project management practices, largely by the stakeholders. This was confirmed by Halloum (2010) that inconsistencies in project management concepts applications result into project delays. Consequently, this turns to slowdown the development of the sector economy (Saeed, 2009; Shah, 2016). Projects delay and failure can be attributed to lack of support and unexpected risks (Miterev and Nedelcu, 2012; Shah, 2016). However, not too much is known on its Ghanaian context, particularly, at the study area (Accra Metropolis). Moreover, the causes to this lack of implementation of PM practices on projects remain unknown, particularly at the study area (Accra Metropolis). Nonetheless, there have been a lot of measures that project management practices have been put in place to prevent project delays, but still project are delayed. This could be attributed to the fact that on the Ghanaian context, the practices remain unworkable due to its

implementation structures, or even if it is workable, it is probably done on the lower side. Moreso, due its nature of implementation, it could be difficult for practitioners to fully understand the practices. Additionally, it is realized that there is no clear-cut policy direction governing project management in Ghana, and hence the menace of project delay. Hence to ensure successful completion of projects in Ghanaian, there is the need to assess the project management practices.

1.3 Research Aim

To assess project management practices in avoiding project delays in the Ghanaian construction industry

1.3.1 Objectives

1. To identify the project management practices in the project management sector in Ghana
2. To identify and classify project successes and failures of these practices in the project management sector in Ghana
3. To identify the impacts of project management practices on projects in Ghana

1.3.2 Research Questions

1. What are the project management practices applicable to the Ghanaian project management sector?
2. What are the project successes and failures regarding these practices in the Ghanaian sector?
3. What impacts do these practices have on the project management sector in Ghana?
4. How do these impacts contribute to project delay in Ghana?

1.4 Justification

It was proposed by Hao *et al.* (2008) that a change or adjustment in project life cycle could curb the problem of project delays, but changes not conducted through a formal managerial process can generate extra problems. Atkinson (1999) emphasized that aside the “Iron triangle”, the success of a project could also be attributed to additional factors such as skills, tools, methodologies, and knowledge. Verzuh (2015) proposed that for a successfully completion of projects, certain project management principles or factors must be considered. These factors include: a managerial support, thus empowering project managers to fully make decisions with less or no interference; a controlled project scope, thus making project managers ensure that every stakeholder recognizes the end results of the project within a working budget and stipulated time; communication, thus ensuring effective communication channels created to address progress of the project; a comprehensive plan that illustrates the various sections of the whole project and the stakeholders role as well; project team agreement, thus ensuring cohesion among project stakeholders with the aim of eliminating or minimizing project constraints. These can be achieved through its implementation, especially at the project grounds particularly by project managers (Ling *et al.*, 2009; Binde,r 2016). This calls for effective documentation through decision-making (policy). These policy frameworks will to an extent state directives or mechanisms that will address issues related to project delays in Ghana, which is as a result of practices of project management. Again, such policy documents could serve as a guide stipulating laid down principles for general project management practices in the country. This is expected to speed up developmental projects, hence promoting economic growth due to the successful completion of projects and their utilization. Therefore, this study will be critical to key stakeholders in project management sector, which will in effect inform decision-making regarding project management practices in Ghana. Moreover, it will be useful to project management sector in preventing project delay issues which influence the

growth of the economy. This study will provide far-reaching understanding of the problem of project delays in relation to the practices of project management. This will help to bridge the knowledge gap on the context of project management practice on the Ghanaian setting. This study will also serve as a guide or a case study and will contribute to existing knowledgebase on the subject matter and also improve on scholarly works. This will be essential to researchers and the academic world and also excite further studies to be conducted on the subject matter. Therefore, this study is aimed at assessing the project management practices in avoiding project delays on the Ghanaian context.

1.5 Research Methodology

This study was an exploratory research. The researcher, at this stage has background knowledge about the subject area and was seeking to further understand the phenomenon (Fisher and Ziviani, 2004; Labaree 2009). In view of this, some research questions formulated for this study were in line with exploratory research methodology. This study was a survey research design that focused on the assessment of project management practices in avoiding project delays in the construction industry in Ghana. Furthermore, aim was to identify the project management practices would enable project managers in particular to avoid project delays, which could in turn result into project failure. Primary data was largely focused by the study with desk review of literature that was considered as secondary data. The research aim and objectives was achieved through questionnaire administration with structured questions or closed-ended questions as the main research instrument used to gather relevant data that targeted project managers in both the public and private sectors in the construction institution, ministries, construction association group, real estates, and construction firms. This is because the study was purposive and took quantitative type as the research design. The population size was unknown because there was not any classified number or statistics on project managers in the aforementioned construction firms targeted for data responses. The analysis of the field

data was done with the use of the Statistical Package for Social Scientists (SPSS Version 21). Moreover, analysis of variance was based on relative importance index (RII), which enabled the identification of the practices through ranking, with indicators such as average mean score, standard deviation, and range. The results after the analysis were presented largely in tabular and subsequently in charts such as pie and bar graphs for visual representation.

1.6 Research Scope

The scope of this study was classified into contextual and geographical. Contextually, the focus of the study was to assess the project management practices in avoiding project delays in the construction industry in Ghana. Geographically, the Accra Metropolis in the Greater Accra Region of Ghana was used as the study area due the availability of project managers to enable smooth collection of data.

1.7 Organization of the thesis

This thesis is categorized into **five (5) chapters**. **Chapter One** presents relevant background of the study and includes the statement of problem, justification, objectives of the study research questions, significant of the study and the limitations of the study. **Chapter Two** focuses on the review of literature and concepts related to the study. It broadly concentrates on projects, project delays, causes of project delays, project management, as well as the concept of project management practices. **Chapter Three** concentrates on the materials and methods. It provides relevant information on the procedure for data collection. **Chapter Four** touches on the description of the results from field data collected and its discussion in relation to project management practices. **Chapter Five** concludes and provides recommendations for further consideration.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter concentrates and builds on the theoretical aspect of the study. The discussion under this chapter is done on heading and sub-headings basis. It covers project management, project management practices, project delays, and causes of project delays.

2.2. Project Management

The knowledge of modern management techniques and understanding of project design and processes is required to successfully manage projects (Cao *et al.*, 2015; Sha'ar *et al.*, 2017). Projects have project goals and its associated limitations to include project time frame for its completion (Taylan *et al.*, 2014; Pournader *et al.*, 2015). Project management involves the implementation of specific skills, knowledge and processes, tools and techniques, in combination with other resources to successfully achieve project outcomes by an organization or project managers (Ling *et al.*, 2009; Binder, 2016). Project management encompasses the interaction of human and material resources in a project life cycle through the application of modern project management practices to complete projects based on the project cost, scope, quality, time and stakeholders satisfaction (Nasir *et al.*, 2016; Rumane, 2016). According to Zavadskas *et al.* (2010), project management consists of a five life cycle processes, namely project initiation, planning, execution, monitoring and controlling and closing stages. The initial cycle entails the formulation of stakeholder management and integration management in relation to the identification of project stakeholders and the development of the project charter respectively. The planning cycle where integration management seeks to develop the management plan for the project, the scope management which defines and manages the project scope, and creates work breakdown structure (WBS) as well as gathering project requirements or specifications, time management where detailed project activities are outlined to include

planning, defining, and developing project schedules and activities, project resources estimation and time frames for project activities, costs management which covers the project planning, estimations, and project budget determination, quality management which also covers the planning and identification of project quality requirement, human resource management which entails the project planning and human resource needs identification, communication management which connects the planning of project stakeholder interactions, risk management covering the identification of risk associated issues, quantitative and qualitative risk analysis performance, and risk mitigation strategies planning, procurement management deals with the identification of procurement requirements, stakeholder management entails stakeholder expectations. During the execution cycle the management and direction of all project related works at the integration management level are developed, project quality performance at the quality management level, project team selection, development, and its management at the human resource level, interacting with stakeholders at the communication management level, securing the required procurements at the procurement management level, as well as managing stakeholder expectations at the stakeholder management level. The monitoring and controlling cycle seeks to the controlling and monitoring of the project activities including its changes are conducted at the integration management level, controlling and validation of project scope at the scope management level is performed, assessing project time management, project cost control at the cost management level, ensuring delivery of quality of project at the quality management level, controlling the communication of stakeholders and project team at the communication management level, procurement controls are undertaken at the level of procurement management, in addition to the control of stakeholder engagements at the level of stakeholder management. The final cycle concludes the projects with the closure of all project cycles, as well as closure of project procurements at the integration and procurement management levels respectively. These

project life cycles take recognition of the project management practices or principles which include the management of the project stakeholders, risk, procurement, communication, human resource, quality, cost, time, scope and integration (Zavadskas *et al.*, 2010; Nasir *et al.*, 2016; Rumane, 2016)

2.2.1 Project Management Principles and Practices

Research works on project management have proven that the concept (project management) has been preferred as the most effective project tool in terms of project delivery considering timeframe, costs and budgets, including resource constraints (Flyvbjerg, 2014; Kendrick, 2015; Heagney, 2016). The concept of project management is to enable practitioners to create a project plan, identify and manage the scope of the project, define and allocate project resources, prepare the project costs, estimates and budgets, build a project work breakdown structure, identify and manage risks and associated issues, understand project procurement processes, and manage the project development (Larson and Gray, 2015; Harrison and Lock, 2017; Nicholas and Steyn, 2017). Abudi (2009) stated that individual project managers and project management organizations have their own way of describing what is meant by the term “practices” in project management. This is because; the term could be defined to mean the conventional ways of observing an individual or organization’s principles. In this view, Abudi (2009) defined a practice as an ideal system currently known by an individual or organization to achieve its specified objectives or goals. According Abudi (2009), a project manager willing to achieve or meet project outcomes may apply one or more of the following procedures as a best practice: he develops competencies, use of standardized tools and templates. Moreover, he uses standardized processes, career path development, skills assessment, strategic training or education programme development. The process for resource planning and allocation development, as well as monitoring and coaching plan formalizations, and requirement and support for industry certification are drawn by the project manager. However, the

implementation of the above practices is possible when project resources are effectively managed, project goals are aligned to that of the organization, tracking and reporting of project progress are improved, as well as ensuring a judicious use of project resources to achieve success (Abudi, 2009). Achieving project success, Gilbert-Jamison (2010) proposed a six project management principles. These include: project mission and vision which helps the project manager and the stakeholders to elucidate the probable project outcomes and provide a roadmap for its achievement; project goals or objectives which is to be implemented to build effective client-consultant loyalty, and enhance productivity and morale, and it is also possible to exactly measure the expected project extent of improvement; stakeholder engagement which defines roles and functions of every actor along the project phases; project intervention and execution plan which focuses on identifying an appropriate medium of resolving project related risks and issues; project organizational alignment which also considers the forms of communication among project teams and stakeholders in terms of update regarding the work progress of the project; project measurement and accountability which helps to determine project success in relation to project implementation, refinement, and sustainability, whereas accountability helps to recognize and reward distinguished stakeholders, while improving on the expectations of the underperformers with the needed skills. More also, a nine project management practices were proposed by Salapatras (2000). According to him, the practices of project management include: defined project life cycle and milestones which enables the project manager to drawing and define project stages, project deliverables, key indicators and adequacy conditions for project stakeholders, in relation to project life cycles, thus project concept, planning, implementation and closing; project requirements and scope which assures that all stakeholders share a common understanding of the entire project phases; defined roles, systems, and organization which simplify the roles and functions of project stakeholders; project quality assurance which ensures the identification of quality standards and

requirements; project commitment which includes the project planning, timelines or scheduling, costs and budgeting, allocation of project resources and staffing; project tracking and variance analysis which considers and identifies cost overruns, schedule slips, open issues, risks and related problems; counteractive decisions which focuses on tradeoffs, decreases scope and increases cost to save time; project growth and issue management which concentrates on adjusting project phases to ensure effective project management; project authorization and change control mechanisms which requires the execution of factors that in turn achieve project success.

2.2.2 Relevance of Project Management

Projects successfully managed and completed portray some positive impacts reverberating above project delivery (Winter *et al.*, 2006; Meredith and Mantel Jr, 2011; Burke, 2013). In view of this Aston (2017) emphasized that project management delivers project success, in that, project teams and stakeholders experience unforeseen expectations as a result of lack of resources, impracticable planning, poor quality deliverables, budget over- expectations, high risk, unspecified objectives, as well as improper managerial issues. Project management is an essential project management tool that enables the practitioner to learn from the successes and failures of previous projects. This is because previous mistakes are either being minimized or unrepeated by considering a documentation of track records of previous works (Robinson *et al.*, 2005; Burke, 2013; Aston, 2017). Moreover, PM practices enable project managers to continuously have an oversight on an existing or on-going projects, in that, they will ensure that tracking of project progress is properly done in line with the original plan, and in effect, enables the project to detect any deviations along the project life cycle (Aston, 2017; Kerzner and Kerzner, 2017). Additionally, the process ensures project orderliness, in that, the activities or roles performed by individuals along the project cycle is monitored and assessed to ensure that the correct thing is done at the appropriate time (Aston, 2017). Hereto, individuals' roles

are clarified; processes and inputs streamlined, risk anticipated, and the idea of checks and balances are considered to enable projects being aligned with the project goals and strategies (Aston, 2017). In project management, project risks are properly managed and alleviated against to avoid expected problems (Mobey and Parker, 2002; Meredith and Mantel Jr, 2011; Burke, 2013). In relation to this, Aston (2017) emphasized that project managers are required under project management practices to critically assess potential project risks and draw mitigation and contingency plans to ensure project success. The project delivery after successful completion should be of quality; hence, project management ensures that quality control mechanisms are checked. This is because quality assurance is a major factor that contributes to the success of projects due to its mechanism to create time for project stakeholders to test and examine project outputs along the project life cycle (Atkinson, 1999; Burke, 2013; Aston, 2017). Project management ensures that proper project budgets are estimated, project delivery timelines are well set. This enables project managers to reasonably and achievably negotiate project timelines and milestones with project stakeholders in the project life cycle (Shenhar and Dvir, 2007; Fleming and Koppelman, 2016; Aston, 2017). Project management is deemed to bring leadership and direction to the project (Aston, 2017). This is to allow and enable project team members to perform their roles well through motivation, removal of potential setbacks, and efficient utilization of resources for successful project completion as a result of effective teamwork (Aston, 2017).

2.3 Project Delay

Duat (2014) and Obodoh and Chikasi (2016) defined a delayed project as an extended project completion time against the backdrop of the scheduled time frame. This can be attributed to high project cost or estimates, improper time management (Obodoh and Chikasi, 2016; Shah, 2016). This is deemed to further affect the project fund in terms of profit loss because of

additional usage of project materials, project design changes and labour payment (Duat, 2014; Shah, 2016). Still, a delayed project as noted by Owolabi *et al.* (2014) can initiate negative effects such as loss of productivity, contract termination and increased costs. Again, delayed projects as stated by Alaghbari (2005) cited in Duat (2014) generate risky, complex, and costly problems. There are stakeholders including consultants, project managers and project owners who are responsible for the management projects. These according to Duat (2014) emphasized that they should be responsible for project delays. Hence, the implications of project delay, according to Owolabi *et al.* (2014) result into client dissatisfaction to include other stakeholders such as the consultant and project managers.

2.4 Causes of Project Delays

The causes of project delays are multi-faceted and country or individual specific (Emam *et al.*, 2014; Shah, 2016). More also, in small firms with constricted project budgets, delay in project can be costly and frustrating (McQuerrey, 2016). Some of the causes of project delay could be attributed to poor scheduling of projects which intends to affect the project even from the commencement stages to the completion stages; lack of cooperation which results from ineffective project stakeholder collaborations, including communication; poor project budgetary issues affecting the entire project life cycles, thus enabling adjustment of resources; change in client's preference or project design which could be attributed to untimely intervention in the process of executing the project; external influences which is beyond the control of project managers (Emam *et al.*, 2014; McQuerrey, 2016). Project delays are most closely related to the construction industry (Duat, 2014; Emam *et al.*, 2014). In this regard, the causes of project delays are discussed broadly under the following: worldwide perspective, African phenomenon and Ghanaian context.

2.4.1 Worldwide or Global Perspective

Evidence of project delays causes in Malaysia, can be cited as poor site management, improper project planning, and inexperience project managers (Sambasivan and Soon, 2007), in Australia, ineffective monitoring and feedback process, methods of project execution, and planning and scheduling deficiencies (Shah, 2016), lack of project risk management systems, poor early preparation, and perverse project scope occur in the UAE (Saeed, 2009), extra of use or need of materials, equipment, labour, and work overtime, as well as work statement re-estimation and project schedules in Canada (Hao *et al.*, 2010), economic conditions, weather conditions, poor labour productivity, project design changes, site conditions, late deliveries, inadequate planning in Jordan (Al-Momani, 2000; Odeh and Battaineh, 2002), owners indecisiveness, inexperienced manpower and improper planning in Bahrain (Emam *et al.*, 2014), lack of authority by project supervisors, ineffective planning, slow payment processes, political favouritism for project managers, and government institutions indecisiveness in Kuwait (Koushki *et al.*, 2005 cited in Emam *et al.*, 2014). In a related study on project delays, Divakar and Subramanian (2009) cited in Owolabi *et al.*, (2014) stated causes of project delays to be change in work schedule, limited site access, lack of management, and extra work. The afore-mentioned causes of project delays are seen as general issues; however, there are other delays causes that erupt along the project life cycle stage, for instance, Yang and Wei 2010 cited in Owolabi *et al.*, (2014) stated that at the project design phase; project managers inadequate schedule control, project owners inability to untimely review design, lack of current technological design, and ineffective coordination among project partners and stakeholders are some of the causes of project delays, especially in the construction industry, but could be related to other sectors of the economy as well. Interestingly, Doloi (2012) cited in Emam *et al.*, (2014) lack of skilled project managers is the cause of project delay in a high populated

country, whereas in countries with low population, unavailability of resources is seen a major cause of project delay (Emam *et al.*, 2014).

2.4.2 African Phenomenon

On the African continent, factors such as political, social, geographic and financial factors contribute to project delays in Sudan (Mohamed 2015), ineffective communication among project stakeholders, project design changes, insufficient project fund to complete projects, and indecisiveness on the part of project managers in Nigeria (Owolabi *et al.*, 2014), in contrast, Obodoh and Chikasi (2016) attributed causes of project delay in Nigeria to include lack of initial project payments, poor site management and supervision, inadequate project equipment, lack of modern technology, inconsistency project time assessments, lack of skilled labour, change orders. In South Africa, Baloyi and Bekker (2011) observed that delay in project payment and increase in material cost are the contributory factors to project delay with respect to time and cost overrun, whereas in Tanzania, funding problems, delay in payment of project managers and compensation issues, poor project management, project design changes, and lack of project valuation emerged as causes to project delays (Kikwasi, 2013). In Zambia, conclusions were drawn by Kaliba *et al.*, (2009) that the causes of delay in projects included economic problems, contract modification, delayed payments, procurement of project materials, changes in project designs and specifications, lack of skilled project team and labour disputes, poor supervision, poor project site conditions, lack of equipment, and financial difficulties regarding clients and project managers. One could observe from the above discussions that there are some common causal elements that run through some of the countries. This presupposes that causes of project delays are often keen to be resolved or better still, avoid in order to successfully completing projects on time or within time schedules.

2.4.3 Ghanaian Context

There seem to be very few research works conducted on project delay causes in Ghana. However, Fugar and Agyakwah-Baah (2010) concluded in their study that in Ghana, the major causal factors to project delay were financial constraints such as lack of accessing financial support, price increments of project materials, and payment certificate suspension. Still, a study conducted by Shah (2016) confirmed the earlier study, but further revealed that complexity of projects, underestimating of project cost, and delay in payment certificates are contributory factors to causes of project delay. Moreover, project delays as attributed to project cost performance by Frimpong *et al.* (2003) emphasized that poor technical performance, poor contractor management, increment in prices of project materials, procurement of project materials, and lack of payment to project managers remain peculiar to the Ghanaian context.

2.5 Impacts of Project Delays

The effects of project delays as stated by Fugar and Agyakwah-Baah (2010) can be incapacitating on certain project stakeholders such as project managers and project clients or owners. The common effects of project delay as many scholars have identified were cost and time overruns (Duat, 2014; Emam *et al.*, 2014; Owolabi *et al.*, 2014; Obodoh and Chikasi, 2016; Shah, 2016). Impacts of delay in projects can take a form of cash-flow problems, arbitration, mistrust, litigation, as well as growth in oppositional relationship among stakeholders (Ahmed *et al.*, 2002). However, the effects of delay of projects as noted by Obodoh and Chikasi (2016) included loss of productivity, contract terminations, discretion of work, loss of time, extra budgeting and project cost. More also, it increases the sense of dissatisfaction among stakeholders, project team and clients in respect to the overall performance (Wayland, 2015)

2.6 Proposed Solutions to Project Delays

Solutions to project delay causes are often proposed by scholars to include provision of sufficient financial support, skilled and experienced personnel including project managers and labour, effective project evaluations and assessments, as well as availability of resources such as machineries (Obodoh and Chikasi, 2016). Furthermore, increased coordination among project stakeholders along the project value chain such as service providers, product suppliers, effective project monitoring, feedback mechanisms, and efficient team work could contribute to project delivery (Wayland, 2015). It has been noted that setting realistic project goals, activities, and timelines; adopting a practical methodology to tackling project risks and associated problems also could help minimize project delay (Wayland, 2015)

2.7 Stakeholders in the Management of Project

The actors that ensure that a project is successfully executed, and for that matter embrace the outcome of the activities from their operations as noted by Newcombe (2003) and Succar (2009) are known as stakeholders of a project. In addition, Newcombe (2003) asserted that these stakeholders can be observed as project managers or consultants or multiple project clients for the kind of project they undertake. In view of this and on broadly basis, the main or key stakeholders in managing a specific project include the project owner or project client, and the project managers (Doloi, 2012; Duat, 2014). Nonetheless, there are other project players that contribute to the delivery of project, depending on the structure of the project to be executed (Newcombe, 2003; Doloi, 2012; Duat, 2014). Besides, these actors work hand-in-hand to achieve successful completion of projects without delay. In effect, Newcombe (2003) emphasized that diverse stakeholders have diverse projects interest, as well as possessing diverse types and levels of investment.

2.7.1 Project Owners or Project Clients

Depending on the kind of projects undertaken or to be undertaken, anyone could be an owner of that project (Newcombe, 2003; Hampson and Brandon, 2004; Doloi, 2012). These categories of clients could be public (i.e. Governments) and private entities (Doloi, 2009; Duat, 2014). Furthermore, the project client sometimes provides technical supports in terms of selecting experts in the project business to undertake its projects, thereby delivering quality works, because the client is concerned with project sustainability (Doloi, 2009; Duat, 2014). Project owners are noted for primarily providing resources, particularly financial support for successful project completion. Besides, an owner of a project provides effective monitoring and supervision of projects, as well as providing communication channels among other stakeholders such as the project team (Doloi, 2012).

2.7.2 Project Managers/Consultants

Project managers are considered as people with passionate, organized, and goal-oriented who are knowledgeable in the management of projects, and play a strategic role to the success of an organization or individuals' goals (Kendrick, 2015; Larson and Gray, 2015; Heagney, 2016; Harrison and Lock, 2017). They are highly people dependent because of the nature of their work, thus, possessing technical expertise or knowledge (Alvesson and Robertson, 2006). Besides, they are observed as agents of change, thus they can take the project as their own and apply their skills and experiences to inspire the project stakeholders including team members to achieve success (Cooke-Davies and Arzymanow ,2003; Söderlund, 2004; Walker ,2015). They can work effectively and actively under pressure, especially in changing environments (Winter *et al.*, 2006; Burke, 2013). It is further observed that project managers effectively communicate with stakeholders and keep them updated on progress of works, thus, this is to build and enhance team work (Meredith and Mantel Jr, 2011; Aston, 2017); they are capable of identifying risk issues and resolving them to prevent project delay (Cooke-Davies and

Arzymanow, 2003; Binder, 2016; Kerzner and Kerzner, 2017). Project consultants are noted for possessing adequate practices and experiences related to project management for achieving project cost effectiveness and achieve client or customer satisfaction (Doloi *et al.*, 2011; Doloi, 2012). It is further observed that project managers team up with the client particularly at the pre-contract stages to ensure successful completion of detailed project design in order to reduce possible changes of project design at the post-contract stages (Turner, 2007; Doloi, 2012; Nasir *et al.*, 2016). Most importantly, the primary role of a project consultant is to offer strategic project solutions, such as project advice for individuals and particularly project clients (Alvesson and Robertson, 2006).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This Chapter covers the research design, research purpose, and data collection procedure employed for this study as well as presentation of data. This chapter presents the research methodology used for the study. It describes and justifies the methods and processes that were used in collecting data for answering the research questions. The chapter is presented under the following sections: research design, sampling technique, sample population and sample size, and methods of data collection using data as well as how the data will be analyzed.

3.2. Research Design

This study employs the quantitative approach of survey. Quantitative method as expressed by Creswell (2012; 2013) adequately enables Social Scientists to assess a phenomenon by considering a section of a population and generalize the findings.

3.2.1 Quantitative Research Approach

Quantitative research approach as noted by Marczyk *et al.* (2005) and Bryman (2012) provides findings obtainable through statistical analyses. The quantification and presentation of data results in tables, charts and figures for this study was conducted with quantitative approach. This is because at the result section of this study, values of some measured variables are presented for visual presentation. This approach was employed to inform the researcher on the consideration and application of the sample frame and sample size for the study based on the population of the target respondents.

3.3 Unit of Analysis and Data Collection

Respondents which targeted project managers for the data collection were chosen from various the various construction firms, construction institutions, real estates, ministerial bodies, and

association bodies within the study area, Accra. These categories of project managers and consultants were interviewed using semi-structured questionnaires (Appendix A.). This helped the researcher to triangulate with the information gathered from the secondary data and to restructure questions in laudable manner (Neuman, 2005; Baxter and Jack, 2008)

3.4. Sources of Data Collection

This study employed primary and secondary data collections. Nevertheless, secondary data collection was conducted using the desktop study method (i.e. review of relevant materials and documents on the subject area)

3.4.1 Primary Data Collection

This research work employed a survey approach with structured interview or questionnaire administration (Appendix A) as data collection instrument. For the emphasis of this study, primary data as indicated by Driscoll (2011) and Kumar and Phrommathed (2005), is a firsthand data that is personally or individually gathered by the researcher instead of data gathered from books, journals, and databases. Driscoll (2011) ascertained that primary data collection is to enable the discovery of new findings that can be verified by other researches and to eliminate biases of the researcher in the process. Primary data collection enabled the researcher to study a problem that lacks published information (Driscoll, 2011; Neuman, 2013). Data collection activities targeted project managers as listed above under data collection section.

3.4.2 Secondary Data Collection

Secondary data according to Neumann (2005; 2013), increases or enhances data collection reliability and validity. Significantly, secondary data review provided understanding of the study area and issues surrounding the core objectives of the research and relevant literature

(Babble, 2013; Kumar and Phrommathed, 2005), the methodological approach for the entire survey, as well as discussion of the research findings (Neumann, 2005; Neumann, 2013).

3.5 Population, Sample Size and Sampling Techniques

The population of the targeted respondents (i.e. project managers in Construction) was unknown because there was not any data regarding project managers in the study area, and Ghana at large. Moreover, their statuses as project managers enable them to work under any organization provided they holds the requisite requirement. Furthermore, there was no statistics or data on project managers in specific organizations, especially those related to construction. Thus, the general population size for the target respondents considered for this study remained unknown.

Therefore, using the convenient sampling technique, one hundred and thirty-two (132) questionnaires were distributed. The convenient sampling technique is a non-probability sampling technique that relies on data collection from population members that are readily available.

3.8 Data Collection Instrument

The step-by-step data collection processes that this study used were reconnaissance visit and questionnaire administration.

3.8.1 Reconnaissance Visit

The researcher, during this process, travelled to the study area and formally introduced himself to the target respondents (project managers) to seek for their approval, build mutual trust and explained the purpose of the study to them. Still, the process enabled the pre-test of the questionnaire as recommended by Reynolds *et al.* (2014) that one could pre-test the standardized questionnaires during the entry process in order to ensure accurate findings from respondents and also obtain information aimed at improving the sequence, format and content

of the questionnaires. Moreover, during this process, a visit was made to some of the stakeholder institutions who were identified to have project managers at their firms (public and private). These target respondents (project managers) including stakeholder institutions were chosen based on their willingness to participate in the survey, and by virtue of their existence as project management practitioners in the study area and as the target respondents for this study.

3.8.2 Questionnaire Administration

A questionnaire, Dawson (2002) and Kumar and Phrommathed (2005) consists of a set of questions presented to a respondent for answers. In view of this, the respondent reads the questions, interpret and provide answers to the question. However, in cases whereby the respondent cannot read, interprets and answers by him/herself, the interviewer (researcher) does so. Hereto, the respondent is expected to hear and understand the language the interviewer uses (Lee 2009). Administering the questionnaire was done with the face-to-face interviewing approach as expressed by Reynolds *et al.* (2014) and Parkhurst *et al.* (2015). Moreover, Panneerselvam (2008) expressed that face-to-face interview is a detailed or in-depth survey method which seeks responses with better precision and flexibility since follow up questions can be made to seek more clarification when it is necessary. This implies that the interviewer (researcher) meets with the respondent to seek responses to the questions in the questionnaire. Questionnaire as stated by Dawson (2002) should be developed and tested carefully before the main survey. The questionnaire in this regard and during the main survey was administered to the target respondents (project managers and stakeholder institutions) to solicit information on broadly basis ranging from their demographic characteristics to their status as being project managers and roles they play to deliver projects successfully in Ghana.

In all, one-hundred and thirty-two (132) questionnaires were distributed; however, ninety-six (96) were retrieved for the analysis representing a response rate of 72.73%.

3.9 Data Processing and Analysis

The Statistical Package for Social Scientists (SPSS 21.0) was used to analyze the questionnaire data. Descriptive statistics were used to describe some selected variables of the respondents where frequencies of selected variables for all respondents were computed with percentages. This information was briefly summarized and coded for input into a statistical package. The results from the study were synthesized and presented in tables, bar and pie charts for the purpose of visual representation.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter provides information on the presentation of field data collected after analysis and further makes inferences into the results presented in relation to other scholarly works. The results presentation was done in table, pie and bar chart formats for graphical presentation. The first section covers the bio data of respondents, and the other sections entails the presentation of results based on study objectives. Those questions were largely asked in a Likert scale format and ranking was done from 1-5.

4.2 Respondents Demographic Data

The male project managers (78%) dominated their female counterparts (22%) (Table 4.1). This is noteworthy since the construction workers in the Ghanaian construction industry according to the Ghana Statistical Service (GSS) (2016) are made up of males (94%) and females (6%). The low numbers of females in the construction industry could be as a result of the intensity of the job nature. Private organizations (84%) are hugely dominating in the construction industry as against the public (16%). The statistics recorded by GSS (2016) confirms this fact that 92.4% of the general working populations in Ghana are employed by the private sectors as the public employs 7.6% and those workers in the construction field could not be excluded. The majority of the project managers (36%) are engaged in the real estate subsectors, followed closely by construction institutions or firms (26%). The vast increase in building projects such as construction of estate houses and high rise building in cities and towns across the country infers that real estate firms and construction firms are heavily investing in the construction industry of Ghana. The other firms included the design and construction, research institutions, and consultancy firms. However, the ministries and construction association bodies constituted (17%) and (10%) respectively. Furthermore, their job description deemed it that majority

(38%) of the project managers are employees. This is substantial in that it noted that employees are the pillars of every organization (Foster *et al.*, 2010; Kim *et al.*, 2012) due to the different job functions that exist in the organizations. Moreover, employees contribute significantly to the success of the organization (De Faria *et al.*, 2010; Kehoe and Wright, 2013). Managers (26%), supervisors (21%) and owners (16%) also comprised other job statuses of respondent surveyed for this study. The company size as illustrated in Table 1 shows that medium-size companies of (50-250 employees) recorded the highest (51%), and large size (250+ employees) (29%). This suggests that the construction industry in Ghana is hugely concentrated on the medium-to-large companies. These figures were revealed from the survey to be largely connected with the private sector, most especially the construction firms. This also helps to boost economic development in terms of employment creation. The small-size firm with (10-50 employees) consisted of the newly-established construction related firms in the construction industry in Ghana, and with the prospect of expanding their businesses, thus employing more employees. The years of work experience acquired by respondents assumed that majority (41%) of the project managers have worked for 6-10 year, and (27%) have acquired 11-15 years of work experience in the construction industry, and those who have worked for 16+ (10%). This suggests that workers in the construction industry have gathered some level of working experience due the continuous nature of their job. This further ascertains that quality works are executed and delivered by these project managers, and it results in sustainability of the construction industry. Nevertheless, those with less than 5 years of working experience (22%) comprised the newly-established firms in the construction industry in Ghana.

Table 4.1: Respondents Demographic Data

Characteristics	Frequency	Percentage (%)
<i>Gender</i>		
Male	75	78
Female	21	22
<i>Occupation Type</i>		
Private	81	84
Public/Gov't	15	16
<i>Organization Type</i>		
Ministries	16	17
Construction Institution/Firms	25	26
Construction Association/Union	10	10
Real Estate	35	36
Others	10	10
<i>Job Designation</i>		
Owner	15	16
Manager	25	26
Employee	36	38
Supervisor	20	21
<i>Company size</i>		
Small (10-50 employees)	19	20
Medium (50-250 employees)	49	51
Large (250+ employees)	28	29
<i>Work Experience</i>		
Less than 5 years	21	22
6-10 years	39	41
11-15 years	26	27
More than 16 years	10	10

Source: Field survey, 2018

4.3. Types of Project Performed by Project Managers

The study sought to determine the kinds of projects undertaken by project managers. The study (Table 4.2) revealed that vast number (57.1%) of project managers are engaged in the building subsector. This confirms the increasing building projects across the country, especially the real estate fields. Moreover, project consultancy works (42.9%) are performed by project managers. This according to them (project consultants) enables them to solve issues related to their field,

and also share knowledge and experience as well. Road construction (28.6%) is also executed across the country, and they include new construction and road maintenance works. Furthermore, engineering services (19%) are also provided by project managers largely in the aspects of civil services. Other projects (4.8%) undertaken by respondents included quantity surveying services, architectural duties, and building electrical and its advisory duties.

Table 4.2: Types of Project Performed by Project Managers

Characteristics	Percentage (%)
<i>Project Type Undertaken</i>	
Building	57.1
Road	28.6
Engineering	19.0
Project Consultants	42.9
Others	4.8

Source: Field survey, 2018

4.4 Identification of Project Management Practices in the Ghanaian Construction Industry

4.4.1 Project Management Certification

The study sought to verify the identities of project managers that were surveyed regarding certification. Table 4.3. illustrates that “Yes” (47%) are certified project managers. This is important because certification enables a project practitioner to be as professional as possible due to the knowledge and skills acquired. Apparently, 39% of project managers are “Yet to” get certification. This sounds well since according to them being certified makes you a professional project manager with the requisite skills and experience. However, very few project managers (10%) remained uncertified, yet continue to practice project management. This according to them, possess the will to get certification in the near future.

Table 4.3: Project Management Certification

Characteristics	Percentage (%)
<i>Project Management Certification</i>	
Yes	47
No	10
Yet to	39

Source: Field survey, 2018

4.4.3 Project Managers Certification Bodies

The study sought to identify the kinds of project management certification bodies that project managers surveyed for this study practice. The study findings (Table 4.4) illustrate that the least (10%) practiced certification is PMI Professional in Business Analysis (PMI-PBA). Again, 18% practice Certified Associate in Project Management (CAPM), and 26% practice Program Management Professional (PgMP). However, vast numbers of project managers are, and yet to practice “other” (46%) certification body largely in Project Management Professional (PMP-PMI).

Table 1.4: Project Managers Certification Bodies

Characteristics	Percentage (%)
<i>Project Management Certification Bodies</i>	
Project Management Professional (PMP)	26
Certified Associate in Project Management (CAPM)	18
PMI Professional in Business Analysis (PMI-PBA)	10
Others	46

Source: Field survey, 2018

4.5 Organizations Best Practices Development

The study sought to assess the best practices that organizations have developed. These questions were asked in Likert scale format of 1= very low, 2= low, 3= moderate, 4= high, and

5= very high. The responses as indicated in Table 4.5 are the summary of responses in percentage (%). Moreover, their respective mean score, range of responses, and relative importance index (RII) were computed. The RII is to determine the ranking of the elements in the order of importance based on the average mean score and range. Table 5 further illustrates that “Standardized software” was ranked 1st with RII score of 0.275. This infers that technology advancement propels the services of organizations. The second (2nd) ranked best practice was “Development of competencies” with 0.192 RII score respectively. This is essential in the sense that, the competencies of an organization’s resources such as human resources enable the organization to achieve success. “Mentoring and coaching plans” was ranked 3rd RII (0.232). This is also in line with the 2nd ranked best practices in that; it equips the human resource to enhance their competencies in order to achieve organizations goals. The “PMO function roll out” was ranked 4th with corresponding mean, range and RII scores of 0.186. The fifth (5th) best practice was revealed to be “Assessment of skills” obtaining RII of 0.192.

Table 4.2: Best Practices Development of Organization

Best Practices	Total	RII	Ranking
Standardized Process	96	0.183	7 th
Standardized tools and templates	96	0.192	8 th
Standardized software	96	0.275	1 st
Development of competencies	96	0.192	2 nd
Assessment of skills	96	0.192	5 th
Resource Planning/allocation Development	96	0.169	9 th
Career path development	96	0.195	6 th
Strategic training development	96	0.156	10 th
Mentoring and coaching plans	96	0.232	3 rd
Industry certification requirement and support	96	0.123	11 th
PMO function roll out	96	0.186	4 th

Source: Field survey, 2018

4.5.2 Organizations Desire to Establish Best Practices

The responses to the questions asked under this section were also based on Likert scale format of 1= very low, 2= low, 3= moderate, 4= high, and 5= very high. Again, the responses are summarized into percentages with their corresponding mean, range and RII scores. Table 4.6 shows that “Effective management of project resources” was ranked 1st with 0.192 as its as RII scores. This is deemed that the organization could effectively perform its services in the realization of its goals. The second (2nd) ranked factor was “Organization’s goal alignment” with RII score 0.179. This is also important because aligning the goals of an organization relates to the effective management of project resources. The rest “Project status tracking” was ranked 3rd with RII of 0.192 which was relatively high. The last and 4th ranked was the “Reduction in time and money spent to ensure project success” which RII scores 0.123 respectively.

Table 4.6 Organizations Desire to Establish Best Practices

Best Practices	Total	RII	Ranking
Project resource effective mgt.	96	0.192	1 st
Organization’s goal alignment	96	0.179	2 nd
Project status tracking	96	0.192	3 rd
Reduction in time and money spent	96	0.123	4 th

Source: Field survey, 2018

4.6 Project Managing and Delivery Resources

The questions under this section was also Likert scale based in the form 1= very low, 2= low, 3= moderate, 4= high, and 5= very high. Table 7. illustrates that “Human resource availability” was ranked 1st with 0.274 RII score. This implies that every project to be completed successfully needs to be considered for the man-power that would execute the activities and goals of the project. The second (2nd) ranked was “Sufficient financial support”. This is important because without it, the execution of the project is likely to be halted which would in

turn result into project delay and possibly project failure. Technology advancement ranked 3rd with RII (0.219). The last ranked was “Adequate logistics” with mean, range and RII scores of 0.195 respectively recorded the lowest values. Apparently, this does not mean that it of less importance, but it is of equal importance since logistics availability speeds up the project activities to completion.

Table 4.7: Project Managing and Delivery Resources

Resources for managing project	Total	RII	Ranking
Adequate logistics	96	0.195	4 th
Sufficient financial support	96	0.234	2 nd
Human resource availability	96	0.274	1 st
Technology advancement	96	0.219	3 rd

Source: Field survey, 2018

4.7 Knowledge acquisition of PM Concepts

The study sought to ascertain the formats in which project managers used to update their knowledge on project management and its concepts. Based on the responses summarized into percentages regarding the Likert scale format of 1= very low, 2= low, 3= moderate, 4= high, and 5= very high. Still, the responses, in view of identifying which format their acquisition of knowledge takes were ranked based on the level of importance (RII). Table 8 shows that project managers largely attend “sandwich programmes” to enrich their knowledge which was ranked 1st with 0.270 RII scores. In relation, its rate of attendance was on “monthly” basis with RII (0.214) and on “weekly” with 0.195 RII bases for “self-reading 0.179 RII plan of project managers acquiring or updating their project knowledge concepts.

Table 4.8: Knowledge acquisition of PM Concepts

Knowledge acquisition of PM concepts	Total	RII	Ranking
Seminar/conference/workshop	96	0.136	4 th
Training courses	96	0.183	3 rd
Sandwich programmes	96	0.270	1 st
Self-reading practice	96	0.179	2 nd
Frequency of acquiring PM concepts			
Daily	96	0.140	4 th
Weekly	96	0.195	2 nd
Monthly	96	0.214	1 st
Yearly	96	0.152	3 rd

Source: Field survey, 2018

4.8 Project Management Factors and Tasks Consideration in Project Execution

The study sought to determine which of the project management knowledge areas and the tasks are considered most in the execution of projects. The responses as indicated in Table 4.9 shows the summaries in percentage in relation to a Likert scale question in the form 1= very low, 2= low, 3= moderate, 4= high, and 5= very high. According Table 4.8.1, “Risk management” was ranked 1st RII value of 0.313. This implies that risk management remains the most considered factor when executing projects. This is important since risk management takes consideration the identification and assessment, and managing of uncertainties to projects in order to curtail its impact on projects (Wysocki, 2011; Turner, 2014). Risk is also deemed to affect one of the project objectives if careful measures are not put in place (Meredith and Mantel Jr, 2011; Harris, 2017). The second (2nd) and third (3rd) ranked factors were “Cost” and “Time” with RII score of 0.287 and 0.272 respectively. Project cost entails the budget estimated for a project, whereas project time stipulates the periods for series of project activities, and so, these are considered to be important during project execution (Marchewka, 2014; Kerzner and Kerzner, 2017). Integration and stakeholder management were ranked 4th and 5th with 0.272 and 0.262 RII values respectively. Notwithstanding, the other factors that were ranked 6th – 10th were equally considered to be of importance in project execution. In relation, the tasks performed

during execution of project revealed that, “controlling and monitoring” ranked 1st with 0.313 RII score. This is important because this task entails re-focusing on project activities that went off-track due to expectancies (Larson *et al.*, 2014; Walker, 2015). Moreover, during this stage, project baselines are defined, progress of project measured, status of project is reported, and correctional measures are factored to minimize faults that may cause delay of projects (Larson and Gray, 2015; Fleming and Koppelman, 2016). The second (2nd) ranked task was “project closing” RII score (0.262). This is significant because project closing ensures that project documents are recorded, organization’s assets archived, final payments made, resources released and project completed (Wysocki, 2011; Walker, 2015; Harris, 2017)

Table 4.9: Project Management Factors and Tasks Consideration in Project Execution

PM knowledge areas	Total	RII	Ranking
Time	96	0.272	3 rd
Cost	96	0.287	2 nd
Scope	96	0.253	8 th
Quality	96	0.274	6 th
Integration	96	0.272	4 th
Stakeholder management	96	0.262	5 th
Procurement	96	0.192	10 th
Human resource	96	0.206	9 th
Communication	96	0.274	7 th
Risk management	96	0.287	1 st
Tasks Performing in Project Execution			
Organizing	96	0.183	4 th
Planning	96	0.234	3 rd
Leading	96	0.166	5 th
Controlling and monitoring	96	0.313	1 st
Closing	96	0.262	2 nd

Source: Field survey, 2018

4.9 Identification and Classification of Project Success and Failure Practices

4.9.1 Successfully Managed Projects

The study sought to establish a statistics of project managers that have managed projects successfully. Table 4.10 illustrates that majority “Yes” (83%) have successfully managed projects. This is encouraging since it entrusts that they are capable of executing projects. This could also be attributed to the fact that, they have acquired the requisite knowledge background and experience. Whereas those “Uncertain” (11%), remain those who have not successfully managed project constitute (5%). These project managers attributed to the results to lack of project funds. Likewise project success, the study sought to ascertain project managers that have experienced project delay before. The field response revealed that very few (5%) have experience project delay. This is seen as a non-threat to the construction industry since majority (83%) has experienced the opposite.

Table 4.10: Successfully Managed Projects and Project Delay Experience

Characteristics	Percentage (%)
<i>Successfully Managed Projects</i>	
Yes	83
Uncertain	11
No	6
<i>Project Delay Experience</i>	
Yes	6
Uncertain	11
No	83

Source: Field survey, 2018

4.9.2 Identification of Project Success and Failure Practices

The study sought to identify and classify the factors that contribute to project success and delay in the course of executing projects. Questions related to this section were in Likert scale format of 1= very low, 2= low, 3= moderate, 4= high, and 5= very high. Moreover, responses were

computed into percentage and to enable identify factors, mean score, range score and relative importance index (RII) were also calculated. To determine which factors distinguish themselves, ranking of these factors were performed based the highest RII score. Table 4.11 shows that in terms of factors that determine the success of project, “sufficient financial support” with 0.298 RII score was ranked 1st. This is noteworthy since monetary support is considered to be the foundation of every project. This is because budgets are estimated for projects concerning the activities, and that, sufficient financial support is deemed to facilitate and speed the progress of projects. Availability of human resources was ranked 2nd with RII (0.239). This is also important since project team constitute the drive of project activities. Nonetheless, the other factors were considered to be of equal importance. In relation, the contributory factors to project success revealed that “Well-structured/defined project scope” ranked 1st 0.289 as range score and RII score respectively. This is true because project scope is considered to determine and document certain project elements such as deadlines, deliverables, tasks, project goals, budget or cost, and functions and features of projects (Gido *et al.*, 2014; Heagney, 2016; Harrison and Lock, 2017) Comprehensive planning of project activities was ranked 2nd with 0.272 RII. This is because extensive planning of projects ensures that project activities are adhered to in order to achieve success. Another contributory success factor was “Careful risk management” which was ranked 3rd 0.234 as its respective range and RII scores. Project risk, when carefully managed is deemed to accelerate the project goals (Leach 2014; Verzuh 2015). Conversely, contributory factors to project delay were revealed as “Financial constraints/inadequate project cost” ranked 1st with RII (0.320). This infers that project delay is hugely influenced by financial issues. This could be attributed to project clients or owners on the basis of not providing or releasing funds to be used for the project. A RII score of 0.278 was obtained by “Change in project scope” and that enabled it to be ranked 2nd. When a change is created in project scope, it considered to distort the flow of project activities, hence causing

delay. The third (3rd) ranked contributory delay factor was “Ineffective planning and scheduling” with 0.239 as its RII score. This could be attributed to unclear project goals. External factors ranked 4th obtained 0.234 RII These factors included weather changes, change in governments, and force majeure. Time overrun, cost overrun and litigation were ranked 1st 2nd and 3rd respectively as the impacts of delay on projects because they recorded higher values in range and RII scores during the ranking.

Table 4.11: Identification of Project Success and Failure Practices

Project success factors	Total	RII	Ranking
Adequate logistics	96	0.195	4 th
Sufficient financial support	96	0.298	1 st
Human resource availability	96	0.239	2 nd
Use of/advancement in technology	96	0.200	3 rd
Success contributory factors			
Dynamic project team	96	0.219	5 th
Comprehensive planning of project activities	96	0.272	2 nd
Effective communication	96	0.274	4 th
Careful risk management	96	0.234	3 rd
Strong project closure	96	0.159	7 th
Well-structured/defined project scope	96	0.289	1 st
Adequate timeframe	96	0.173	6 th
Project delay contributory factors			
Financial constraints/inadequate project cost	96	0.320	1 st
Change in project design	96	0.203	11 th
Ineffective planning and scheduling	96	0.239	3 rd
Change in project scope	96	0.278	2 nd
Ineffective decision-making	96	0.211	9 th
Limited timeframe	96	0.195	10 th
Poor communication and coordination	96	0.195	7 th
Difficult in Work permit acquisition	96	0.195	8 th
Poor project supervision	96	0.163	12 th
Low productivity of labour force	96	0.209	6 th
Shortage in project materials	96	0.214	5 th
External factors	96	0.234	4 th
Impacts of project delayed			
Time overrun	96	0.287	1 st
Cost overrun	96	0.262	3 rd
Litigation	96	0.234	4 th

Abandonment of project	96	0.176	6 th
Disputes/claims	96	0.186	5 th
Poor quality	96	0.141	7 th
Poor relationship among stakeholders	96	0.244	2 nd
Economic development	96	0.144	8 th

Source: Field survey, 2018

4.10 Observation of project management practices impacts

4.10.1 Positive and Negative Effects of Project Management Practices

The study sought to verify whether project managers perceive that project management practices positively affect projects. It was revealed from the survey (Table 4.12) that majority “Yes” (94%) that PM practices positively affect projects. This infers that in order to achieve project completion, success and delivery, a project manager should observe the principles of project management. However, those “uncertain” (6%) were of the point that not solely the PM practices positively affect projects, but other factors such as skills and experience. On the other hand, the study sought to verify, likewise assessing the positive effects, the negative effects that project management practices have on projects. Table 10.4.1. illustrates that majority “No” (83%) were of the view that PM practices have no negative effects on projects. This is because they believe that when the principles of project management are duly observed, projects will be completed as scheduled. On the other hand, very few (6%) agree that there are negative effects of PM practices on projects. This according to them is as a result of ineffective practicing of the practices.

Table 4.12: Positive and Negative Effects of Project Management Practices

Characteristics	Percentage (%)
<i>Positive</i>	
Yes	94
Uncertain	6
<i>Negative</i>	
Yes	6
Uncertain	11
No	83

Source: Field survey, 2018

4.10.2 Impacts of Project Management Practices on Projects

The study sought to identify the positive and negative impacts of PM practices on projects. Table 4.10.3 that illustrates the responses to questions asked in Likert scale format, 1= very low, 2= low, 3= moderate, 4= high, and 5= very high was computed in percentage. Yet, the indicators for identifying the impacts were based on the assessment of average range score and RII score indexes. Therefore, the positive impacts (Table 4.13) revealed that “Build mutual trust/relationship” was ranked 1st with its RII score being 0.272. This is true because after project completion and delivery, the client and the project manager establish cordial relationship with the view of working together in future projects. Client satisfaction and Project completion and delivery were ranked 2nd and 3rd respectively with RII scores of 0.278 and 0.262 respectively. Usually clients become satisfied when projects are completed on schedule and delivered. This is because they (clients) expect to achieve project goals or positive results in order not to run at a lost, in term of project delay after providing all resources necessary to execute the project. Apparently, the negative counterparts of positive effects revealed that “Economic development” was ranked 1st recording 0.159 as its RII score. This is significant because projects are to achieve economic progress in terms of the purpose that the project intends to offer. Therefore, when a project is delayed and becomes failure, the economic is

largely affected. Moreover, time and disputes/claims were ranked 2nd and 3rd accordingly to 0.144 and 0.109 RII index. Time overrun remains time spent above the agreed time of project delivery or time overspent aside contractual terms (Eriksson and Westerberg, 2011; Memon *et al.*, 2011).

Table 4.13: Impacts of Project Management Practices on Projects

Positive effects	Total	RII	Ranking
Project completion and delivery	96	0.262	3 rd
Client satisfaction	96	0.278	2 nd
Build mutual trust/relationship	96	0.272	1 st
Economic Development	96	0.203	4 th
Negative effects			
Time overrun	96	0.144	2 nd
Cost overrun	96	0.109	5 th
Litigation	96	0.092	6 th
Abandonment of project	96	0.085	7 th
Disputes/claims	96	0.109	3 rd
Poor quality	96	0.109	4 th
Poor relationship among stakeholders	96	0.078	8 th
Economic development	96	0.159	1 st

Source: Field survey, 2018

4.11 Contribution of Project Impacts on Avoiding Project Delay

4.11.1 Project Management Practices and Delay Avoidance and Implementation

The study sought to ascertain whether the practices of project management avoid project delay. The findings (Table 4.14) revealed that majority “Yes” (94) supports the idea that PM practices avoid project delay. This is true since the practices are designed to effectively help achieve goals. The implementation of PM practices causes project delay on the other hand reveals that majority “No” (89%) do not agree that PM practices and its implementation avoid delay. This confirms that the practices are created to facilitate projects development if properly observed. Other project managers (11%) remained uncertain of the issue since according to them factors

that accounts for avoiding project delay could also be considered among external factors such as change in weather conditions.

Table 4.14: Project Management Practices and Delay Avoidance and Implementation

Characteristics	Percentage (%)
<i>PM Practice and Delay Avoidance</i>	
Yes	94
No	6
<i>PM Practice Implementation and Delay</i>	
Uncertain	11
No	89

Source: Field survey, 2018

4.11.2 PM Processes Avoiding Project Delay

The study sought to find out which project management processes and knowledge areas avoid project delay. As illustrated in Table 4.15, responses have been percentage wised in relation to Likert scale questions in the form, 1= very low, 2= low, 3= moderate, 4= high, and 5= very high. Furthermore, the mean score, range score index and relative importance index were all calculated. The process factor that was ranked 1st was “project closing” which obtained 0.234 RII score. Its PM knowledge areas counterpart was “Human resource management” with 0.234 RII score. Project closing is important in that it entails serving clients with project deliverables, giving documentations and assets to clients, dispersing project team by making final payments, as well as notifying clients and stakeholders of project closure. Managing human resource of projects especially project team ensures and enhances effective project control by the project manager. The 2nd and 3rd ranked process factors were the plan and check and act respectively. These process groups also contribute to the avoidance of project delay as Table 15 shows that they obtained 0.209 and 0.203 RII scores respectively. On the other hand, the 2nd and 3rd ranked

knowledge areas factors that were considered to avoid project delay included quality and time managements respectively with 0.234 and 0.217 as respective RII score index.

Table 4.15: PM Processes Avoiding Project Delay

PM Process factors	Total	RII	Ranking
Initiating the project (start)	96	0.166	4 th
Planning the project (plan)	96	0.209	2 nd
Executing the project (Do)	96	0.192	5 th
Monitoring and controlling the project (check and act)	96	0.203	3 rd
Closing the project (end)	96	0.234	1 st
PM knowledge areas			
Stakeholder management	96	0.176	6 th
Communication management	96	0.189	7 th
Quality management	96	0.234	2 nd
Risk management	96	0.189	5 th
Human resource management	96	0.234	1 st
Time management	96	0.217	3 rd
Cost Management	96	0.209	4 th

Source: Field survey, 2018

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summaries of survey findings after analysis and discussion as conclusion and makes recommendations based on the findings.

5.2. Review of Objectives

5.2.1 Objective One

To identify the project management practices in the project management sector in Ghana:

Questionnaire survey was used to conduct collect appropriate data on this objective and analysis was done based on ranking of responses. The study revealed that most of the project managers were and yet to be certified. Moreover, the preferred certification was revealed to be the Project Management Professional (PMP-PMI). The best project management practices that organization in the construction industry practice in the order of importance included: the use of standardized software; development of competencies of staff, mentoring and coaching plans, roll out of PMO functions, and assessment of skills of staff. Still, the organizations' desire to establish these best practices with the major ones being effective management of project resources and alignment of organizations' goal, whereas the minor one included the tracking of status of projects and the reduction of time and money spent on projects. The major factors or resources considered by project managers for managing successful project in the order of importance comprised the availability of human resources and sufficient financial support, advancement in technology and adequate logistics. The medium by which project managers acquire further knowledge on their practice was largely through sandwich programmes, followed by self-reading of books. Yet, the rate or frequency of practicing these was revealed to be monthly and weekly basis in the order of importance. The project management factors

that enhance the execution of projects in the order of importance were revealed to include risk management, cost management, time management, integration management, and stakeholder management. Betterstill, the tasks that are employed by project managers in the execution of projects consisted of controlling and monitoring stages, closing stage, and planning stage in the order of importance. However, organizing and leading stages were considered to be of less importance as rated by project managers.

5.2.2 Objective Two

To identify and classify project successes and failures of these practices in the project management sector in Ghana:

Data collected for this objective was conducted through questionnaire administration, and the analysis was based on ranking of responses with its mean score and range score, as well as RII score index. The study further revealed that most of the project managers have successfully managed previous projects, and that very few have experienced project delay. The factors that ensure that project are successfully managed comprised sufficient financial support, availability of human resources, technology advancement, and adequate logistics in the order of importance. Hereto, its contributory factors also in the order of importance consisted of well-structured or defined project scope, comprehensive planning of project activities, careful risk management, effective communication and dynamic project team. On the other hand, the contributory factors for project delay included: financial constraints; change in project scope, ineffective planning and scheduling, external factors, and shortage of project materials. Nonetheless, the impacts of delay were considered to be time overrun, poor stakeholder relationship, cost overrun, litigation, and disputes or claims relating to projects.

5.2.3 Objective Three

To identify the impacts of project management practices on projects in Ghana:

The collection of data for this objective was through questionnaire administration as the the main research instrument, and the analysis of the responses was conducted by ranking the responses through the mean, range and RII score indexes. The study revealed that project management practices positively affect projects that are executed by project managers, and that, the negative influence is very few. Moreover, the impacts of project management practices on projects in the order of importance comprised building mutual trust or relationship, client satisfaction, project completion and delivery, and economic development. Nonetheless, its negative effects also in the order of importance were economic development, time overrun, disputes or claims, poor quality and cost overrun. The study revealed that the project management practices and its implementation by project managers avoid project delay. However, the project management process groups that avoid project delay in the order of importance were project closing, project planning, project monitoring and controlling, projecting start or initiation, and project execution. Furthermore, the project management knowledge areas that avoid project delay in the order of importance included human resource management, quality management, time or schedule management, cost management, and risk management.

5.3 Recommendations

The study proposes the following recommendations:

- i. Construction organizations and project managers should improve upon existing best practices and also develop other types in addition to making advancement in their desire to establish those practices. Again, the use of technology should be encouraged among project managers to speed up their functions. Yet, regular seminar, conferences and workshops should be organized in order to refresh their technical backgrounds.

- ii. Project managers should make advancement in exploring other factors that would enable them to successfully managed projects in order to curb or minimize project delay.
- iii. Project managers should observe the fundamental project management principles also consider external factors as contributory elements to project delay.

5.4. Directions for Further Research

The prime focus of this study was project managers in the construction industry in Ghana with Accra as the study setting. Further studies should be conducted on both the public and private construction workers to ascertain the outcome in order to establish a concrete project management practices that are peculiar to the construction industry in Ghana. Furthermore, studies should be conducted on the subject, but in different study area to establish any differences in the practice of project management across the length and breadth of the construction industry in Ghana.

5.5 Study Limitations

Although this study was successfully conducted, yet there were certain challenges that directly or indirectly affected the processes of conducting this study. These challenges included time constraints. Due to the limited time for completion of the programme, data collection most especially took majority of the time since the respondents were many. This enable much time to be spent on data collection, and less time on other aspects of the research. Financially, this study was challenged due to the cost of travel during data collection. In the review of literature, most of the information was purely published works, and unpublished works were rarely chanced upon to access the content for relevant information that might have contributed and enriched the content of this study.

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APPENDIX

ANNEX 1 Research Questionnaire

QUESTIONNAIRES FOR PROJECT MANAGERS IN THE CONSTRUCTION INDUSTRY

The objective of this study is to assess project management practices in avoiding project delays in the Ghanaian construction industry perspective for my thesis as part of my programmed of study.

My name is Theophilus Addo a master's student of the Department of Building Technology of the Kwame Nkrumah University of Science and Technology, KNUST, Kumasi.

NB:

All responses are anonymous and confidential. Under no circumstance would this study reveal your identity or response(s) in any form without your prior notice.

Please select the relevant answer(s) where applicable.

A. Demographic Information

1. Sex a. Male [] b. Female []

2. Status of Occupation a. Private [] b. Public/Gov't [] c. Others [].....

3. Organization type?

a. Construction Institution [] b. Ministries [] c. Construction Association Group []

d. Real Estates [] d. Construction firms [] f. Others [], specify
.....

4. Type of works undertaken? Pls select as multiple as possible

a. Building [] b. Road [] c. Engineering [] d. Project Consultant [] e. Engineering []

f. Others [], specify

5. Level at your current organization/Job Designation

a. Owner [] b. Manager [] c. Employee [] d. Supervisor [] e. Field []

f. Others [], specify
.....

6. What is the size of your company?

a. Micro (<10 employees) [] b. Small (10-50 employees) [] c. Medium (50-250 employees) []

d. Large (250+ employees) []

7. Years of work experience in project management?

a. Less than 5 years [] b. 6-10 years [] c. 11-15 years [] d. 16+ years []

Objective 1: identification of the project management practices in the construction industry in Ghana

8. Are you a certified Project Managers? a. Yes [] b. No [] c. Yet to []

9. If Yes, which certification body have you/ yet to join?

a. Program Management Professional (PgMP) [] b. Portfolio Management Professional (PfMP) []

c. Certified Associate in Project Management (CAPM) [] d. PMI Scheduling Professional (PMI-SP) []

e. PMI Professional in Business Analysis (PMI-PBA) [] f. PMI Agile Certified Practitioner (PMI-ACP) [] g. PMI Risk Management Professional (PMI-RMP) []

h. Others [], specify

.....

Please base your assessment on the scale of: 1=very low, 2=low, 3=moderate, 4=high, 5=very high

Development of best practices by organizations	Ranking Level				
	1	2	3	4	5
Standardized processes					
Standardized tools and templates					
Standardized software					
Development of competencies					
Assessment of skills					
Development of a process for resource planning/allocation					
Development of career paths					
Development of strategic training/education programs					
Formalized mentoring and coaching plans					
Requirement and support for industry certification (CAPM®, PMP®, PgMP®)					
Development and roll out of a PMO function					

Standardized processes					
Needs that Organizations desire to establish best practices					
Effective management of project resources					
Alignment of projects to the strategic goals of the organization					
Improved tracking and reporting on projects' status					
Reduction in the time and money spent on ensuring projects are brought to a successful conclusion					
Resources for managing projects and delivery					
Adequate Logistics					
Sufficient Financial /monetary support					
Availability of Human Resource					
Use of /advancement in Technology					
Others (please specify)					
Knowledge acquisition of PM Concepts					
Attending seminar/conference/workshops					
Attending Training Courses					
Attending Sandwich Programmes					
Practicing self-reading					
Others (please specify)					
Frequency of Knowledge acquisition of PM Concepts					
Daily					
Weekly					
Monthly					
Yearly					
PM Practice(s) do you consider in executing projects					
Time					
Cost					
Scope					
Quality					
Integration					
Stakeholder Management					
Procurement					
Human Resource					
Communication					
Risk Management					
Performing PM Tasks when executing a project					
Project Organizing					
Project Planning					
Project Leading					
Project Controlling and Monitoring					
Project Closing					

<i>Others (please specify)</i>					

Objective 2: identification and classification of project successes and failures of these practices in the construction industry in Ghana

18. Have you successfully managed a project before?

a. Yes [] b. No [] c. Uncertain []

19. Have you experienced a project Delays before?

a. Yes [] b. No [] c. Uncertain []

Please base your assessment on the scale of : 1=very low 2=low 3=moderate 4=high 5=very high

Factors that account for successful management of projects	Ranking Level				
	1	2	3	4	5
Adequate Logistics					
Sufficient Financial /monetary support					
Availability of Human Resource					
Use of /advancement in Technology					
<i>Others (please specify)</i>					
Contributory factors that lead to successful projects					
Dynamic project team					
Comprehensive planning of project activities					
Effective communication					
Careful risk management					
Strong project closure					
Well-structured/defined project scope					
Adequate time frame					
<i>Others (please specify)</i>					
Contributory factors that lead to project Delays					
Financial constraints/inadequate project cost					
Change in project design					
Ineffective planning and scheduling					
Change in project scope/ scope creep					
Ineffective decision-making					
Limited timeframe					

Poor communication and coordination					
Difficult in Work permit acquisition					
Poor project supervision					
Low productivity of labour force					
Shortage in project materials					
External factors					
Others (please specify)					
Impacts of project delayed					
Time overrun					
Cost overrun					
Litigation					
Abandonment of project					
Disputes/claims					
Poor quality					
Poor relationship among stakeholders					
Economic development					

Objective 3: Observation of the impacts of project management practices on projects in Ghana

20. Do project management practices have positive effects on projects?

a. Yes [] b. No [] c. Uncertain []

21. Do project management practices have negative effects on projects?

a. Yes [] b. No [] c. Uncertain []

Please base your assessment on the scale of : 1=very low 2=low 3=moderate 4=high 5=very high

Impacts of Project Management practices on Projects	Ranking Level				
Positive Effects	1	2	3	4	5
Project completion and delivery					
Client satisfaction					
Build mutual trust/relationship					
Economic Development					
Others (please specify)					
Negative impacts					
Time overrun					
Cost overrun					
Litigation					
Abandonment of project					
Disputes/claims					
Poor quality					

Poor relationship among stakeholders					
Economic development					

Objective 4: How do these impacts contribute in avoiding project delay in Ghana.

22. Does project management practices avoids project Delays?

a. Yes [] b. No [] c. Uncertain []

23. Does implementation of Project Management Practices delay Projects?

a. Yes [] b. No [] c. Uncertain []

Please base your assessment on the scale of: 1=very low 2=low 3=moderate 4=high 5=very high

Factors in avoiding project delay in Ghana.	Ranking Level				
	1	2	3	4	5
Initiating the Project (Start)					
Planning the Project (Plan)					
Executing the Project (Do)					
Monitoring and Controlling the Project (Check and Act)					
Closing the Project (End)					
Procurement Management					
Stakeholder involvement in the project					
Communication management					
Quality Management					
Risk Management					
Human Resource Management					
Time Management					
Cost Management					
(please specify)					