ADDIS COLLEGE

DEPARTMENT OF PROJECT MANAGEMENT POSTGRADUATE PROGRAM

FACTORS AFFECTING THE PERFORMANCE OF PUBLIC BUILDING CONSTRUCTION PROJECTS: (CASE OF PROJECTS OF ADDIS ABABA YEKA SUB CITY)

BY

RAHEL GETACHEW

ADVISOR: WENDIMU A. (ASSISTANT PROFESSOR)

A THESIS SUBMITTED TO ADDIS COLLEGE OF STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD DEGREE OF MASTER OF ART PROJECT MANAGEMENT

NOVEMBER, 2023

ADDIS ABABA, ETHIOPIA

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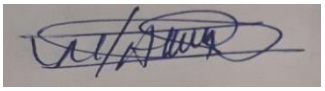
Mr. Wondimu A. (Ass. Professor) 

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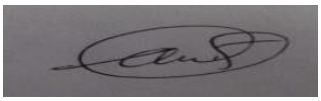
Dr. Aweke Ashenafi 

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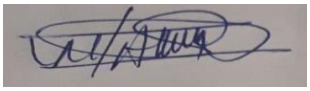
DECLARATION OF CANDIDATE

I, Rahel Getachew hear by declare that this research project work entitled Factors Affecting the Performance of Public Building Construction Projects: (Case of Projects of Addis Ababa Yeka Sub City) is my own paper work for the award of the Degree of Master of Art Project Management of Addis College and that it has not been submitted before anywhere at Master Level for any other master degree and other similar titles of any other university or institutions.

Ms. Rahel Getachew		November 29, 2023
Name	Signature	Date

STATEMENT OF CERTIFICATION

This is to certify that Rahel Getachew has carried out this research project work on the topic entitled ‘’Factors Affecting the Performance of Public Building Construction Projects: (Case of Projects of Addis Ababa Yeka Sub City)’’ under my supervision. This work is original in natural and it is sufficient for submission for the partial fulfillment for the award of degree of Master of Project Management.

Mr. Wondimu A. (Assistant Professor)		November 01, 2023
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ACKNOWLEDGEMENT

First and for most, I would like to thank almighty God for his blessing and for making me to accomplish this huge achievement. Next I would like to give my deepest gratitude to my advisor Mr. Wondimu A. (Assistant Professor) for his continuous advice and professional guidance towards the realization of this study. I would like to forward my warm appreciation and great thanks to my friends. At the end I want to extend my deepest thankful to the study participants for providing me with valuable information without any kind of inhabitations.

ABSTRACT

The construction industry, which has a huge effect on national economies, features several major players who both improve social living standards and develop the construction sector. These major players are contractors, consultants, and owners or client. Each player's project performance is affected by factors that impact every aspect of a construction project. This study identified a Factors Affecting the performance of Public Building Construction Projects the (Case of Projects of Addis Ababa Yeka Sub City) suffer from many problems and complex issues in performance such as time, cost and quality. The objective of the study was to assess the influence of stakeholder, quality, procurement and resource management related factors, on the project performance of Addis Ababa Yeka Sub City as a case study. In this study, explanatory and descriptive research methods were used and the research was primarily based on primary data collected through a structured questionnaire. To this respect, a total of 97 questionnaires were distributed to the whole concerned employee of the projects which constituted response rate of (79) or (81.4%) and this was adequate for statistical generalization of the study finding. The information was displayed by use of chart and table. The major stakeholder management related factor that affect the project performance is lack of understanding area of stakeholder's interests, lack of proper identification of its Stakeholder. The major quality management related factor that affect the project performance is lack of an effective project quality controlling system, lack of sufficient project quality planning and poor management and leadership towards quality. The survey revealed that the major procurement management related factor that affect the project performance is lack of proper procurement planning system. The survey revealed that the major resource management related factor that affect the project performance is price escalation of construction material in the market, material wastage on project, unavailability of construction material in the market. The research based on findings suggest that the project performance need to give more emphasis on stakeholder, quality resource and procurement management to enhance project performance. This will help to minimize poor performance due to occurrence of cost over run, time over run and quality problem.

Key Words: Project, Project Performance, construction Sector

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CHAPTER FIVE

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List of Acronyms

SPSS – Statically Package for Social Science.

GDP – Growth Domestic Product.

GNP – Gross National Product.

EC – Ethiopian Calendar.

GC – Gregorian Calendar.

ISO – International Organization for Standardization.

TQM – Total Quality Management.

KPI – Key Performance Indicators.

ETB – Ethiopian Birr.

SD – Standard Deviation

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Construction industry is one of the most important sectors that stimulate economic growth in any country (Ortiz, 2009). Construction Industry is Complex, In Its Nature as It Involves Large Number of Parties such as Clients, Contractors, Consultants, Stakeholders, Shareholders and Regulators. Performance is Associated with Several Factors such as Time, Cost, Quality, Client Satisfaction, Productivity and Safety. IRJET (2020) Project is a complex, non-routine, one-time effort limited by time, budget and resource and performance specifications designed to meet customer needs (Arslan, G. et al., 2009). A construction project is completed through a combination of many events and interactions, planned or unplanned, over the life of a facility, with changing participants and processes in a constantly changing environment. Construction industry is the advanced comes in its nature as a result, it contains an oversized variety of parties as clients, contractors, consultants, stakeholders, shareholders, and regulators, this parties is by moving the performance of the building construction comes and factors like time factor, cost factor, quality factor, client satisfaction factor, productivity factor, health and safety factor. Siddharth and Pitroda, J. (2015). Construction industry plays a serious role in development and achievement the goals of society. The performance of the development industry is suffering from national economies. Therefore, performance is related to many factors such as time factor, cost factor, quality factor, client satisfaction factor, productivity factor, and health and safety factor.

According to Ajayi et al. (2010; pp 529-536), the choice of contractor(s) is a critical factor for the project manager and typically has a significant impact on the success or failure of a project. The performance of a contractor would unquestionably be linked to the performance of the expert. Consider that the assessment of execution has been a challenge for the construction industry for decades. Analysts have proposed a few models and strategies for assessing venture execution. In any case, the majority of these strategies and also limit their examination to measures such as cost, schedule, or labor efficiency. Construction execution considers client satisfaction, time performance, cost performance, construction quality, and long-term progress.

In the building construction project, the perception of key stakeholders, including client/government officials, consultants, and contractors regards the failure in construction projects over their different stages that are, conceptual, planning and tender, production and operation. Alsulamy, S., Gupta, N. and Sloan, B. (2014). Every year, large companies spend large sums on the research and development about the most optimum combination of production or the most optimum function and feature of their products and services. The impact of poor quality on the price of products, organization earnings and the amount of and improvement and so forth (Amin, 2011).cost should be paid for high quality has raised many important issues affecting cost accounting, quality control, repairs and maintenance, supply chain, production management, stores, safety and health, education. Strategic decision on client satisfaction, financial stability, efficiency, and effectiveness of the internal business process, and project teams, sustainable projects and delivery of innovative projects to clients are to optimize building project performance. The aim objectives of the research are to assess the Factors Affecting Effective determining the performance of Public Building Construction Projects: (Case of Projects of Addis Ababa Yeka Sub City)

Due to the uniqueness of project, there is no one way or method of organization the resource for all projects. Every construction project is unique and has its own operating environment and sets of technical requirements. As a result the excavation of a construction project is subjected to numerous constructions that limit the commencement or progression of field operation of yeka sub city construction office is governmental organization which has been actively and continuously involved in Ethiopia in varieties of developmental and humanitarian activity. Currently, it is operating in over 157 projects. Though the type and degree of involvement is different in different woredas. In most of programs there are small to large construction projects undertakings as part of their plan. However, there is implication that despite trained professionals in yeka sub city construction projects do not always meet their goals.

This is manifested in building construction projects undertaken by the companies that have cost overrun delayed, completion period and poor quality resulting in reworks in various projects, high maintenance cost, dissatisfied client. On which have significant impact on project performance. The purpose of this study is therefore to systematically identify and examine the public building construction project performance in yeka sub city and how they influence and strike the construction performance to assist advance project performance the subsequent projects.

1.2 Statement of the Problem

Our country has witnessed a substantial increase in the number of stalled projects due to in appropriate project organization structures and ineffective leadership Abera and Fekadu (2016). In Ethiopia, the present state of the construction industry falls short of meeting domestic and international quality standards and the performance demand expected from the sector (MoWUD, 2006). The purpose of public-sector construction projects is to provide services to the general population for a low cost. These construction projects in many developing countries include those that aim to provide critical educational offices, health care facilities, business chances, and employment opportunities, among other things. To enable the community to realize the rewards of the above projects, they must be evaluated on all relevant aspects, including economic, social, and environmental ones. However, as previously stated, these projects have largely been evaluated on the basis of traditional performance assessment criteria such as time, cost, and quality, all of which are considered relevant for commercial projects.

It is shown from previous studies (Samson and Lema, 2002, Mekiya 2022, Abera and Fekadu, 2016; Kuprenas, 2003; Cheung, 2004; Iyer and Jha, 2005, Gebremedihn 2019) that the failure of any project is mainly related to the problems and failure in performance. Moreover, there are many reasons and factors which attribute to such this problem. As it is shown from previous studies (Karim and Marosszeky, 1999; DETR, 2000; Lehtonen, 2001; Samson and Lema, 2002; Kuprenas, 2003; Cheung, 2004; Iyer and Jha, 2005; Navon, 2005; Ugwa and Haupt, 2007) that the failure of any project is mainly related to the problems and failure in performance. Moreover, there are many reasons and factors which attribute to this problem. Most of these studies mainly focus on one aspect of performance issues mainly Cost and Time instead of their overall performance. In addition, there very few studies were conducted on Ethiopia context (Merid, (2016); Shambel, (2018); Fetene, (2008); Tadesse, (2009)) and none on specific non-governmental implemented construction projects.

Since completion on time, within budget, and with demand quality has been widely acknowledged as the three main objectives of project success, construction projects commonly confront problems of poor performance in terms of time delays, cost overruns, and a lack of quality. Time, cost, and quality were recognized as important markers of poor project success by Meng (2011).

Traditional project performance, which measures cost, quality, and time; and non-traditional project performance, which measures health and safety, the environment, management, worker skills, industrial relations, and facilities, according to Rwelamina and Savile (1994). In Yeka Sub City projects of public building construction, there are many projects failed due to effective performance and also performance measurement systems are not effective or overcome such this problem. Beside there are so many reasons and factors which attribute to such this problem. In Yeka Sub City public building construction sectors, there are many building construction projects collapse because of effective project performance. Also to this performance measurement system are not effective or efficient to overcome such this problem. There is implication that the performance of public building construction projects in yeka sub city is poor in terms of time, in terms cost and in terms quality performance yeka sub city construction office financial and physical performance reports (2015-2021).

There was rework and maintenance due to poor quality performance of construction once the provisional acceptance had been undertaken. This is demonstrated by high maintenance cost, dissipation resource, dissatisfied client and even projects which are not functional. Among the main cause of poor performance of construction projects are in effective resource management, lack of stakeholder management mechanism, lack of effective and efficient procurement management and inappropriate quality management. (Gebremedhin2009). There are various stakeholder, quality, procurement and resource management related factors which lead to failure of construction project performance in terms of time, cost and quality problem. Hence, this study was aimed to exploration construction stakeholder, quality, procurement and resource management related factors that affect construction time overrun, cost overrun, quality problem in Addis Ababa Yeka Sub City building construction projects.

1.3 Research Questions

- What are the effects of the stakeholder management related factor on the performance of public building construction projects in Addis Ababa Yeka Sub City?
- What are the effects of the quality management related factor on the performance of public building construction projects in Addis Ababa Yeka Sub City?
- What are the effects of the procurement management related factor on the performance of public building construction projects in Addis Ababa Yeka Sub City?
- What are the effects of the resource management related factor on the performance of public building construction projects in Addis Ababa Yeka Sub City?
- What is the level of public building construction projects performance in Addis Ababa Yeka sub city?

1.4 Objective of the Study

1.4.1 General Objective of the Study

- The aim of this research to investigate factors affecting the performance of public building construction projects in Addis Ababa Yeka Sub City.

1.4.2 Specific Objective of the Study

- To examine the stakeholder management related factor that affect the performance public building construction projects in Addis Ababa Yeka Sub City.
- To determine the quality management related factor that affect the performance public building construction projects in Addis Ababa Yeka Sub City.
- To examine the procurement management related factor that affect the performance public building construction projects in Addis Ababa Yeka Sub City.
- To identify the resource management related factor that affect the performance public building construction projects in Addis Ababa Yeka Sub City.

1.5 Significant of the study

Projects of Addis Ababa Yeka Sub City suffer from many problems and complex case (issues) in performance because of many reasons and factors. This study is to identify and determine the stakeholder management, quality management, procurement, management, resource management related factors affecting effective the performance public building construction in yeka sub city. The matter of fact concerning with the key performance indicators such as cost, quality and time in construction projects checklist was analyzed in order to know the main practical problems of projects.

The finding in the research will help public building construction in Addis Ababa Yeka Sub City contractors to understanding the main factors that affect the performance of building construction. This will enable the contractor in developing the strategies which can help them reducing the effects of these factors and improving the building construction performance of the projects. And then to formulate recommendations improve performance of low rise public building construction in Addis Ababa Yeka Sub City.

Stakeholder, quality, procurement, resource managed in all dimension having skilled management department available in all side both site and office will solve associated problem on proper construction management such as work of quality management consuming time management and also cost overrun management. It also helps to review existing policies, regulation and manual to create conducts environment for effective and efficient managing for project objective based on the findings, it differentiates the best performance of the public building construction projects in Addis Ababa Yeka Sub City.

1.6 Scope of the Study

Geographic scope: - The study is delimited to examine and evaluate the factor affecting the performance of low rise public building construction project performance in Addis Ababa Yeka Sub City.

Timeline scope: - The study focused on ongoing project between (2014e.c-2015e.c) for the sack of getting applicable information.

Methodological scope: - The researcher used explanatory and descriptive research methods, qualitative research method.

1.7 Limitation of the study

This study limited to stakeholder management, quality management, procurement management, resource management related factors affecting the performance of low rise public building construction projects performance in Addis Ababa Yeka Sub City from contractor's perspective. Client, consultant and any other participant views was not considered in this study. And the other factors may have significant influence in the project management process and thus was not considered in this study.

1.8 Organization the Study

This study was organized in five chapters. The first chapter deals with introductory, background of the study, statement problem, research question, objective, significant, scope, organization of the study. The second chapter covers literature review including empirical and theoretical and conceptual frame work.

The third chapter deals with description of the study area, research methodology that was used for the study which includes research design and approach, data collection and procedure, target population, method of data analysis, ethnical consideration. The collected data from the subject of the study area carefully analyzed and interpreted under chapter four. Finally the fifth chapter presents summary of finding, conclusions, and recommendations on the finding of the research. Reference and appendix, questionnaires are also included this study paper.

CHAPTER TWO

2. REVIEW OF LITERATURE

2.1 Definition of Project

A project is an effort that involves a series of activities and resources, aimed to achieve a certain output, considering constraints like time, quality and cost and which often introduces a change. Lake (1997) Project is a temporary endeavor that is needed to produce a unique outcome or result at a prespecified time using predetermined resources and each project has a definite beginning and a definite end. And also unique product the outcome of a project must be unique product, service or result. Megh Bahdure KC (2020).

A project is any undertaking that has definite, final objectives that represent specified values to satisfy some need or desire. It is normally characterized by limitations placed on time, cost, and resources such as people, skills, equipment, and materials. A project is a cluster of activities that is relatively separate and clear cut. It has a distinct mission and a clear termination point. A project might be a part of a broader program, yet its main theme lies in identifying a nice, neat work package within a bewildering array of objectives, alternatives, and activities. (Vijay K. Verma, 1995).

A project is a temporary endeavor undertaken to create a unique product, service or result Project Management institute (2008). According to Hillson D. (2009), all projects are risky and there are three separate reasons for that. The first reason is that all projects share common characteristics which inevitably introduce uncertainty. Some of this common characteristic are projects are unique, complex, involve assumptions and constraints, performed by people and involve change from a known present to an unknown future. The second reason is that all projects are undertaken to achieve some specific objectives. The final reason is that all projects are affected by the external environment they exist in. A construction project in simple words is a process of constructing something by human for one purpose or another. It may be a road, bridge, a dam, a private residence, an airport, a commercial building, office and etc.

Construction is the recruitment and utilization of capital, specialized personnel, materials, and equipment on a specific site in accordance with drawings, specifications, and contract documents prepared to serve the purposes of a client. According to Moavenzdadeh F. (1976), construction contributes to the economic development of any country by satisfying some of the basic objectives of development including output generation, employment creation and income generation and re-distribution; it also plays a major role in satisfying basic physical and social needs, including the production of shelter, infrastructure and consumer goods.

2.2 Definitions of Project Management

The practice of project management is not an exact science and there are wide variations of method, approach and terminology, reflecting the 'youthfulness' of project management as a discipline. This book explores many of these differences and reveals something of the richness and continuing evolution of the subject. Projects come in all shapes and sizes and involve many participants. At one end of the spectrum there is personal project management, the everyday juggling of meetings, calls and things to be done and managed so that the focus is always on the tasks with the greatest contribution to the desired goal. Paul D Gardiner (2005)

At the other end of the scale is the mega project, involving international consortia, joint ventures and vast sums of money. These projects are highly complex and challenging to plan, budget and schedule. Most projects lie between the two extremes. As organizations grow and adapt to their environment, they undergo change at all levels. The ability to conjoin vision, strategy and strategy implementation, using a robust, flexible and responsive delivery methodology, is essential. On this journey, organizations may need to manage stand-alone projects, those that are subprojects of larger projects and others that have been bundled into a portfolio of managed projects.

The experience and requirements of project management may be different in every case but the principles remain the same. Paul D Gardiner (2005) According to Turner (2019) the five core functions of project management can be explained as follows:

- The project entails work, and that scope of work must be managed.
- We assemble the resources into a temporary organization which must be managed.
- In order to deliver the desired benefit, the asset must function in certain ways, and at required levels of performance. Therefore, the performance, or quality, of the asset must be managed. But to deliver a quality asset the work of the project must also meet certain quality standards. Quality needs to be managed.
- In order for the project to be of value to both the client and contractor, it must cost less than the value of the benefit. Thus, cost needs to be managed. This involves managing the consumption of all resources, including people and material, not just money.
- Time needs to be managed for several reasons. In order for the work of the project to take place effectively and as efficiently as possible, the input of the various resources needs to be coordinated. Also, there will be a time value associated with the benefit from the asset. The later it is delivered, the less its value, so the timing of the work needs to be managed to deliver the asset within a time frame that will give the desired benefit.

A Knowledge Area is an identified area of project management defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools, and techniques. Although the Knowledge Areas are interrelated, they are defined separately from the project management perspective.

The ten Knowledge Areas are:

- ✓ **Project Integration Management.** Includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups.
- ✓ **Project Scope Management.** Includes the processes required to ensure the project includes all the work required, and only the work required, to complete the project successfully.
- ✓ **Project Schedule Management.** Includes the processes required to manage the timely completion of the project.

- ✓ **Project Cost Management.** Includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so the project can be completed within the approved budget.
- ✓ **Project Quality Management.** Includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements, in order to meet stakeholders' expectations**.**
- ✓ **Project Resource Management**. Includes the processes to identify, acquire, and manage
- ✓ **Project Communications Management**. Includes the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and ultimate disposition of project information.
- ✓ **Project Risk Management.** Includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project.
- ✓ **Project Procurement Management.** Includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team.
- ✓ **Project Stakeholder Management**. Includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution. The needs of a specific project may require one or more additional Knowledge Areas, for example, construction may require financial management or safety and health management. (PMBOK® Guide, 2017)

2.3 Constructions Project

Construction is an act or a process of constructing. It consists of a series of actions to produce either a new set of buildings and infrastructure or may involve alterations in the existing buildings and infrastructure (Radosavljevic and Bennett 2012). A construction project is a part of construction work that is being attempted or undertaken.

A project involves a series of complex or interrelated activities and tasks that consume resources to achieve some specific objectives. It has to be completed within a set of specifications under a limited budget (Munns and Bjeirmi 1996; Pinto and Slevin 1988).

There are numerous challenges and problems facing the construction industry all over the world. Construction projects are famous for being over budget, late and burdened with scope creep. Many of the problems facing the construction industry are delays, over budgeting and poor quality. The traditional construction management approach has been effective in solving some of these problems. The Construction Management has been defined as the overall planning of a project by allocating the appropriate resources to finish the project on time, at budget and at targeted quality. “Scope triangle “which illustrates the relationship between the three tradeoffs in a project cost, time & quality. Successful project management can be achieved by bringing together the tasks and resources necessary to accomplish the project objectives and deliverables within the specified time constraints and within the planned budget. (Marwa Gamal Swefie Fall, 2013).

A construction project in simple words is a process of constructing something by human for one purpose or another. It may be a road, bridge, a dam, a private residence, an airport, a commercial building, office and etc. Construction is the recruitment and utilization of capital, specialized personnel, materials, and equipment on a specific site in accordance with drawings, specifications, and contract documents prepared to serve the purposes of a client. According to Moavenzdadeh F. (1976), Construction contributes to the economic development of any country by satisfying some of the basic objectives of development including output generation, employment creation and income generation and re distribution; it also plays a major role in satisfying basic physical and social needs, including the production of shelter, infrastructure and consumer goods. Construction projects are intricate, time-consuming undertakings. The total development of a project normally consists of several phases requiring a diverse range of specialized services. In progressing from initial planning to project completion, the typical job passes through successive and distinct stages that demand input from such disparate areas as financial organizations, governmental agencies, engineers, architects, lawyers, insurance and surety companies, contractors, material manufacturers and suppliers, and building tradesmen. During the construction process itself, even a structure of modest proportions involves many skills, materials, and literally hundreds of different operations.

Construction industry is complex in nature because it contains large number of project parties as clients, consultants, contractors, stakeholders, shareholders and regulators. The complexity and fragmented nature of the industry and its highly casual employment of labor makes it sensitive to poor contract performance. (Helen, et, al, 2015). The successful completion of a project results in the organization moving to the future state and achieving the specific objective.

A project is usually deemed to be a success if it achieves the objectives according to their acceptance criteria, within an agreed timescale and budget" (Association for Project Management, 2012). Projects are initiated to realize business opportunities that are aligned with an organization's strategic goals. Prior to initiating a project, a business case is often developed to outline the project objectives, the required investment, and financial and qualitative criteria for project success.

2.4 Construction Project and Performance

Success of construction projects depends mainly on success of performance. Many previous researches had been studied performance of construction projects. Dissanayaka and Kumaraswamy (1999) remarked that one of the principle reasons for the construction industry's poor performance has been attributed to the inappropriateness of the chosen procurement system. Reichelt and Lyneis (1999) remarked three important structures underlying the dynamic of a project performance which are: the work accomplishment structure, feedback effects on productivity and work quality and effects from upstream phases to downstream phases. Thomas (2002) identified the main performance criteria of construction projects as financial stability, progress of work, standard of quality, health and safety, resources, relationship with clients, relationship with consultants, management capabilities, claim and contractual disputes, relationship with subcontractors, reputation and amount of subcontracting. Cheung et al (2004) identified project performance categories such as people, cost, time, quality, safety and health, environment, client satisfaction, and communication.

It is obtained by Navon (2005) that a control system is an important element to identify factors affecting construction project effort. For each of the project goals, one or more Project Performance Indicators (PPI) is needed. Pheng and Chuan (2006) obtained that human factors played an important role in determining the performance of a project. Ugwu and Haupt (2007) remarked that both early contractor involvement and early supplier involvement would minimize constructability-related

performance problems including costs associated with delays, claims, wastages and rework, etc. Ling et al (2007) obtained that the most important of practices relating to scope management are controlling the quality of the contract document, quality of response to perceived variations and extent of changes to the contract. It was recommended for foreign firms to adopt some of the project management practices highlighted to help them to achieve better project performance in China.

2.5 Problem of Constructions Project Failure

A large percentage of construction projects fail. In the U.S., between 65% and 80% of construction projects fail by either: (1) failing to meet their stated objectives, (2) running significantly late, or (3) costing far more than planned, or some combination of these three issues (Miller, 2013; Kaminsky, 2012). The definition of a failed project in that estimate – a project that fails significantly in the areas of scope/purpose, time and/or cost – is a common one. Some other definitions of failure that are sometimes used include failure to satisfy the customer and failure to improve the business. Failed construction projects are a problem because they drain resources. They can be a financial burden that causes financial issues for companies.

There is a lot of interest in why some projects fail and others succeed, including the reasons or drivers of project success. Many believe project management is most important since the role of the project manager is overall management of the project, including management of the team so that it functions appropriately and performs well. Some other factors that determine project success are the skill of the project team, process followed on the project, and whether there are established, tried-and-true ways or technology to accomplish the work (i.e. the level of difficulty of the project).

2.6 Theoretical Literature Review

2.6.1 Performance Measurement Theory

Performance management is measured in terms of project success as recommended by several literature sources (Wang and Huang 2006; Mir and Pinnington 2014). In terms of project success,

major studies have focused on time, cost, quality, productivity, and safety to name a few (Lim and Mohamed 1999; Chan et al. 2002; Chou et al. 2013; Berssaneti and Carvalho 2015). Some performance areas are common to list but there is no general agreement on the factors that need to be considered to measure project success. Performance measurement has been investigated through key performance indicators (KPI) (Skibniewski and Ghosh 2009; Ngacho and Das 2014), Balanced scored cards (Lin et al. 2011; Halman and Voordijk 2012), maturity models (Goh and Rowlinson 2013). Researchers have also employed different statistical techniques to explore relationships between performance areas and project performance (Toor and Ogunlana 2008; Choetal.2009).

According to Mbugua et al., (1999) and Love et al (2000) have identified a distinction between performance indicators, performance measures and performance measurement. Performance indicators specify the measurable evidence necessary to prove that a planned effort has achieved the desired result. In other words, when indicators can be measured with some degree of precision and without ambiguity they are called measures. However, when it is not possible to obtain a precise measurement, it is usual to refer to performance indicators. On the other hand, performance measurement is a systematic way of evaluating the inputs and outputs in manufacturing operations or construction activity and acts as a tool for continuous improvements Sinclair and Zairi, 1995; Mbuguaetal.(1999).

2.6.2 Performance Indicators

The United Kingdom (UK) working groups on Key Performance Indicators (KPIs) have identified 10 parameters for benchmarking projects in order to achieve a good performance in response to Egan's report (1998). However, most of these indicators, such as construction cost, construction time, defects, client satisfaction with the product and service, profitability and productivity, promote result-orientated thinking, whereas predictability of design cost and time, and predictability of construction cost and time, and safety can be regarded as process-orientated thinking. There are no suggestions for performance indicators in benchmarking projects at the project selection phase i.e., analysis stage, when the client and end-user's requirements need statements and the delivery strategy are determined. According to Dvir et al., (unpublished paper, 2002), the output of the requirements at the analysis stage will most likely determine the output of the entire development process.

They indicate that the origination and initiation phase, in which major decisions are made, such as decisions on the project's objectives and planning the project's execution, has the most influence on the project's success. The issue is much more serious when the kind of activities that should be undertaken depends on the outcome of earlier activities.

2.6.3 Stakeholder Theory

In the stakeholder theory, the idea is that stakeholders" who have stakes" interact with the organization and thus make its operation possible Blair (1998) et al. It's a theory that explains how organizations function with respect to various constituencies with whom they are inextricably embedded. Stakeholder theory development has centered on defining the stakeholder concept and classifying stakeholders into categories that provide an understanding of individual stakeholder relationships. Freeman define stakeholder as any group or individual who can affect or who is affected by the achievement of the firm's objectives and continues to provide the boundaries of what constitutes a stake. He argues that a stakeholder has some form of capital, either financial or human, at risk and, therefore, has something to lose or gain depending on a firm's behavior.

2.6.4 Factor affecting quality performance

Arditi & Gunaydin (1998) find that management commitment to continuous quality improvement, management leadership in promoting high process quality; quality training of all personnel; efficient teamwork to promote quality issues at the corporate level; and effective cooperation between parties taking part in the project are generic factors that affect process of quality. Pheng and Chuan (2006), through case studies, has shown that total quality management a successful management philosophy in the manufacturing and service industry could be replicated in the construction industry with similar benefits.

The benefits may be in terms of reduction in quality costs, and better employee job satisfaction. IyerandJha (2005) observe that a contractor's quality assurance system, which ensures consistent quality, is essential in preventing problems and the reoccurrence of problems. His survey also points to the lack of documentation of a quality system for the majority of the contractors.

2.6.5 Factor affecting cost performance

Iyer and Jha (2005) remarked that the factors affecting cost performance are: project manager's competence; top management support; project manager's coordinating and leadership skill; monitoring and feedback by the participants; decision making; coordination among project participants; owners' competence; social condition, economical condition and climatic condition.

Coordination among project participants was identified as the most significant of all the factors having maximum influence on cost performance of projects. Chan and Kumaraswamy (2002) proposed specific technological and managerial strategies to increase speed of construction and so to upgrade the construction time performance. It is remarked that effective communication, fast information transfer between project participants, the better selection and training of managers, and detailed construction programs with advanced available software can help to accelerate the performance.

2.6.6 Factor affecting time performance

They found that poor site management, unforeseen ground conditions and low speed of decision making involving all project teams are the three most significant factors causing delays and problems of time performance in local building works.

Okuwoga (1998) stated that cost and time performance has been identified as general problems in the construction industry worldwide. Dissanayaka and Kumaraswamy (1999) remarked that project complexity, client type, experience of team and communication are highly correlated with the time performance; whilst project complexity, client characteristics and contractor characteristics are highly correlated with the cost performance.

2.7 Empirical literature review

2.7.1 Performance of Construction Project

Al-Momani (2000) stated that the success of any project is related to two important features, which are service quality in construction delivered by contractors and the project owner's expectations. Managing the construction so that all the participants perceive equity of benefits can be crucial to project success. It is obtained that the complete lack of attention devoted to owner's satisfaction

contributes to poor performance. Declining market shares, low efficiency and productivity, and the rapid construction cost escalation also lead to poor performance. To perform is to take a complex series of actions that integrate skills and knowledge to produce a valuable result Elger (2008). Project performance has been defined as the degree of achievement of certain effort or undertaking which relates to the prescribed goals or objectives that form the project parameters Ahmad, Ismail, Nasid, Rosli, Wan and Zainab (2009).

The key requirements of suitable performance measures and measurement frameworks are identified as including, having a few but relevant measures, being linked with critical project objectives, providing accurate information, and comprising financial and non- financial measures Ankrah and Proverbs (2005). There are many potential measures of performance for evaluating the success of a construction project.

All address performance in three key areas: scope, schedule and budget Alvarado, Silverman and Wilson (2005). Akintoye and Takim (2002) discovered seven project performance indicators, namely: construction cost, construction time, cost predictability, time predictability, defects, client satisfaction with the product and client satisfaction with the service.

2.7.2 Factors Affecting Project Performance

According to Chan and Kumaraswamy (2002) remarked that studies in various countries appear to have contributed significantly to the body of knowledge relating to time performance in construction projects. Iyer and Jha (2005) remarked that project performance in term of cost is studied since 1960s.

These studies range from theoretical work based on experience of researcher on one end to structured research work on the other end. Moreover, Pheng and Chuan (2006) stated that there have been many past studies on project performance according to cost and time factors. Chan and Kumaraswamy (1996) stated that a number of unexpected problems and changes from original design arise during the construction phase, leading to problems in cost and time performance. It is found that poor site management, unforeseen ground conditions and low speed of decision making involving all project teams are the three most significant factors causing delays and problems of time performance in local building works. Okuwoga (1998) stated that cost and time performance has been identified as general problems in the construction industry worldwide.

According to Dissanayaka and Kumaraswamy (1999) remarked that project complexity, client type, experience of team and communication are highly correlated with the time performance; whilst project complexity, client characteristics and contractor characteristics are highly correlated with the cost performance. Reichelt and Lyneis (1999) obtained that project schedule and budget performance are controlled by the dynamic feedback process.

2.7.2.1 Stakeholder Management Related Factors

According to Newcombe project stakeholders are groups or individuals who have a stake in, or expectation of, the project's performance. The number of stakeholders involved or interested in the project normally increases the complexity and uncertainty of the situation. Each stakeholder usually has different interests and priorities that can create conflict or disagreements with the project Karlsen (2008).

Their influence may have an impact on the course of a project at some stage and some of stakeholders´ influence may impact the project more often than others. Thus, when diverse stakeholders are present in a construction, the project must to set up a plan for managing them in order to succeed.

Construction projects have many Stakeholders whose composition is often large and include: the owners and users of facilities, project managers, project architects and engineers, designers, shareholders, local authorities, legal authorities, employees, subcontractors, suppliers, process and service providers, competitors, banks, insurance companies, media, community representatives, neighbors, general public, government establishments, visitors, customers, regional development agencies, the natural environment, the press, pressure groups, civic institutions, and the list is almost endless Newcombe (2003).

Role of project Stakeholder

- **Client: -** The client can be public or private .the main difference between private construction project and public project is that the client and beneficiary are the same in private construction

project and in the construction housing project the main initiator is the beneficiary and benefit accrues to the communities affected.

- **Consultant: -** Provide the consultancy advice for the project on designing, evaluating the cost technical issues.
- **Contractors: -** Engage in actual construction according to the design, specification, and contract document communicated by the relevant parties.
- **Funding body or sponsor:-** Ensure that the fund are utilized for the purpose and the sponsor make sure that used according to the planned budget and time schedule .ensure that deliverable are delivered on time at specified and approved cost.
- **Municipalities: -** Provide the land; on which construction is carried out, their support is important for the timely purchase, planning, excitation and completion of the construction project.
- **Politicians**: - The support of the politician is important in project constructions they are the leaders of the communities surrounding the project. They influence and have power.
- **Government and Other Authorities**: - Ensure that the construction project is carried out according to laid down regulation and requirement. Source: Madhov and Rathod et al (2015).

2.7.2.2 Quality Management Related Factors

Quality can be defined as meeting the legal, aesthetic and functional requirements of a project. Requirements may be simple or complex, or they may be stated in terms of the end result required or as a detailed description of what is to be done. But, however expressed, quality is obtained if the stated requirements are adequate, and if the completed project on forms to the requirements Ardit and Gunayadin (1997). In the construction industry, quality can be defined as meeting the requirements of the designer, constructor and regulatory agencies as well as the owner.

According to an American Society of Civil Engineers study Ferguson and Clayto (1998) quality can be characterized as follows.

- Meeting the requirements of the owner as to functional adequacy; completion on time and within budget; lifecycle costs; and operation and maintenance. And Meeting the requirements

of the design professional as to provision of well-defined scope of work; budget to assemble and use a qualified, trained and experienced staff; budget to obtain adequate field information prior to design; provisions for timely decisions by owner and design professional; and contract to perform necessary work at a fair fee with adequate time allowance.

- ❖ Meeting the requirements of the constructor as to provision of contract plans, specifications, and other documents prepared in sufficient detail to permit the constructor to prepare priced proposal or competitive bid; timely decisions by the owner and design professional on authorization and processing of change orders; fair and timely interpretation of contract requirements from field design and inspection staff; and contract for performance of work on a reasonable schedule which permits a reasonable profit.
- ❖ Meeting the requirements of regulatory agencies (the public) as to public safety and health; environmental considerations; protection of public property including utilities; and conformance with applicable laws, regulations, codes and policies.

Construction Quality Problems: - Construction quality problems are generally divided into defects, common problems, and quality accidents. Construction quality defects refer to the phenomenon that technical indicators of construction fall short of the allowance of technical standards. Quality accidents refer to the quality damage with larger loss and influence of the safety of construction structures, functions and form, in the procedure of construction or after delivery for use Phillips (2008).

The forms of construction quality problems were different and varied, but the reasons can be mainly summarized in the following aspects: Problems concerning the construction procedures and regulations, Problems of design and calculation, substandard materials and products, Out of control of construction and management, the influence of natural conditions and, improper use of facilities.

2.7.2.3 Procurement Management Related Factors

Procurement Planning and project Performance: - Procurement planning plays a major role in successful project implementation Frese (2013) contends that procurement planning requires excellent forward planning, which includes detailed planning of the process implementation stages and milestones, task timeliness, fallback positions and re-planning.

According to Brown and Hyer (2010), planning also encompasses the aspects of forecasting techniques to help in the process of predicting costs and cash flows (financial disbursements). The other critical element of procurement project planning is deciding on the organization structure and the way it relates to project implementation. The structure will normally be affected by the strategic choices in relation to competitive advantage and the competitive scope which affects project implementation. Aspects of functional specialization and the balance between centralization and decentralization of procurement activities need to be reflected in decisions to improve project implementation. Attention may also be on the development of coordinating mechanisms such as matrix structures, multifunctional teams and committees.

In some cases, procurement project teams or task forces may be formed for specific projects to improve project implementation. Of major significance is the requirement for the procurement plan to implement projects and contain, among other things, a detailed breakdown of goods, works, or services required; a schedule of the planned delivery, implementation or completion dates for all goods, works, or services required; an indication and justification for whether it shall be procurement within a single year period or under a multi-year arrangement, an estimate of the value of each package of goods, works or services required, an indication of the budget available, sources of funding and an indication of the appropriate procurement method for each procurement requirement.

Contract Management and project Performance: -According to Project Management Institute (2013), all legal contractual relationships generally fall into one of two broad families: either fixed-price or cost reimbursable. There is a third hybrid type commonly in use called time and materials contract. The fixed-price contract type is recommended, although some projects also prepare team contracts to define ground rules for the project. However, in practice it is not unusual to combine one or more types into a single contract document. Once the contract has been signed, both parties must meet their obligations under the contract. The contract administrator is responsible for compliance by the contractor to the buyer's contractual terms and conditions and to make sure that the final product of the project meets requirements. Project Management Institute (2013) further states that under fixed-price arrangement, buyers need to precisely specify the product or service being procured since changes in scope may only be accepted with an increase in contract price.

2.7.2.4 Resource Management Related Factors

According to Padila and Car (1991) Completion of any project within the estimated cost is the basic criteria for the success of any construction project. Primary target of practitioners involved in construction projects is to complete the project within budgeted cost regardless of size and complexity of project. However, completion of any project highly depends on the construction resources. Project resources provide the means for accomplishing the work objectives Padila and Car (1991). Construction resources management is the most important factor contributing to cost success Meepol and Ogunlana (2006). Construction resources management has a high and significant relationship with cost performance for successful projects Meepol and Ogunlana (2006). As cited by Zujo,Pusic and Vejzovic (2010) in a multiannual research conducted in Croatia from 1996 till 1998 as part of the scientific project Construction Project Risk and Resource Management, the occurrence of price overrun was observed in no less than 81% of the projects.

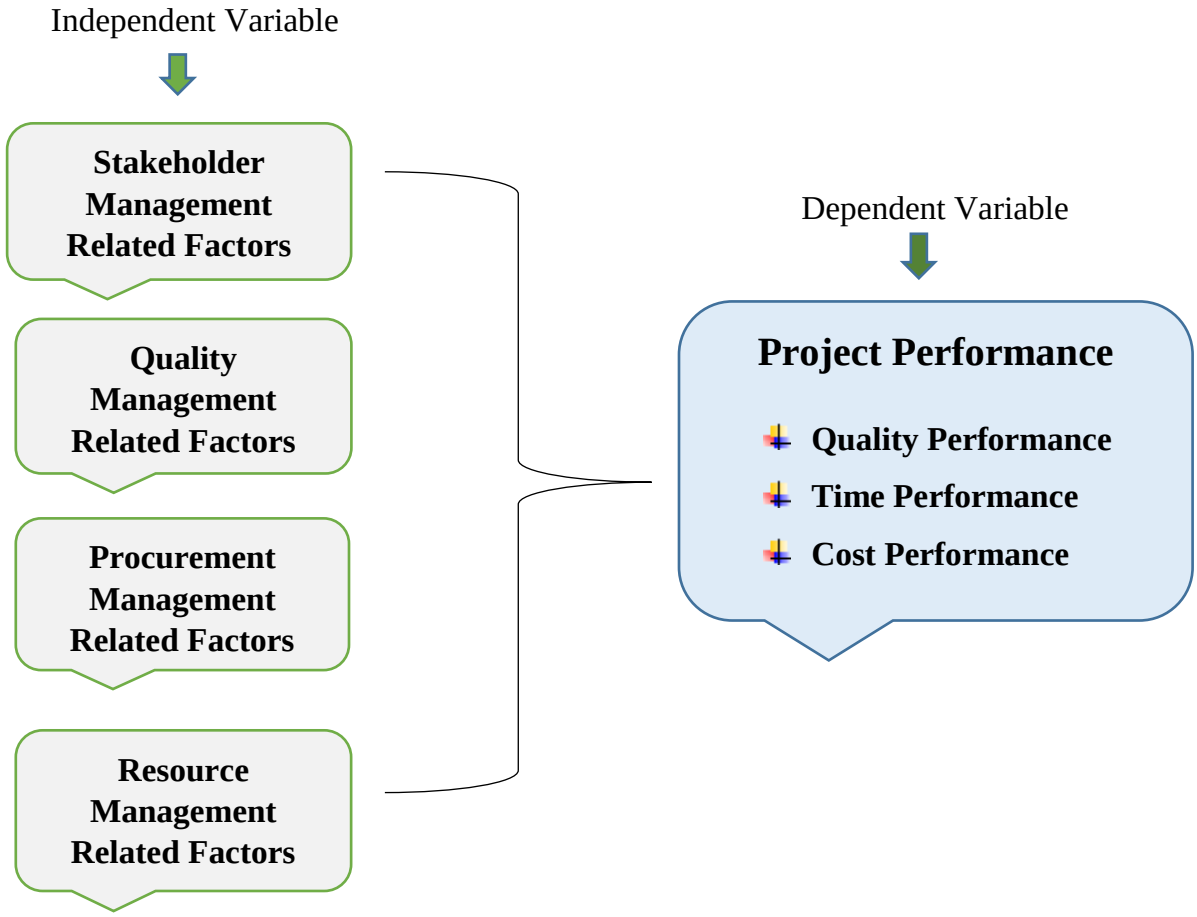
2.1: Factors Causing Construction Cost Overrun

Category	Resource related factors
Material	▪ Price escalation of construction material ▪ Shortage of material, Delay in delivery of material ▪ Changes in material and specification type
Manpower	▪ High cost of labor, Labor productivity ▪ Relationship between management and ▪ Shortage of site workers
Money	▪ Financial difficulty of owner, Contractor ▪ Cash flow and financial difficulties faced by ▪ Mode of financing, bond and payment ▪ Poor financial control on site
Machinery	▪ Equipment availability and failure ▪ Insufficient numbers of equipment ▪ Increase cost of machinery and its maintenance

Source: Rahman, Memon, and Karim et al (2012)

2.8 Conceptual Framework

The conceptual framework is adapted from Kidombo (2009) on the study Factors Affecting Effective performance of Public Building Construction Projects. The study can be conceptualized as shown in figure below.



Source: Own Construct (2023)

Finger 2.1 Conceptual Framework

CHAPTER THREE

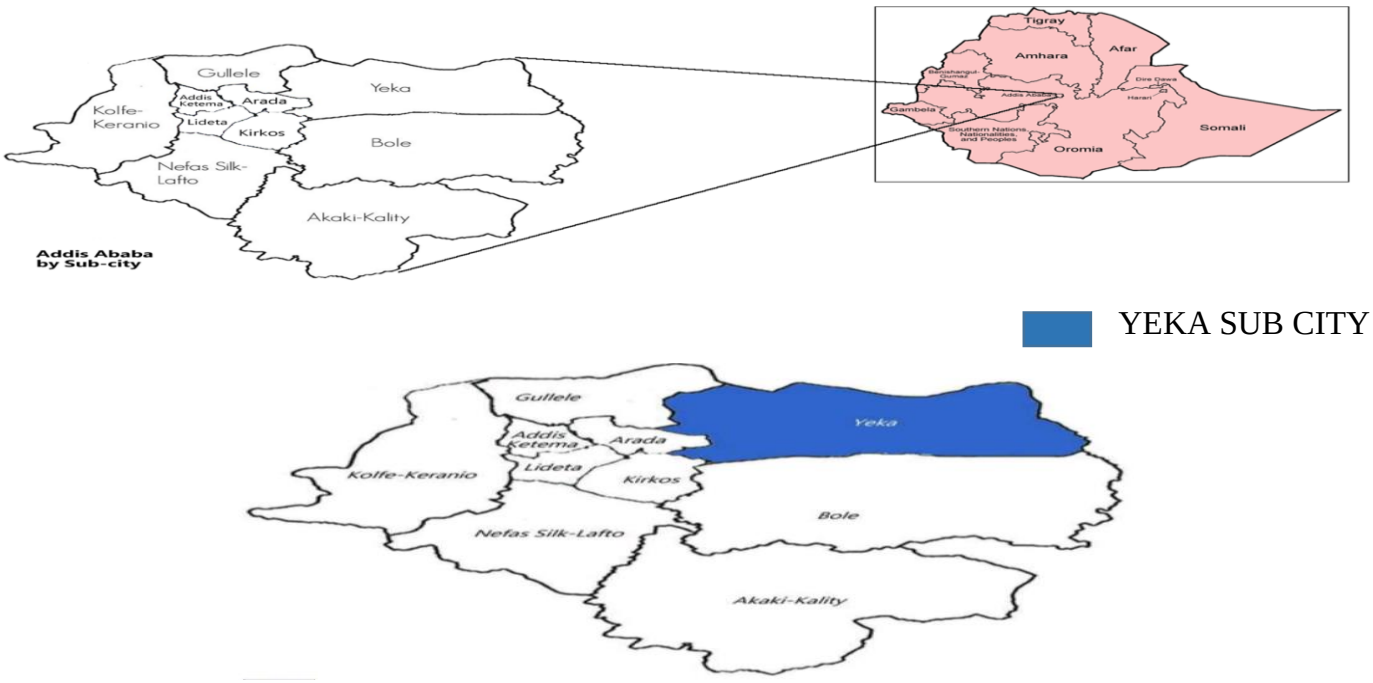
3. METHODS AND RESEARCH METHODOLOGIES

3.1 Introduction

In this chapter the research design and methodology that will be used in the study are presented. This includes the research design, approach, population and data sources and types, and the data collection instrument used in the data analysis, ethical consideration are discussed.

3.2 Description of the study area

Yeka Sub City is one of the ten sub city of Addis Ababa. Yeka Sub City is located north east part of Addis Ababa the geographical location of Yeka sub city is 90 ‘ 12 0 latitude N and 38 50 ‘ E longitude. The sub city is characterized by variable topography and it has 14 woredas. It is located in the north eastern parts of the city. This study area suffer from many problems with related to project performance and research will help to understanding the main factors that affect the performance of building construction and develop developing the strategies which can help them reducing the effects of these factors and improving the building construction performance of the projects.



Source: Yeka Sub City Land Administration Office (2022)

Figure 3.1 Map of the Study Area

3.3 Research Design and Approach

3.3.1 Research Design

In this study explanatory and descriptive research method were used. These types of research method help the research explain the actual performance indicators and the variable of factors affecting performance of public building construction projects Divin (2023). The study employed explanatory research design to see the effect of perceived factor affecting performance of public building construction projects and the researcher also adopted research method to describe the actual performance indicators and the variable or factors affecting construction project performance of public building construction projects in yeka sub city.

3.3.2 Research Approach

The study uses mixed type of approach comprises quantitative and qualitative is adopted. Qualitative type which diagnoses a situation, assesses alternatives, and discovers new ideas. Quantitative research as a method that places a strong emphasis on objective measures and uses any data gathering (like a questionnaire) or data analysis (like graphs or statistics) strategy that produces or uses numerical data. Qualitative research is assessed through reports and Documents from study area. The relationship between groups of variables can be ascertained with the aid of quantitative research. In this scenario, quantitative analysis was used since it would allow for the determination of the relationship between stakeholder management related factors, quality management related factors, procurement management related factors, resource management related factors will occur and how they will affect time, cost and quality performance.

3.4 Target Population

The target population for the study was Yeka Sub city construction office engineers and related program managers, include 22 project manager, 18 top management, 15 middle manager, 19 lower manager, 11 senior office engineers, and 12 site office engineers. Totally sample size is assumed to be 97(100%) of the target population. The researcher was used census sampling technique for the sake of

this a census is an attempt to gather information about every member of the population, sampling gathers information only about a part, the sample to represent the whole and only part of the population. Censes sampling it gives accurate information for many subdivision of the population.

3.5 Data source and Data procedures

The research used both primary and secondary data were used about the topic that the study is trying to cover. Primary data involve collect of data for the first time from key respondent of the research. Secondary data from related research and annual reports and document was used to strength the reliability of the research data and supplement the missing data from questioner's survey.

3.5.1 Data Collection and methods

The research was conduct mainly on Primary data source of data will be from office engineers, top manager, middle manager, lower manager, project managers and site engineers. And the secondary data source from the different source like journals and books and organization project and construction reports.

3.5.2 Data Measurement and tools

In order to be able to select the appropriate method of analysis the level of measurement must be understood. The best appropriate method to gather primary data is to hand out the questionnaire. A five-point Likert scale questionnaire it will be established to deliver the participants' comfort for replying to the questions according to their degree of agreement (McLeod, 2008). The Likert scale follows the format of starting range: (1 "Strongly Disagree"), (2 "Disagree"), (3 "Neutral"), (4 "Agree"), (5 "Strongly Agree"). The questionnaire it will be created with the following variables in mind: Stakeholder, Quality, Procurement and Resource Management Related Factors and time, cost, quality performance.

3.5.3 Questionnaires

As stated by Mark et al., (2009) a questionnaire is the most widely used method in survey strategy. Survey provides an effective way to collect response from a large sample before making analysis. Questionnaires were distribute to top, middle and lower level managers and senior office and site office engineers as well as to project managers who are location in Addis Ababa Yeka sub city. The research evidence was gather by using close ended questionnaires. In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each of measurement, there are /is an appropriate method/s that can be applied and not others. Hence, the questionnaires was structured based on those used by Iyoha and Faboyede (2011), and Sharif (2010).

3.5.4 Document review

Secondary data about public building construction projects such as books, journals, internet sources, archival documents, are reviewed to understand the background of productive management of employees in the construction sector. These secondary sources provided a general understanding of the subject area by presenting a wide range of ideas in the field which helped to supplement other specific information obtained from the primary data sources.

3.6 Method of data analysis

The component part of descriptive statics such as mean and standard deviation while analyzing the different factors affect the performance of public building construction projects. In addition to this the study uses table, graph and other components which are also vital to analyses the collected data. And the relationship between dependent variable, project performance & the independent variable such as project stakeholder management related factors, quality management related factors, procurement management related factors, resource management related factors, are expressed as a linear combination of the independent variable plus an error term. Following Greene (2003), the multiple linear regression models is specified as:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\ldots.+\beta_nX_n+\varepsilon$$

Where Y - Project Performance, X_3 - Procurement Management Related Factors

β_0 - Constant term (-ve or +ve), X_4 - Resource Management Related Factors

X_1 - Stakeholder Management Related Factor, β_n - Coefficients of independent variables

X_2 - Quality Management Related Factor, ε - Vector of error of prediction

The error was assumed to be normally distributed with an expected value of zero and a common variance. To do so, the researcher will uses SPSS released on Aug 2017G.C is the most suitable for descriptive statistics and quantitative analysis.

3.6.1 Reliability

Reliability is concerned with the consistency of results obtained by a measuring instrument. To ensure reliability in this study the questionnaire adopted is compared with prior conducted studies and external factors such as fatigue and boredom will be minimized to the possible extent. Cronbach's alpha coefficient measurement the internal consistency, or reliability, of a set of survey items. Use this statistic to help determine whether a collection of items consistently measures the same characteristic. Cronbach's alpha quantifies the level of agreement on a standardized 0 to 1 scale. Higher values indicators higher agreement between items.

$$\alpha = \frac{K}{K-1} * \left(1 - \frac{\sum_{i=0}^{K} s_i^2}{s_t^2}\right)$$

Cronbach's alpha range from 0 to 1; Zero indicates that there is no correlation between the items at all. They are entirely independent, knowing the value of a response to one question provide no information about the response to the other questions. One indicates that they are perfectly correlated; knowing the value of one response provides complete information about the other items.

Table 3.1 Show the value of Cronbach's alpha value

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Source: J Korean Acad Prosthodont. (2021)

Alpha for each filed of the questionnaire and the entire questionnaire. For the fields, values of Cronbach's Alpha were in the range from 0.82 and 0.91. This range is considered high; the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha equals 0.82 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire. Thereby, it can be said that it is proved that the questionnaire is valid, reliable, and ready for distribution for the population sample.

3.6.2 Validity

Validity is the degree to which the sample of the test item represent the content that is designed to measure. Creswell (2003) notes that validity is considering if one can draw consequential and valuable inference from scores on the instrument. The research adopted content validity which refers to the extent to which a measuring instrument provides adequate coverage of the topic under study. To ensure content validity, the instruments were reviewed to enabling the content to address the purpose and avoided ambiguity. This ensured that all respondents understood the content on the questionnaire.

3.7 Ethical Consideration

In this study, formal consent was obtained from each participant/sampling unit before data collection was commenced. Informed consent was sought from the management of the selected organizations before the commencement of this research initiative. The researcher undertook to protect the rights of the respondents by:

- Ensuring that none of the respondents were not named during the research or subsequent research
- Respondents were selected to participate without compulsion.
- All respondents were properly informed of the reason and purpose of the research.
- Respondents clearly committed about the objective of the research before they are asked to give their answer.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter deals with data presentation, analysis and interpretation of data obtained through questionnaire. The results of the study are presented in the form of tables and figure by using statistical package for social science (SPSS).

4.2 Characteristics of Sample Respondents

There was 97 questionnaires was distributed and 79 was returned so the overall response rate is 81.4% which is assumed to be sufficient for further analysis and perceptive of the relative importance of project performance indicators.

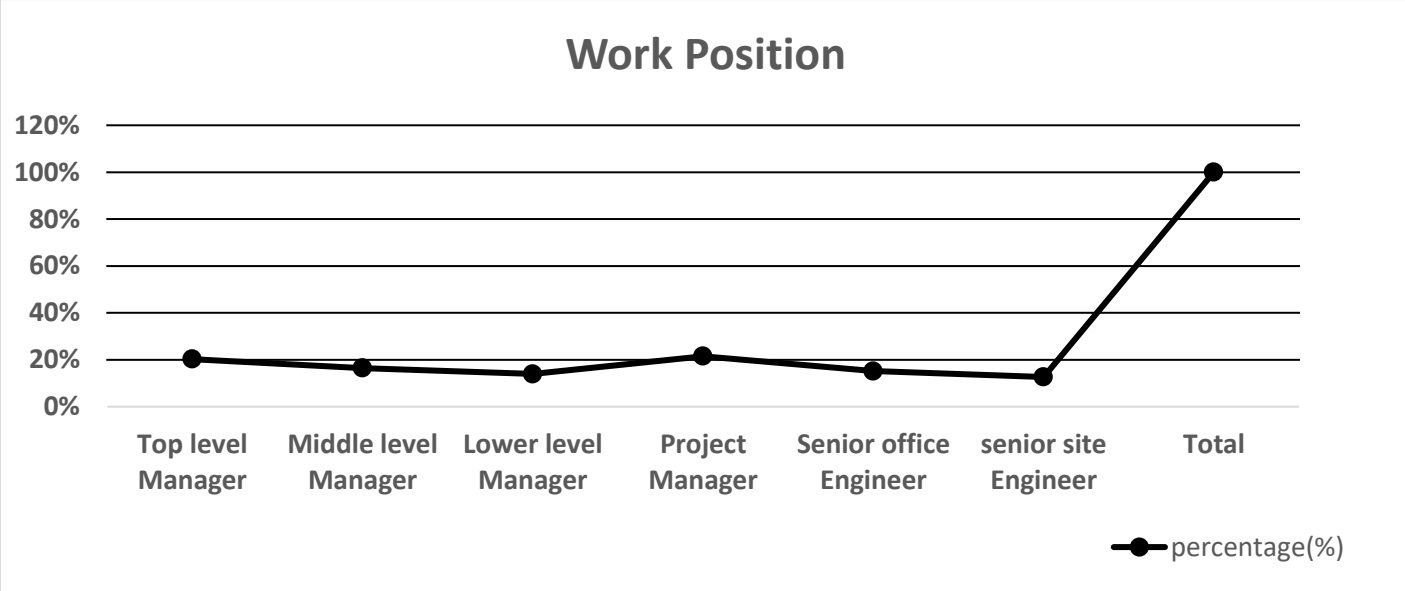
Table 4.1: Respondent Gender and Age and Educational level

Gender	**Frequency**	**Percentage (%)**
Female	30	38%
Male	49	62%
Total	**79**	**100%**
Age	**Frequency**	**Percentage (%)**
18-25yrs	16	20%
26-35yrs	18	23%
36-45yrs	25	32%
46&above	20	25%
Total	**79**	**100%**
Educational level	**Frequency**	**Percentage (%)**
Certificate	16	20%
Diploma	15	19%
First Degree	27	34%
Second Degree	21	27%
Total	**79**	**100%**

Source: Own data survey (2023)

The above table shows that respondents gender, age of respondents and educational level. Most of the 62% were male the basic cause of this is the participation or involvement of females as of engineering professionals and in the management team of projects is small as compared to males. And the case of age, most of the respondents were between 36 up to 45 which indicate that most of respondent were assumed to be adult and also the cases of educational level, most of the respondents were first degree holders.

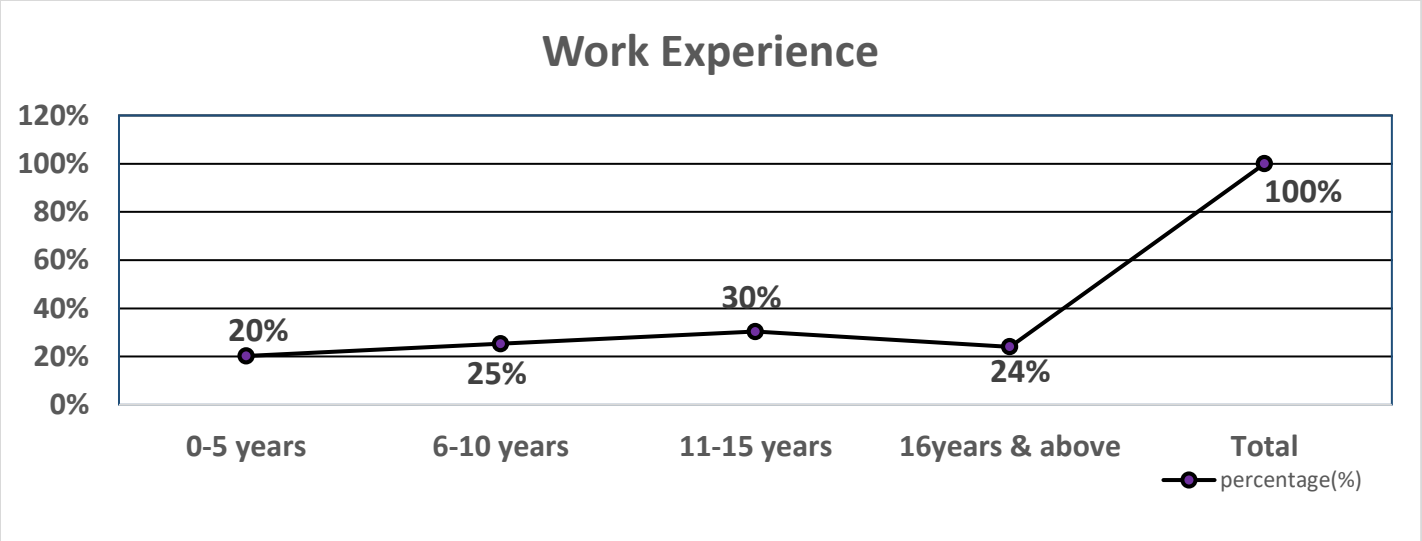
The majority of respondents' educational level was first degree. The academic qualification of the respondents indicating that the respondents are well qualified to understand and respond to the factors and issues under study. In addition this indicates the corporation obtains qualified personnel. As a result, there shall be a good opportunity for the project to utilize the qualification of its staff to the realization of its objectives.



Source: Own data survey (2023)

Figure 4.1: work Position of Respondent

The above Figure 4.1 shows that majority of respondents' job positions was project manager, top level manager, middle level manager and senior office engineer which account 22%, 20%, 13% and 12% respectively. This indicate that most of respondents are people who are actually engaged in the construction process that provided important information to the research.



Source: Own data survey (2023)

Figure 4.2: Work Experience of Respondents

Figure 4.2 shows that work experience most of respondents were between the ranges of 11 up to 15 years, which indicated that most of the respondents were assumed to be experienced and from different occupational level can better understand the performance of projects.

4.3 Perceived Factors Affecting the Performance of Construction Projects

4.3.1 Perception on the performance of construction projects

The respondent level perception towards the performance projects is presented in the following tables.

Table 4.2: Overall Performance of construction project

No	Performance Description	N	Mean	SD
1	Project do not complete with in the contract period (schedule).	79	4.90	0.84
2	Project do not complete with in the contract budget.	79	4.73	0.95
3	There is unsatisfied client and user with construction product.	79	4.71	1.10
4	Projects are transferred with imprecision.	79	4.69	1.06
5	There is lack of projects completed with imprecision.	79	4.67	0.90
	Over all mean	79	4.74	0.98

Source: Own data survey (2023)

The above table 4.2 shows that the most respondents (MEAN=4.90 and SD=0.84) agree that the projects is incapable to complete projects with in the contract period (schedule). Similarly most of the respondents (MEAN=4.73 and SD=0.95) agreed on the project do not complete with in the contract budget (cost) and also most of the respondents (MEAN=4.71 and SD=1.10 agreed on the project unsatisfied client and user with construction product alike three is also an agreement among respondents project are transfer with defects and lack of project completed with defect. Generally, most respondents agreed that the performance of the project in terms of time, cost and quality which measured client satisfaction is infirm. The research by Freeman and Beale (1992) and Riggs (1992) contributes to the measurement of project success from the tangible and non-tangible aspects, where the tangible ones are in terms of cost and time, whereas the non- tangible may include customer satisfaction, the performance of the project manager, weather conditions and other attributes.

4.3.2 Perceived Stakeholder Management Related Factors

Table 4.3: Stakeholder Management Related Factors

No	1. Stakeholder Management Related Factors	N	Mean	SD
1	There is lack of understanding area of stakeholder's interests.	79	4.67	0.85
2	There is lack of proper identification of its Stakeholder.	79	4.57	0.92
3	There is lack of stakeholders' involvement in decision making process.	79	4.44	0.93
4	There is lack of evaluation the Stakeholder's acceptability	79	4.33	1.00
5	There is lack of communication with and engaging Stakeholder's properly and frequently.	79	4.33	0.94
	Over all mean	79	4.47	0.79

Source: Own data survey (2023)

The above table 4.3 shows that most respondents (MEAN=4.67 and SD=0.85) agree that there is lack of understanding area of stakeholders interest. And the most respondents (MEAN=4.57 and SD=0.92) agree that there is lack of proper identification of its stakeholders.

This factor is important as it answers the questions of "who are the project stakeholders that affect the performance of projects. This helps the project manager to manage individuals or groups of stakeholders accordingly, and this is in line with Prisca (2017).similarly the most respondents (MEAN=4.44 and SD=0.93) agree that the lack of stakeholder's involvement in decision making process. This result is in line with Kolltveit and Grønhaug (2004) that suggests Effective and efficient involvement of project participants will better assist in improving the total quality of a constructed project and will significantly leads to greater project value. And also an agreement among there is lack of evaluation the Stakeholder's acceptability and there is lack of communication with and engaging Stakeholder's properly and frequently.

4.3.3 Perception Quality Management Related Factors

Table 4.4: Quality Management Related Factors

No	2. Quality Management Related Factors	N	Mean	SD
1	There is lack of an effective project quality controlling system.	79	4.74	0.80
2	There is lack of sufficient project quality planning.	79	4.69	0.81
3	There is poor management and leadership towards quality.	79	4.64	0.85
4	Do not provide adequate training for workers to enhance the quality of project performance.	79	4.64	0.82
5	There is lack of an effective project quality assurance system.	79	4.44	0.92
	Over all mean	79	4.63	0.84

Source: Own data survey (2023)

The above table 4.4 shown that Lack of an effective project quality controlling system in the project was ranked first by respondent with (MEAN=4.74 and SD=0.80) that affect the construction performance projects. This mainly is the role of quality management for a construction company is not an isolated activity, but intertwined with all the operational and managerial processes of the construction project.

This result is in agreement with Mane and Patil (2015) which states the quality management system has to provide the environment within which related tools, techniques and procedures can be deployed effectively leading to operational success for a construction project.

And lack of sufficient project quality planning in the project was ranked second by respondents with (MEAN=4.69 and SD=0.81) that affect the construction performance projects. Similarly there is poor management and leadership towards quality in the project was ranked third by respondents with (MEAN=4.64 and SD=0.85) that affect the construction performance projects. And also an agreement among there is not provide adequate training for workers to enhance the quality of project performance and there is lack of an effective project quality assurance system.

4.3.4 Perception Procurement Management Related Factors

Table 4.5: Procurement Management Related Factors

No	3. Procurement Management Related Factors	N	Mean	SD
1	There is lack of proper procurement planning system.	79	4.80	0.70
2	There is lack of an effective procurement control mechanism.	79	4.73	0.89
3	There is lack of ensuring agreement with terms.	79	4.70	0.89
	Over all mean	79	4.74	0.83

Source: Own data survey (2023)

The above table 4.5 shown that Lack of proper procurement planning system was ranked first by respondent with (MEAN=4.80 and SD=0.70). The result is in line with Gerald, (2014) who states effective planning of procurement creates value for stakeholders while improving performance of the project and lack of an effective procurement control mechanism was ranked second by respondent with (MEAN=4.73 and SD=0.89) similarly lack of ensuring agreement with terms was ranked third by respondent with (MEAN=4.70 and SD=0.89).

4.3.5 Perception Resource Management Related Factors

Table 4.6: Resource Management Related Factors

No	4. Resource Management Related Factors	N	Mean	SD
1	There is price escalation of construction material in the market.	79	4.74	0.76
2	There is material wastage on project.	79	4.62	0.83
3	There is unavailability of construction material in the market.	79	4.57	0.88
4	There is price fluctuation of currency.	79	4.56	0.92
5	There is unavailable of construction equipment and spare parts.	79	4.52	0.90
6	There is no early amendment of equipment.	79	4.51	0.88
7	There is lack of highly qualified personnel.	79	4.46	0.92
8	Project teams have no adequate skill and knowledge of supervision.	79	4.42	0.93
9	There is high cost of reparation.	79	4.40	0.91
10	There is lack of highly experienced personnel.	79	4.36	0.98
11	There is lack of effectiveness of labors in the project.	79	4.35	0.95
12	There is breakdown and failure of construction equipment.	79	4.34	0.86
13	Sufficient training is given to employees when needed.	79	4.29	0.98
14	Improper choosing among finance alternatives.	79	4.28	0.98
15	There is payment delay by project owner.	79	4.09	0.92
	Over all mean	79	4.43	0.91

Source: Own data survey (2023)

The above table 4.6 shown that there is price escalation of construction material in the market was ranked first by respondent with (MEAN=4.74 and SD=0.76) that the escalation of materials price affect the liquidity of construction and profit rate of their project, there is material wastage on project was ranked second by respondents with (MEAN=4.62 and SD=0.83) that affect the project performance. This result is in line with Shaban (2008) where material wastage on the project site was ranked.

similarly there is unavailability of construction material in the market was ranked third by respondents with (MEAN=4.57 and SD=0.88) and there is price fluctuation of currency, and unavailable of construction equipment and spare parts was ranked fourth and fifth factors relating to resource management related factors with (MEAN=4.56 and SD=0.92) and (MEAN=4.52 and SD=0.90) respectively that affect the project performance. Respondents were also agree there is no early amendment of equipment, there is lack of highly qualified personnel and Project teams have no adequate skill and knowledge of supervision, there is high cost of reparation.

This result is in line with Samson and Lema (2002) as it is remarked that resource availability effects on processes performance of construction projects. In addition, Iyer and Jha (2005) and Ugwu and Haupt (2007) are in agreement with our result because availability of resources as planned through project duration is an important factor for owners in Indian and South African construction projects. This is because resource availability as planned schedule can improve time performance of projects.

4.4 Inferential Statistics

Inferential analysis was conducted to generate the regression and correlation results. Regression result including the model of fitness analysis of the variance and regression coefficients. Before understanding the correlation and regression, the mean score of the each item in the independent variable and independent variable mean of performance indicators was computed using Statically Package for Social Science (SSPS).

4.4.1 Correlation

The study finding was subject to correlation analysis to determine the relationship between dependent and independent variable. The table shows the correlation between independent variable stakeholder, quality, procurement, resource management related factors and dependent variable time, cost and quality performance of the project. Spearman correlation coefficient is a measure of linear dependence between two variables: independent and dependent variable the research correlated the factors influencing project against projects performance.

Table 4.7: spearman correlation coefficient

Spearman correlation coefficient

			Stakeholder Management	Quality Management	Procurement Management	Resource Management
Spearman's rho	Quality Performance	Correlation Coefficient	.408	.331**	.212	.265*
		Sig. (2-tailed)	.952	.000	.093	.035
		N	79	79	79	79
	Time Performance	Correlation Coefficient	.384*	.457	.396**	.189
		Sig. (2-tailed)	.023	.216	.004	.134
		N	79	79	79	79
	Cost Performance	Correlation Coefficient	.366	.594*	.311	.346
		Sig. (2-tailed)	.603	.018	.383	.249
		N	79	79	79	79

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Source: Own data survey (2023)

Correlation analysis result between stakeholder, quality, procurement and resource management related factors and quality performance acquire a positive correlation coefficient of .408, .331, .212, .265 with p-value .952, .000, .093, .035 respectively. This was an indication that the result was significant at α=5% and if stakeholder, quality, procurement and resource is improved, it would improve project performance in terms of quality performance. Correlation analysis result between stakeholder, quality, procurement and resource management related factors and time performance acquire a positive correlation coefficient of .384, .457, .396, .189 with p-value .023, .216, .004, .134 respectively.

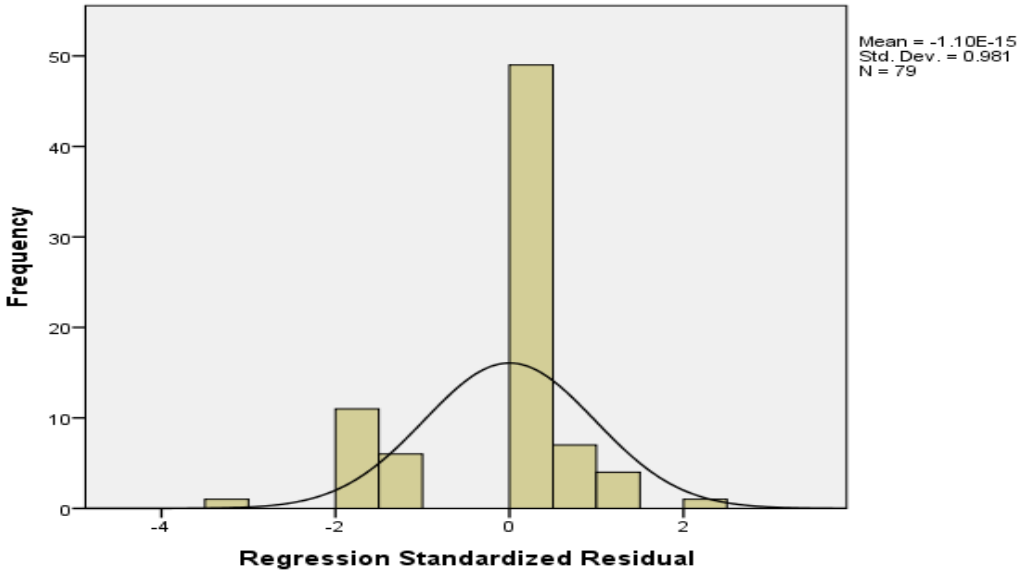
This was an indication that the result was significant at α=5% and if stakeholder, quality, procurement and resource is improved, it would improve project performance in terms of time performance. And also Correlation analysis result between stakeholder, quality, procurement and resource management related factors and cost performance acquire a positive correlation coefficient of .366, .594, .311, .349 withp-value .603, .018, .383, .249 respectively. This was an indication that the result was significant at α=5% and if stakeholder, quality, procurement and resource is improved, it would improve project performance in terms of cost performance.

4.4.2 Regression Analysis

Multiple regression analysis is a major statistical tool for predicting the unknown value of a variable from the known value of variables (Saunders, 2009). The goal of multiple regressions is to enable a researcher to assess the relationship between a dependent (predicted) variable and several independent (predictor) variables. Before using multiple regression analysis, the researcher has conducted basic assumption tests for the model are Normality of the Distribution (Histogram) Test and Linearity of the Relationship Test.

4.4.2.1 Normality Distribution (Histogram) Test

Multiple regressions require the independent variables to be normally distributed. If the underlying distribution of the data is normal, the points will fall along a straight line. Stragglers at either end of the normal probability plot indicate outliers.

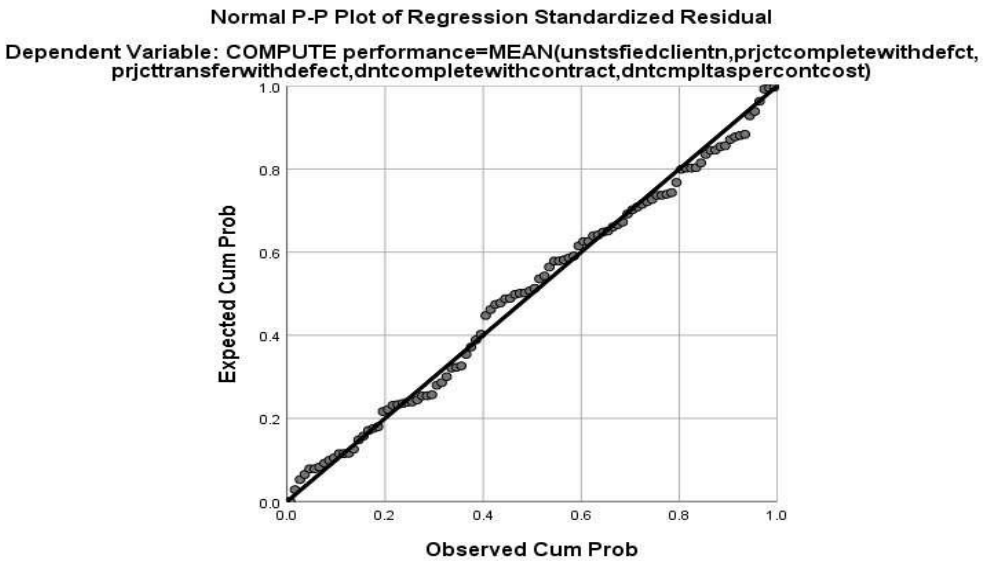


Source: Own data survey (2023)

Figure 4.3: Normality Distribution (Histogram) Test

4.4.2.2 Linearity of the Relationship Test

The second assumption for computing multiple regressions is test of the linearity of the relationships between independent and dependent variables is linear relationship. The Scatter plot in shows that the relationship between independent and dependent variables is linear relationship.



Source: Own data survey (2023)

Figure 4.4: Linearity of the Relationship Test

4.4.2.3 Regression Result

The result of linear regression analysis is given in the following table. The model summary shows that the regression model can explain 46% of the variance in the dependent variable.

Table 4.8: Multiple Regression Analysis Result

Model	Parameter Coefficients(Beta)	Standard error	Standardized Coefficients(Beta)	t-value	Significant level (P)
(Constant)	1.950	.584		3.351	.001
Stakeholder Management Related Factor	.320	.109	.320	2.924	.004
Quality Management Related Factor	.228	.093	.228	0.276	.016
Procurement Management Related Factors	.390	.076	.039	0.515	.608
Resource Management Related Factors	.210	.197	.210	0.106	.016
F – Statistics	(4, 79) = 12.586, 0.00)				
R	0.679				
R^2 (R^2adj.)	0.460(0.424)				

Source: Own data survey (2023)

As shown in above Table 4.10 the coefficients of the regression for stakeholder management related factors (0.004, $p < 0.05$), quality management related factors (0.016, $p < 0.05$), and resource management related factors (0.016, $p < 0.05$) are positively and significantly influence project performance in terms of cost.

This implies the alternative hypothesis that there is significant and positive relationship between resource, stakeholder, and quality management related factors and project performance in terms of cost is accepted. On other hand, procurement management related factors was found positive but not significant factor influencing the project performance in terms of cost. This implies the alternative hypothesis that there is significant and positive relationship between procurement management related factors and project performance in terms of cost is rejected.

Also the coefficients of the regression for resource management related factors (0.016, $p < 0.05$) and stakeholder management related factors (0.004, $p < 0.05$) are positively and significantly influence project performance in terms of time. This implies the alternative hypothesis that there is significant and positive relationship between resources and stakeholder management related factors and project performance in terms of time is accepted. On other hand, procurement management related factor was found positive but not significant factor influencing the time performance of project. This implies the alternative hypothesis that there is significant and positive relationship between procurement management related factors and project performance in terms of cost is rejected.

Furthermore, the coefficients of the regression for resource management related factors (0.016, $p < 0.05$), stakeholder management related factors (0.004, $p < 0.05$), and quality management related factors (0.000, $p < 0.05$) are positively and significantly influence project performance in terms of quality. This implies the alternative hypothesis that there is significant and positive relationship between resource, stakeholder, and quality management related factors and project performance in terms of quality is accepted. On other hand, procurement management related factors was found positive but not significant factor influencing the project performance in terms of quality. This implies the alternative hypothesis that there is significant and positive relationship between procurement management related factors and project performance in terms of cost is rejected.

As has been reported in the study of Johor state of Malaysia by Memon, Rahman, Asmi, Aziz, & Ravish (2011), it was observed that Construction resources management has a high and significant relationship with cost performance for successful projects. Furthermore, Enshassi (2009) found that resource related factors such as increment of construction materials prices, shortage of cash, delay in payment; fluctuations in the cost of construction materials, and resources constraint of funds were among factors affecting construction performance.

From the regression analysis, it is noticed that one of the influential factors for project performance is stakeholder management related factors. This finding is in line with the study by Mbiti (2017) that statistically significant relationship between Stakeholder management and Effective Implementation of project in Kenya.

The study result contradicts the findings of Aputo (2018) who established that procurement planning and contract management have an effect on Project Performance. Similar to this there is exist a positive but statistically insignificant (0.329, $p < 0.05$) relationship between resource management related factors and project performance in terms of cost. The result is in line with the findings of Leong, Zakuan, Mat Saman, Ariff, & Tan (2014)) indicate that client satisfaction and time variance have positive and significant relationship with resource management system while other project performance indicators such as cost do not show significant results.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONs AND RECOMMENDATIONS

5.1 Introduction

This chapter deals with the analysis and interpretation given in chapter four. A lot of finding emerged the study following the presentation of data. Therefore summary of findings conclusion and recommendation is based on the objective of this study as well as the recommendations of the research.

5.2 Summary of major finding

The study was based on the factors affecting the performance of low rise public building construction projects in Addis Ababa yeka sub city. It sought to investigate whether Stakeholder Management Related Factor, Quality Management Related Factor, Procurement Management Related Factors, and Resource Management Related Factors influence project performance. Based on the objective of the research stated the following summaries were made in relation to the finding:-

- The survey revealed that the major stakeholder management related factor that affect the project performance are there is lack of understanding area of stakeholder's interests, there is lack of proper identification of its Stakeholder, there is lack of stakeholders' involvement in decision making process and there is lack of evaluation the Stakeholder's acceptability.

- The survey revealed that the major quality management related factor that affect the project performance are there is lack of an effective project quality controlling system, there is lack of sufficient project quality planning, there is poor management and leadership towards quality and do not provide adequate training for workers to enhance the quality of project performance.

- The survey revealed that the major procurement management related factor that affect the project performance are there is lack of proper procurement planning system, there is lack of an effective procurement control mechanism and here is lack of ensuring agreement with terms.

- The survey revealed that the major resource management related factor that affect the project performance are there is price escalation of construction material in the market, there is material wastage on project, there is unavailability of construction material in the market, there is price fluctuation of currency, there is unavailable of construction equipment and spare parts, there is no early amendment of equipment, there is lack of highly qualified personnel, project teams have no adequate skill and knowledge of supervision, there is high cost of reparation and there is lack of highly experienced personnel.

- The regression result reveals resource, stakeholder, and quality related factors are positively and significantly influence the project performance in terms of cost. Also, regression result reveals resource and stakeholder management factors are positively and significantly influence the project performance in terms of time. On other hand, resource, stakeholder, and quality related factors are positively and significantly influence the project performance in terms of quality.

5.3 Conclusions

The research was conduct low rise public building construction projects in Addis Ababa yeka sub city working across Addis Ababa yeka sub city with the prime intent of examine factors affecting the performance of its construction project. Based on the objective of the research stated the following conclusions were made in relation to the finding:-

- Lack of understanding area of stakeholder's interests, there is lack of proper identification of its Stakeholder, there is lack of stakeholders' involvement in decision making process and

there is lack of evaluation the Stakeholder's acceptability were the most determinant stakeholder management related factors that affect the project performance.

- Lack of an effective project quality controlling system, there is lack of sufficient project quality planning, there is poor management and leadership towards quality and do not provide adequate training for workers to enhance the quality of project performance were the most essential quality management related factors that affect the project performance.

- Lack of proper procurement planning system, there is lack of an effective procurement control mechanism and here is lack of ensuring agreement with terms were the most important procurement management related factors that affect the project performance.

- Price escalation of construction material in the market, there is material wastage on project, there is unavailability of construction material in the market, there is price fluctuation of currency, there is unavailable of construction equipment and spare parts, there is no early amendment of equipment, there is lack of highly qualified personnel, project teams have no adequate skill and knowledge of supervision, there is high cost of reparation and there is lack of highly experienced personnel were the major important resource management related factors that affect the project performance.

- This research was conducted in Addis Ababa yeka sub city public building construction projects working across yeka sub city with the prime intent of examine factors affecting the performance of its construction projects and see their level of the performance of construction projects. Based on the objectives and findings of the study, the following conclusions are drawn. There are many factors were identified and listed under four groups. These groups are resource management related factors, stakeholder management related factors, procurement management related factors, and quality management related factors This results are in line with many previous studies

- The regression result reveals resource, stakeholder, and quality related factors are positively and significantly influence the project in terms of cost performance but procurement management related factors were found positive but not significant factor influencing the project performance in terms of cost. Also, regression result reveals resource and stakeholder management factors are positively and significantly influence the project performance in terms of time but quality and procurement management related factors were found positive but not significant factor influencing the project performance in terms of time. On other hand, resource, stakeholder, and quality related factors are positively and significantly influence the project performance in terms of quality but procurement management related factors was found positive but not significant factor influencing the project performance in terms of quality.

5.4 Recommendations

Based on the objective of the research stated the following recommendations should be put in to practice for who aims at performing better in construction projects.

- ✓ Project stakeholder are people who are subjected to part of have an understanding area of stakeholder's interests, proper identification of its Stakeholder, decision making process over the project and it is significant to identify and effective manage them in order to avoid project failure or delay.

- ✓ Quality management is very critical required for a construction industry to sustain current construction market is highly challenging and competitive and it has to provide the environment with in which related tools techniques and procedures can be deployed effectively leading to operational success for a construction sectors. Through this the construction sectors should accept appropriate quality management system to enhance it project performance. Similar to this management commitment to quality and to continuous quality improvement is very necessary in each phase of the building construction process. Quality management must participant in the implementation process and be fully committed to it if quality management practice is to succeed.

- ✓ Procurement management practices have increasingly played an important role in project performance. The contractor adopt should adopt a formal procurement planning mechanism that provides the basis for the work on the project, facilities effective resource utilization, integrated with the budgeting and reduce costs. Procurement control mechanism must need to be well develop and clearly detailed so as to reduce the number of risk which may arise during project implementation and increase the chance of achieving projects goal (objective).
  Procurement management adequate planning before and during implementation time, cost and on time request interim payment and tacking consideration for possible change of material

price during tendering time will help assist contractors from the small rick of material price escalation and improve financial liquidity and the profit of contractor's bigger contractor may be invited for critical construction project that want be separated in to smaller project. This will assist unbalancing quality and available time and exercitation have increasing played an important role on construction project performance is very important for construction implementing organization to examine the volume of work and local condition to estimate proper time before tendering and entering in to bid contract. When the available time is small especially during emergency project, large works needs to broke in to possible separate unique project and tendered.

- ✓ Resource should be manage in all dimension having wall skilled workers available in all side at both office and site will solve associated problem on proper construction management quality of work , cost management and time management. |This along with sufficient supply of material on time and in quantity will improve project performance. Cure to have minimized payment waiting time from the owner or client side needs an immediate response. Contractor need to conduct site visit to minimize risk associated with physical environment on material and skilled labor availability and their quality. It should be known the business environment risk in their cost estimation and contingency allowance should be there to guard against the increasing material price. And also the contractors should see that minimum amount of waste should be produced and also the site souled be kept clean on order to reduced material wastage in the construction project site. The contractor is recommended to set up effective and efficient construction equipment proper management system so as so manager it construction equipment. The contractor is also recommended to set up effective and efficient resource planning a forecasting in order to reduce material shortage of construction and improve the performance of project performance.

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APPENDIX

QUESTIONNAIRES

ADDIS COLLEGE

DEPARTMENT OF PROJECT MANAGEMENT

Dear Respondent,

My name is Rahel Getachew, am second year master art of Project Management student of the aforementioned institution, and carrying out a project work the Factors Affecting the performance of Public Building Construction Projects: (Case of Projects of Addis Ababa Yeka Sub City)'' The information you provide is used for research purpose only and will be kept confidential at all levels. Considering your experience in project works your participation in this survey will significantly contribution to the accuracy and usefulness of the research outcome. I appreciate taking your time to complete the survey and kindly request you to remember that the quality of this work is completely dependent up on your frank opinions. Please consider each statement carefully before you give it an evolution. If you have any query, please do not hesitate to contact me. I am available at your convenience through Tel: +251-939-118-496 or e-mail: richgach11@gmail.com

Instruction: - No need to mention your name

: - Please tick (✓) the appropriate answer in the box provided.

Part One: General Information

1. Gender: Male ☐ Female ☐
2. Age: 18 – 25yrs ☐ 26 – 35yrs ☐ 36 – 45yrs ☐ 46yrs & Above ☐
3. Work Position:

   Top Level Manager ☐ Middle Level Manager ☐

   Lower Level Manager ☐ Project Manager ☐

   Senior office Engineer ☐ Senior Site Engineer ☐
4. Education background:

   Certificate ☐ Diploma ☐ First Degree ☐ Second Degree ☐

5. Work Experience: 0 – 5 years ☐ 6 – 10 years ☐
   11 – 15 years ☐ 16 years & above ☐

Part Two: Factor Affecting Effective Performance of Public Building Construction

1. What is your level of perception towards statement is for factors affection the performance of construction projects?

Write your choice in the response side provided using scale of 1 to 5

(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

No	Factors Description	5	4	3	2	1
	Stakeholder Management Related Factors					
1	There is lack of proper identification of its stockholders.					
2	There is lack of understanding area of stakeholder's interests.					
3	There is lack of evolution the stakeholder acceptability.					
4	There is lack of stockholder involvement in decision making process.					
5	There is lack of communication with and engaging stakeholders properly and frequently.					
	Quality Management Related Factors					
1	There is lack of sufficient project quality planning.					
2	There is lack of an effective project quality controlling system.					
3	There is poor management and leadership towards quality.					
4	There is lack of an effective project quality assurance system.					
5	Do not provide adequate training for workers to enhance the quality of project performance.					

	Procurement Management Related Factors					
1	There is lack of proper procurement planning system.					
2	There is lack of ensuring agreement with terms.					
3	There is lack of an effective procurement control mechanism.					
	Resource Management Related Factors					
1	There is unavailability of construction material in the market.					
2	There is price escalation of construction material in the market.					
3	There is material wastage on project.					
4	There is unavailable of construction equipment and spare parts.					
5	There is no early amendment od equipment.					
6	There is breakdown and failure of construction equipment.					
7	There is high cost of reparation.					
8	There is payment delay by project owner.					
9	There is price fluctuation of currency.					
10	Improper choosing among finance alternatives.					
11	There is lack of effectiveness of labors in the project.					
12	Sufficient training is given to employees when needed.					
13	There is lack of highly qualified personnel.					
14	There is lack of highly experienced personnel.					
15	Project teams have no adequate skill and knowledge of supervision.					

Part Three: Performance of Public Building Construction

1. What is your level of perception towards statement is for the performance of construction projects?

Write your choice in the response side provided using scale of 1 to 5

(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

No	Performance Description	5	4	3	2	1
	Quality Performance					
1	There is unsatisfied client and user with construction product.					
2	Projects are transferred with imprecision.					
3	There is lack projects completed with imprecision.					
	Time performance					
1	Project do not complete with in the contract period (schedule).					
	Cost performance					
1	Project do not complete with in the contract budget (cost).					