ST MARY UNIVERSITY SCHOOLOF GRADUATE STUDIES

INSTITUTE OF PROJECT MANAGEMENT

ASSESMENT OF QUALITY MANAGEMENT SYSTEM IN REAL ESTATE CONSTRUCTION IN ADDIS ABEBA: THE CASE OF GIFT REAL ESTATE

BY WONGEL AWOKE

JUNE, 2022

ADDIS ABEBA, ETHIOPIA

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Declaration

I, WONGEL AWOKE hereby declare that the thesis entitled “assessment of quality management system in real estate construction in Addis Ababa: the case of Gift Real Estate” is my original work, prepared under the guidance of my Advisor **ABEBAW KASSAI (Ph.D).**All-important sources of materials used for the preparation of this 'thesis' ,Furthermore, I want to confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree

Wongel Awoke

Signature_____

Date_____

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Abstract

This study aims to assess the practice and implementation of quality management system at Gift real estate projects, which are among a very few construction company certified for ISO-9001-2000 Quality management system. To attain the objectives of the research, data were collected using quantitative and qualitative methods from concerned personnel's and experts in the project environment. The data were collected with a response rate of 83% from the distributed sixty (60) questionnaires and analyzed using descriptive statistics focusing on the mean, standard deviation and percentages, which is calculated using statistical package for the social sciences (SPSS) version 20 and Excel . For analyzing the qualitative data content analysis were conducted and it is triangulated with the quantitative data to summarize the findings, conclusion and recommendations. Results of the findings were presented both in qualitative and quantitative manner. The research finding showed that most respondents were familiar with the concepts of quality and quality management but its application was relatively low and finding of the study tells that the performance regarding to quality planning process, lack of continues QMS training , or target dates for their provision, contractors and consultants performance were found to be achieved under poor performance. On the contrary the management responsibility in understanding the customer needs and commitment of the top management and optimization of project resources is carried out in a good manner. Thus it is recommended that for a quality management system to be practiced and implemented effectively it is important to give more quality assurance training ,have separate quality management policy in order to undertake complete project quality management process, have a documented quality plan and implementing the right project management methodology in their system.

Key words: quality Management, gift real estate, Project Management, Gift real estate Construction Project

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LIST OF ABBRIVATION

ISO International Organization for Standardization

PM Project management

QA Quality Assurance

QC Quality Control

QIP Quality Improvement program

QMP Quality Management Practice\

QMS Quality Management System

QS Quality System

RII Relative Important Index

TQM Total Quality Management

CQI: Continuous Quality Improvement

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The development of real estate industry is important for the overall development of a country. It contributes to employment, the development of commercial banking and ultimately to the development of capital markets. Most importantly, it increases the well-being of households by providing superior shelter and helping establish personal wealth that can be leveraged for creation of more wealth (Taylor, 2004).

Quality is one of the serious concept in the success of real estate projects. Quality of real estate projects, as well as project success, can be regarded as the fulfillment of expectations (i.e. the satisfaction) of the project participants (i.e. client, multi-disciplinary construction consultants and building contractor). The construction industry in Ethiopia has been struggling with quality issues for many years. A substantial amount of the budget is spent each year on infrastructure and other development projects. Since the quality outcomes of the projects are not according to the required standards this leads to faulty construction. Consequently, additional investments are required for removal of defects and maintenance work. A construction project in its life span goes through different phases. The main phases of a project can be described as: conceptual planning, feasibility study, design, procurement, construction, acceptance, operation and maintenance (Derso, 2018).
The quality management in a real estate development firm should include the quality management of agent services as well as construction activities. The application of QMS in service industries are more difficult than in manufacturing industries because of the intangible nature and immediate consumption of the product (Heskett, Sasser and Hart, 1990; Heskett, Sasser and Schlesinger, 1997; and Fitzsimmons and Fitzsimmons, 1998). The emphasis in service industries tends to be on the processes of the organization that deliver the services the organization sells.

1.2 Overview of Construction Firm

This day there is a concentrated construction taken place in Ethiopia, particularly in Addis Ababa. The current construction is becoming more complicated in nature and the demand for housing and project management services is becoming more and more. Throughout the housing construction the application of project management in examining the project against time, cost and quality against specifications are some among many factors that can be demanding for all complicated parties in the construction process. The construction industry in Ethiopia has been developing extremely since 2001. This can be a vibrant indication to the growth of the GDP involvement to the overall country's economy through creating a significant contribution to the success and competitiveness of country's economy in the past few years. (Zewdu amp Aregaw 2015)The reviewed literature showed that the construction industry is an important segment of the economy and plays a key role in socio political and economic development. In this regard, the construction industry need to be understood if it is to be able to perform effectively and efficiently to produce the desired result with quality. According to (Lund, 2011), the construction industry is typified by a uniqueness in every construction project, they are single order, single production products. Unlike other industries, which usually have a fixed site with similar conditions for production, each construction production site always displays different conditions.

1.3 Overview of Gift Real Estate

According to the data saved from the archives of Addis Ababa City Gift Real Estate PLC (GRE) in Ethiopia. it is part of Gift Group (holding company). The company was established by its founder and MD, Ato Ghebreyesus Ejeta. As such, GRE was established in 2005 and has since been engaged in the development of Residential and Commercial building and selling of Real Estate property to customers.

Since its establishment, GRE has built multiple houses in three rounds at 3 sites (around CMC) on about 160,000 m^2 land plot. In the 1^{st} phase, houses were built on 16,000m^2 and transferred to home owners.

In the 2^{nd} phase, real estate development covered 90,000m^2 where 95% was completed and inaugurated by FDRE President Mulatu Teshome (PhD). This phase included all necessary infrastructural facilities (roads) and utilities (power, water, and communication). GRE is undergoing its 3^{rd} phase on 60,000m^2 with majority of construction stages completed. Currently, there are efforts to build houses around Bole Arabsa and 2 buildings of 22 floors each in inner city sites of Addis (for high rise apartments).

Established with limited initial capital and a product mix limited to few models of residential houses, GRE has grown in to a major real estate company with broad set of real estate provisions in multiple sites. with an intent to maintain a balanced investment in residential houses, commercial buildings, and other real estate options, GRE currently manages properties/assets and investments worth more than birr 350 million.As per internal reports reviewed by the consultant and discussions with its management, the company is entering a new phase of transformation in which it has to consolidate and improve its successes and address its weaknesses.

1.4 Problem statement

At this time the real estate housing construction industry is extensively denounced for the low quality of delivery of construction projects both the finished product quality and for the processes used during the construction stages. The research conducted by (Abreham, 2004), specifies that the performances of construction projects showed low achievement rates and this impacted negatively on the completion time, cost overruns and strongly associated with quality related issues contributed to low performances.

About real estate resident propose that lack of care and a poor attitude towards quality on behalf of the contractor is leading to the existence of problem in real estate housing construction. The real estate construction firms in the country have been struggling with quality issues for many years; while they have been wasting resources as a result of defective construction. According to (Birhanu & Daniel, 2013), EQA self-assessment report evaluation, generally, quality management practices in Ethiopia was found to be low in all the tenets including leadership, policy and strategy, resources management, process management, customer satisfaction, business performance and impact on society.

With inefficient or nonexistent quality management procedures, significant expenditures of time, money, and resources are wasted on construction projects. In addition,lack of quality due to deficient construction quality management is detected through non-conformance to established requirements (Yimam Abadir H., 2011). Quality-related problems during construction can be projected on the bases of the operating life of the finished project. To a contractor, non-conformance can yield penalties aswell as cost time burdens for re-work, which can convert into productivity loss.

This research is significant to the company to know the level of the implementation of QMS, to find the gap and to recognize what be done in the future. If this research would have not been shows the existing gaps, the problem in the area would be left unanswered for

a while and could not be able to identify the cause the implementation of the QMS. The results of this study are also expected show proper direction on how they can successfully practice the implemented QMS in their overall activities. Therefore, this study inspected to what extent that the quality management practices is directed by the real estate company and thereby to mention a solution to the construction difficulties and ambiguity in project activities.

1.5 Research Objectives

1.5.1 General objective

The general objective of the research is assessment of quality management system in real estate construction in Addis Ababa: the case of Gift Real Estate Company.

1.5.2 Specific Objectives

- To assess the quality management practices in Gift Real Estate from the perspective of quality planning, quality assurance, quality control and quality improvement issues .
- To assess the challenges faced in relation to the implementation of quality management in the Gift Real Estate.
- To analyze the implementation of total quality management principles.

1.6 Research Questions

- What problems are come across to the implementation of quality management?
- What is the quality management processes commonly applied in your area?
- What is the current practice of Quality management of Gift Real Estate projects?
- What principle or elements of total quality management was applied within the building construction?

1.7 Significance of the study

Efficaciously accomplished and applied qualified projects play a key role in the upgrading human Safety, contribute to improved productivity, and increase sustainability. Project management in general and quality management in particular, contribute development in Real Estate Company Ethiopia. This research also intentions to add to the existing literature and findings for other similar related projects to improve quality problems through effective implementation and management of projects.

Therefore, this research work will contribute to the development of the disciple and adds to the project management body of knowledge by providing additional experiences of the organization.

The study would be also helped management of the construction to identify ineffective total quality management practices that exist in the building construction and how to remedy these ineffective practices

1.8 Scope of the study

This study is limited to quality management practices in Gift Real Estate company and challenges to implement Quality management in Gift Real Estate company.

Operational definition

Quality; - Quality is the ongoing process of building and sustaining relationships by assessing, anticipating, and fulfilling stated and implied need. (Gibson & Hamilton,1994)

Quality Management; - according to (ISO 9000:2005) defines quality management as the coordinated activities to direct and control an organization with respect to quality

Quality Management system: - is the interaction between people, processes and documentations to meet the requirements and satisfaction of customers (Abdul Hakim, 2006).

Real estate: - is a property consisting of land and the buildings on it a long with its natural recourse such as minerals or water, immovable property of the nature; an interest vested in this item of real property, building or housing in general. (Harri & McCaffer, 2013)

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter starts with a general overview of construction industry and the real estate firm. It puts into perspective different findings and conclusions of various articles. Recent articles and publications have been considered to reflect the central idea of this paper. This chapter also has a summary of the conceptual framework of the study

The construction industry in Ethiopia has been developing tremendously since 2001. This can be a clear indication to the growth of the GDP contribution to the overall country's economy through creating a significant contribution to the success and competitiveness of country's economy in the past few years. The reviewed literature showed that the construction industry is an important segment of the economy and plays a key role in socio political and economic development. In this regard, the construction industry needs to be understood if it is to be able to perform effectively and efficiently to produce the desired result with quality. According to (Lund, 2011), the construction industry is typified by a uniqueness in every construction project, they are single order, single production products.

For more than two decades “quality” and “quality management systems” have been leading buzzwords in the business world. Numerous consultants have built their careers around these topics, and quality issues in business have been responsible for the development of new organizations and even industries, for instance, the American Society for Quality and Six Sigma consulting.

The notion of quality in business focuses on the savings and additional revenue that organizations can realize if they eliminate errors throughout their operations and produce products and service at the optimal level of quality desired by their customers.

A construction project is considered successful when it is completed on time, within budget, following specifications and to stakeholders' satisfaction. However, levels of project performance and project successes are low in the construction industry especially in developing countries such as Nigeria where owners are generally dissatisfied (Odediran, Babalola & Adebiyi, 2013; Isa, Jimoh & Achuenu, 2013). One of the significant reasons for owners' dissatisfaction with building projects is their poor quality (Abdulrahman, Wang & Wen, 2010; Achi, Onukwube & Ajayi, 2007). Every customer wants a quality product that meets its needs and worth the value of money it has invested unto the product (Achi et al., 2007).

The construction industry has many characteristics that set it apart from other production environments, especially when compared with other sectors such as manufacturing (Kamal, Yusof & Iranmanesh, 2016).

2.1 Literature Review

2.1.1 Project and Project Management

Project

Several definitions have been provided by many scholars on the matter. Projects are short-term activities that aim to provide a unique product, service, or outcome (PMBOOK, 2013). One of the most important qualities of a project is that it has a clear goal, a defined beginning and finish, and that it involves multiple departments and specialists. It also does something new that has never been done before, and it has certain time, cost, and performance criteria (Larson, 2011).

2.1.2 Project Management

According to Kerzner (2009), project management entails using a variety of information, tools, and abilities to get best outcomes. It is the process of planning, organizing, directing, and regulating resources for a relatively short-term aim or target. Information/communications, contract/procurement, human resources, and risk management are all integrated into project management. Moreover, one of the most commonly accepted definition of project is that a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, within budget, and according to specification (Robert K.Wysocki, 2014).

2.1.3 **QualityManagemet**

Quality definition

Quality may mean features of products which meet customer needs and thereby provide customer satisfaction, yet others equate it to attainment of prescribed standards. The International Organization for Standardization (ISO) formally defines quality as the 'totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs' (ISO, 1994a).

Burati, Matthews and Kalindi (1992) describe quality as the conformance to certain performance requirements. This entails meeting up the legal, aesthetic and functional requirements (Arditi & Gunaydin, 1997). A more universally accepted definition of quality, however, is the one provided by the International Standard Organization (ISO8042, 1994). The ISO defines quality as the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

Dr J.M.Juran, an international authority in quality management, notices quality simply as 'fitness for purpose'. Indeed, a product befitting its intended purpose would satisfy the user's needs and expectations. The crucial point lies in making the purpose clear to all parties involved in the design and production (Chung H.W., 1999).The definitions of quality now are not different form the previous definition of quality. Those definitions are taken from previous gurus about quality. The quality of building work is difficult, and often impossible, to quantify since a lot of construction practices cannot be assessed in numerical terms.

According to Barbara J. Jackson (2010), the quality of the project is defined by the standards set forth in the specifications. Quality clearly impacts project cost. The specifications stipulate what materials to use and equipment to install. There are grades of performance, durability, and aesthetics associated with every construction product. A project that specifies minimum standards for the products and equipment to be installed will cost less than a project that includes high-end materials and installations.

2.1.4 Quality Management System

Implementing a QMS for real estate construction projects does not guarantee perfect projects, but provides a framework for consistently maximizing the quality of the overall project activities. This framework should include provisions for training and qualification of specific construction procedures, audits and corrective actions. Incorporating these elements at an early stage of these processes will help to ensure project quality objectives are consistently met.

Quality management system according to the ISO 8402, (1994), refers to all management functions that determines quality policy, objectives and responsibilities, and implements them by means such as quality planning, quality control, quality assurance, and quality implementation within any quality system. There are three major processes involved in the management of quality in construction projects (Nicholas & Steyn, 2008; PMI, (1996). These are quality planning, quality assurance and quality control. Quality management is about making organizations perform for their stakeholders – from improving products, services, systems and processes, to making sure that the whole organization is fit and effective. Managing quality means constantly pursuing excellence: making sure that what your organization does is fit for purpose, and not only stays that way, but keeps improving.

According to (Hakim et al.,(2006) Quality management system is defined as "all activities of the overall management function that determine the quality policy, objectives and responsibilities, and implement them by means such as quality planning, quality control, quality assurance and quality improvement within the quality system". To ensure the continually improvement of QMS, it is essential that the top management to give their full support and commitment especially to the development and implementation of construction project/s. This indicates that quality should be managed in ways that which are clearly identified, well documented and efficiently planned, implemented and controlled. A project quality plan (PQP) is prepared to establish project level quality procedures bringing together the project information and the companies' policies, procedures and inspection routines' (Griffith & Watson, 2004). This concept is practically and theoretically related to all the appropriate parts of the participants in the project activities to quality systems together around the needs of the project activities.

ISO 9001:2015 is the standard that provides a set of standardized requirements for a quality management system, regardless of what the user organization does, its size, or whether it is in the private, or public

sector. It is the only standard in the family against which organizations can be certified, although certification is not a compulsory requirement of the standard. Without satisfied customers, an organization is in threat. To keep customers satisfied, the organization needs to meet their requirements. The ISO 9001:2015 standard provides a tried and tested framework for taking a systematic approach to managing the organization's processes so that they consistently turn out product that satisfies customers' expectations. The international standard for quality management (ISO 9001, 2015) adopts a number of management principles that can be used by top management to guide their organizations towards improved performance such as: customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management. Since any construction firm and its suppliers are mutually supporting, therefore a mutually beneficial relationship between them increases the ability of both to add value and these seven principles form the basis for the quality management system standard (ISO 9001, 2015).

Therefore, the project achievement depends on the knowledge, skills, creativity, and motivation of its employees and partners. Thus, construction firms should demonstrate commitment to the employees, provide opportunities for development and growth. Construction quality depends on the availability of skilled personnel, construction material including raw material, finished products, semi-finished products, components and parts. Furthermore, the technology and innovation in the construction machinery and equipment are essential for the modern construction, reflecting the construction capabilities of the firm, which have a direct and a significant impact on the project progress and quality. “Quality management is one area that should not be compromised. The payoff is a higher probability of successfully completing the project and satisfying the customer” (Wysocki, 2014).

According to (Crawford, (2002) the overall aim of quality management is to satisfy the customer, conform to requirements, ensure fitness for purpose, and to ensure the product for use.

2.1.5 Quality planning

Planning quality management is the process of identifying quality requirements and/or standards for the project and its deliverables, and documenting how the project will demonstrate compliance with relevant quality requirements. The key benefit of this process is that it provides guidance and direction on how quality will be managed and validated throughout the project.

According to Nicholas and Steyn (2008), quality planning provides the confidence that all steps

necessary to ensure quality have been thought through. It involves identifying which quality standards are relevant to the project and determining how to satisfy them (PMI, 1996).

2.1.6 Quality assurance

Quality Assurance is a more modern approach to quality achievement in production. It is a shift from the old inspection and quality control systems where a lasting and continuous improvement in quality is achieved by directing organizational efforts towards planning and preventing problems occurring at the source (that is a shift from detection towards the prevention of nonconformance).

These include the establishment of sound quality management systems, the assessment of its adequacy, the audit of the operation of the system and the review of the system itself (Harris & McCaffer, 2002). The PMI (1996) Despite the wealth of site experience accumulated throughout the decades, one in ten building contracts still leads to client dissatisfaction and complaint against the contractor.

To practice quality assurance, an organization has to establish and maintain a quality management system (usually abbreviated to quality system) in its day-to-day operation.

aggressive elements. Under such conditions, it is arguable whether the procedures can be standardized at all. Some contractors even think that trying to do so merely implants another layer of bureaucracy in the organization

It is unfortunate that adoption of quality assurance in the construction industry has been mainly client-led. Realizing that enforcement of the contract in law cannot undo any damage already done, a progressive client, when awarding a contract, tends to take into account the contractor's capability to 'do it right first time, every time' the underlying philosophy of quality assurance. There is a general movement towards making the implementation of a quality system a contractual requirement. If a contractor does not want to be excluded from bidding for available work, he should wait no more in establishing a quality system in his organization. Even if such external pressure is not on at the moment, he will be fighting a losing battle against his competitors who have enhanced their productivity through better quality management (Chung H.W., 1999).

Many government bodies responsible for public works and housing have begun to insist on an effective (or even certified) quality system as prerequisite for tendering. Public utilities companies are doing the same thing. Private developers with major projects in planning will follow suit. The

basis of competition for business will shift from 'price only' to a combination of price and quality. If a contractor does not want to be excluded from bidding for available work, he should wait no more in establishing a quality system in his organization. Even if such external pressure is not on at the moment, he will be fighting a losing battle against his competitors who have enhanced their productivity through better quality management (Chung H.W., 1999). An analysis of seven building projects of various sizes in Australia has demonstrated that 'quality does not cost it pays' (Roberts, 1991). Figure 2.2 shows the results of the analysis; the quality related costs are expressed as percentages of the total construction cost.

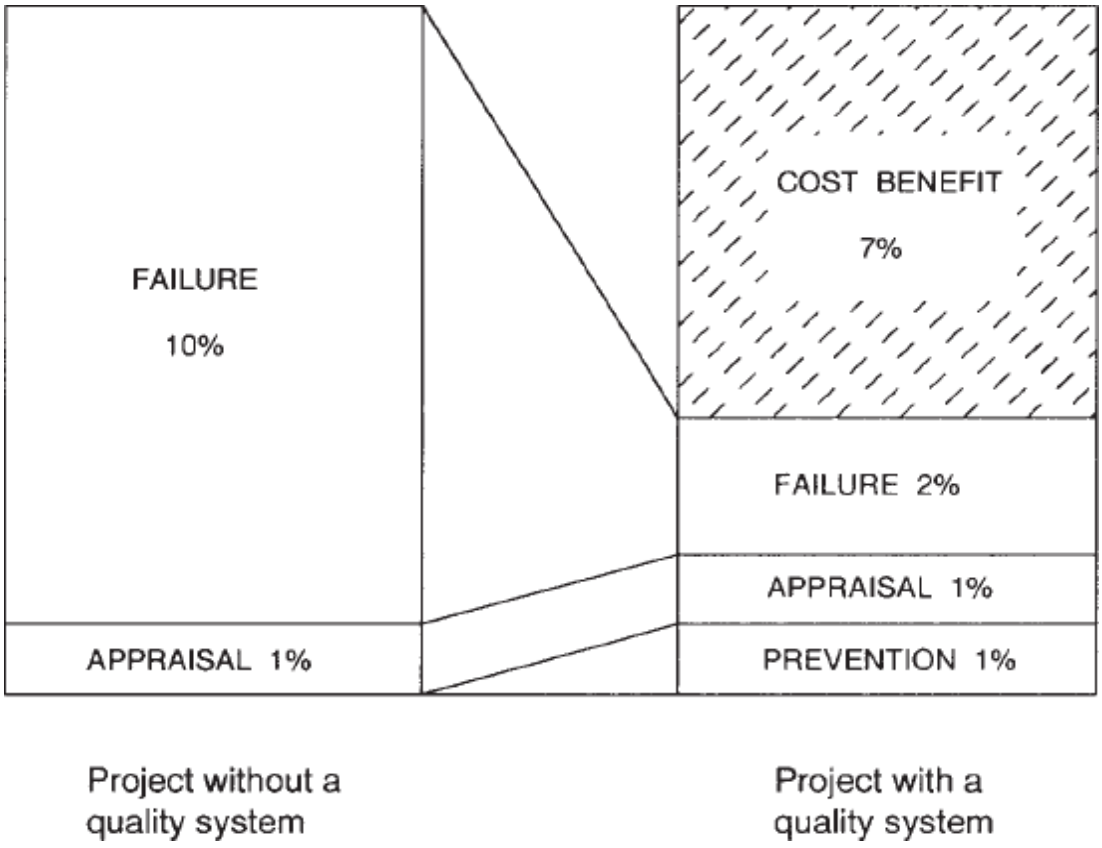


Figure 2.2 Implementation of quality management (Roberts, 1991) cited at Chung H.W., (1999)

Through the implementation of a proactive quality system that costs about 1% of the project value (the prevention cost), the expenditure as a result of repair etc. (the failure cost) drops from 10% to 2%, representing a saving of 7%. The economic benefit of preventive measures is obvious (Chung H.W., 1999). Although there is cost to a apply quality system, this is results less rework toward the end of the project. So, the impact of improved quality on project cost results less reworks and also saves failure cost.

2.1.3 Quality control

Quality control (QC) describes an ongoing process of monitoring and appraising work, and taking corrective action so that quality outcomes that are planned for could be achieved (Nicholas & Steyn, 2008).

Monitoring specific project result to determine if they comply with relevant quality standards and identifying ways to eliminate cause of unsatisfied performance contract documents comprisea clear, complete, and accurate description of the facility to be constructed, correctly conveying the intent of the owner regarding the characteristics of the facility needed to serve his or her purposes. Project quality control is performed to identify causes of defects or failures occurred during the project implementation process and to suggest corrective actions necessary for reaching appropriate quality levels. It is inseparably linked to quality assurance. While quality assurance activities are performed to ensure that appropriate quality standards (project processes and product goals) and operational definitions are applied, quality control activities are carried out to monitor and record the results of quality assurance, measure quality performance levels and recommend necessary changes (corrective actions) to the overall quality management plan. Quality control activities serve as a foundation for using continuous improvement approaches throughout the project implementation process. (MYMG TEAM · APRIL 12, 2011)

Quality control refers to the activities that are carried out on the production line to prevent or eliminate causes of unsatisfactory performance. In the manufacturing industry, including production of ready-mixed concrete and fabrication of precast units, the major functions of quality control are control of incoming materials, monitoring of production processes and testing of the finished product. Before production is commenced, an assessment is made of the minimum quality needed to satisfy the stated requirements and how that quality can be consistently achieved. An example is establishing the target mean strength of concrete on the basis of the specified characteristic strength and the estimated variability. During production, the strength of the concrete is continuously monitored via routine testing and statistical analysis of the test results, so as to detect at the earliest possible moment when either the mean strength or the variability of strength shows a significant change.

In the building industry, it is traditional practice to have separate contracts for design and construction, with the designer also taking up the role of supervision of construction. The quality of the finished works is controlled by way of inspection and testing as construction proceeds. For example, the quality of concrete and other materials on site is judged by random sampling and testing, and a thorough inspection of the finished works is performed without exception before final

acceptance. The major drawback of this 'inspectorial system' of quality control is that it identifies the mistakes after the event. Even high strength concrete can be defective if it is not properly compacted and cured, and the potential hazard of steel corrosion will not surface until some years later. Many building defects are covered up during subsequent construction and consequently the quality of the finished works cannot be assessed by final inspection. Unlike consumer goods, defective building work is very difficult, if not impossible, to replace.

The client is often left with the patched-up original which will be a source of recurrent trouble and huge expenditure in the years to come. Regular supervision by the contractor's staff themselves is undoubtedly the key to quality.

There are, however, commercial and organizational pressures that often favor speed at the expense of quality. Sometimes poor workmanship is condoned to keep up with expected productivity or just labour. To show commitment to quality, senior management of the company must therefore provide adequate resources on site to avoid anybody cutting corners.

The required documentation of a quality system ties in closely with the basic functions as aforesaid. The top management's commitment to quality is expressed in a quality policy statement. The quality policy is incorporated and expanded in a quality manual which sets out what management requires its staff to do to assure quality. How it is to be done is detailed in a number of quality procedures and work instructions. What is actually done is evidenced in the various written records.

2.1.8 TOTAL Quality management

This is the highest level of quality management. It is concerned with the management of quality principle in all the facets of a business including customers and suppliers. Total Quality Management (TQM) everyone in the organization is a principle which involves the mutual cooperation of everyone that aids the business process of an organization and it involves all the stake holders of an organization involves the application of quality management principles to all aspects of the organization, including customers and suppliers, and their integration with the key business processes. It is an approach which involves continuous improvement by everyone in the organization (Dale 1994).

2.1.9 Quality management principles

The ISO 9000 family addresses various aspects of quality management and contains some of ISO‟s best known standards (ISO, 2017). The standards provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved.

The management system standard that has been developed with the intention ensuring the fulfillment of customers‟ needs with respect to the products and services delivered is ISO 9001 quality management system and the family standards (ISO, 2017). ISO 9001 is a standard developed by the International Organizations for Standardization and serves as a framework for quality organizational management systems.

The standards in the ISO 9001 Quality Management System are applied intending to make sure the fulfillment of customers‟ needs regarding the products and services they demand. As a result, the intention in the concept of ISO which is standardizing certain minimum characteristics of quality management system and achieving mutual benefits to suppliers and customers will be entertained. It also enables to define a contractual standard between these parties where purchasers are evaluated whether the products or services supplied by producers would conform to customers „specifications and requirements (Yahya & Goh, 2001)

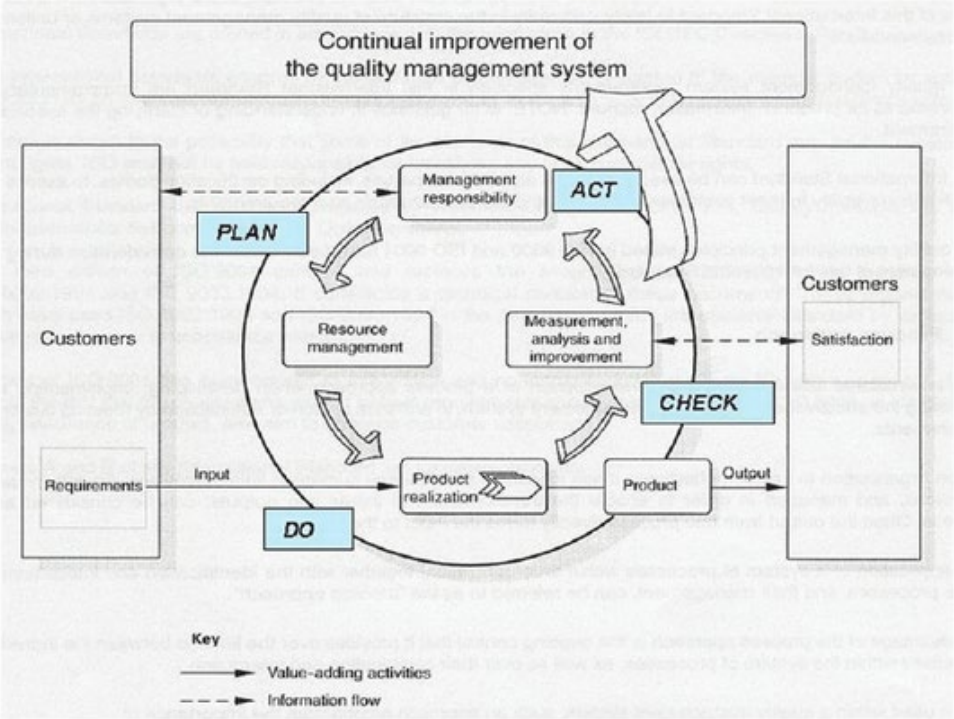
These quality management principles form the basis for ISO 9000 family of standards

1	Customer focus	Understand, meet and exceed customer expectations
2	Leadership	Establish unity of purpose and direction , create an environment in which people can become fully involved
3	Involvement of people	People at all levels should be involved in achieving the organizations objectives
4	Process approach	Activities and resources should be managed as a process
5	System approach to management	Managers understand and manage interrelated processes as a system
6	Continued improvement	Continual improvement of performance should be a permanent objective
7	Factual approach to decision making	Effective decisions are based on the analysis of data and information
8	Mutually beneficial supplier relationships	

Table 2.1. ISO 9000:2015 Quality management principles

The quality management system follows the process based conceptual model as depicted in Figure 2.1. The model encompasses the major sections and clauses of the quality management standard including: management responsibility, resource management, product realizations and measurement analysis and improvement while considering the customers and the standard requirements as input and customer satisfaction as output in a continual improvement approach.

Figure 2. 1 The PDCA Diagram (Deming, 1990)17



The internal and external customer to the construction project can be both the employees and the society at large, which can represent important stakeholders for the construction firm. Therefore, the project achievement depends on the knowledge, skills, creativity, and motivation of its employees and partners. Thus, construction firms should demonstrate commitment to the employees; provide opportunities for development and growth. Construction quality depends on the availability of skilled personnel, construction material including raw material, finished products, semi-finished products, components and parts. Moreover, the technology and innovation in the construction machinery and equipment are essential for the modern construction, reflecting the construction capabilities of the firm, which have a direct and a significant impact on the project progress and quality.

The concept of continuous improvement can be achieved through enhancing values to the customer by the deployment of modern, new and innovative products and services, through minimizing wastes and their related costs, through effective utilization of resources for boosting productivities and finally through improving responsiveness and minimizing customer complaints and poor quality of inputs to the construction activities. (By Brian Wilkins June 14, 2021)

2.1.10 QMS Implementation in Ethiopia Construction Projects

Through analyses of the Ethiopian Quality Award (EQA) self-assessment report evaluation, generally, quality management practices in Ethiopia was found to be low in all the tenets including leadership, policy and strategy, resources management, process management, customer satisfaction, business performance, and impact on society (Beshah & Kitaw, 2014).

Among these factors, policy and strategy is the most critical problem area despite the least weight given by the EQA. Comparatively, the service industries quality management practice is weaker than that of the manufacturing industries as measured by all the quality parameters. Beshah and Kitaw (2014) also suggested that the quality promoters, particularly the government should give special attention to the service industries quality. However, both manufacturing and service industries should be supported to lay down their day-to-day activity on a long-term strategy and also to improve the root causes for the poor-quality management practice

2.2 QMS in Ethiopia Construction

Ethiopia was the 68th member of the international organization for standardization (ISO). The need for quality control in Ethiopia was recognized since 1972 making the establishment of Ethiopian standards institute. At national level, the government of Ethiopia considered quality as a development infrastructure starting from 1940s when agricultural products export began to expand (Beshah, 2011).

QMS certification was a very expensive and tedious process for Ethiopian industries, because there were no system certified organizations which can certify local companies. In February 2009, quality and standard authority of Ethiopia (now called Ethiopian Conformity Assessment Enterprise) obtained system certification and localized the processes. Now the Ethiopian Conformity Assessment Enterprise is giving internationally accepted certificate to not only Ethiopian construction companies but also for any other companies. Ethiopian Quality Standard Agency is also giving training and technical support on QMS (Beshah, 2011).

Through analyses of the Ethiopian Quality Award (EQA) self-assessment report evaluation, generally, quality management practices in Ethiopia was found to be low in all the tenets including leadership, policy and strategy, resources management, process management, customer satisfaction, business performance, and impact on society (Beshah & Kitaw, 2014).

2.2.1 Purpose of quality management in the construction

Quality management in construction is the policies, processes and procedures put in place (typically by management) to improve an organization's ability to deliver quality to its customers - whether those customers are clients/owners, contractors or subcontractors - on a consistent and constantly improving basis.

While every construction company on earth wants to deliver quality on every phase of works and every project, it is the establishing of these internal and external principles and guidelines which actually results in quality. The major objectives of quality management are:

- To minimize the defects on asset delivery or handover
- To identify and solve defects and issues before your customers do - safeguarding your reputation

Achieving these objectives carries some many obvious benefits - none more beneficial than continuing to get more work and building a strong positive reputation. For a construction project, quality begins with requirements carefully developed, reviewed for adherence to existing guidance and ultimately reflected in criteria and design documents which accurately address these needs. Therefore, the designer establishes the quality standards and the contractor in building to the quality standards in the plans and specifications, controls the quality of the work. For Rumane, construction project quality management is defined as the fulfillment of owner's needs per defined scope of works within a budget and specified schedule to satisfy the owner's / user's requirements.

The purpose of CQM is the Government's efforts, separate from, but in coordination and cooperation with the contractor, assure that the quality set by the plans and specifications are achieved. CQM is the combined effort of the contractor and the Government. The contractor has primary responsibility for producing construction through compliance with plans, specifications, and accepted standards of the industry (U.S. Army Corps of Engineers, 2004).Preventing mistakes is much more time and cost effective than correcting them - which is why establishing a strong quality management plan is a good way to improve quality. The upfront investment of creating a coherent and comprehensive quality management plan often pays big dividends throughout the life of a project.

Outlined in your quality plan will be four (4) main sections which establish your:

1. Quality policies
2. Quality objectives (clear and measurable)
3. Requirement standards (ISO accreditations etc.)
4. Other statutory and legal requirements

As you can see, a quality management plan is both an internal and external tool for construction companies. It ensures that you are adhering to and meeting the necessary quality standards to do work legally and feasibly - and that you are structuring your internal quality control policies and objectives in a way that enables that continuous improvement and ultimately good performance.

2.2.3 Factors affecting quality of Construction Projects

The major factors influencing quality of Construction Projects are the use of unskilled, untrained and inexperienced trade subcontractors, sub-suppliers, consultants and workforce with little or no skills and knowledge.

Tan and Lu, (1995) grouped the elements affecting quality of the Construction Projects into eight criteria and every criterion is divided into several impacting factors as depicted in Table 2.5. Those factors are a success factors that affects quality of building construction projects.

Table 2.5 factors affecting quality of Construction Projects

No.	Quality criteria	Impacting factors
1.	Manpower qualified to achieve project mission, requirements, and objectives.	❖ Ability of project manager ❖ Ability of design staff ❖ Ability of supporting staff
2.	Conformance to codes and standards.	❖ Owner's willingness to abide by the agreed rules and standards. ❖ Utilization of the correct edition and articles. ❖ Consistency of the rules and standards.
3.	Conformance to owner's requirements.	❖ Precision of owner's stipulated requirement. ❖ Precision of owner's requirements. ❖ Changes to owner's requirements
4.	Conformance to design process and Procedures	❖ Inclusiveness of engineering design manuals, and guidelines. ❖ The efficiency of the quality control program. ❖ The execution of engineering change control.
5.	Conformance to schedule requirements	❖ Monitoring and control of schedule and performance ❖ Number of engineering design changes ❖ Reasonableness of the schedule
6.	Conformance to cost requirements	❖ Number of engineering changes ❖ Clarity of the scope of work and statement of work ❖ Reasonableness of the cost estimates and budget
7.	Extensiveness of and conformance to output standards	❖ Completeness of data and information ❖ Clarity of illustrations and classifications ❖ Reliability of the contents ❖ Precision of the data and methods
8.	Constructability	❖ Timeliness and extensiveness of supply of equipment and material ❖ Utilization of common and standardized construction methods and materials ❖ Audit of design for Constructability

2.2.4 Empirical Literature Review

The empirical literature offers empirical evidences of quality management practices in Real estate projects. Additionally, at the end of this section the conceptual framework of this study is presented. Quality Management has progressively been accepted by real estate Firms as an initiative to solve quality problems and to meet the needs of the final customer. Therefore, this section is concerned with other studies conducted on other area in similar discipline.

The first study selected for the empirical review is "Study of Quality Management in Real Estate Firms" in Ghana. This research perceives the sights preliminarily the practices of quality management, management assurance in quality management, and quality management implementation problems in construction projects in the context of Ghanaan construction industry. Further as stated by Agbenyega(2014) in his study in quality management practices of construction firms in Ghana, in solving the potential barriers are the main measures to be taken, namely: management commitment, communication between managers and employees, employee involvement, detailed and logical work program, regular inspection, quality audit report, lack of training and education of team members and review and analysis(Agbenyega,2014).

One of the earlier empirical studies conducted in the QM area by (Saraph et al., 1989) have used data attained from 162 managers of 20 manufacturing and service industries collected in the region of USA to identify the CSFs of TQM. They identified eight factors: top management leadership, role of quality department, training, product design, supplier quality management, process management, quality data reposting, and employee relations.

The research conducted on Quality Management in Construction Projects" in Malaysia, is also be considered for empirical review of this study. This Malaysian researcher explores preliminarily the practices of quality management, management commitment in quality management, and quality management implementation problems in construction projects in the context of Malaysian construction industry. The findings of the study indicate that the state of quality management in construction projects in Malaysia needs to be strengthened and there are problems in relation to quality management implementation that require attention.

In addition, as Joy stated in his study on factors influencing quality of construction projects, the major factors that affect quality; material, labor, financial issues, conformance to codes and standards, top management support, management factors, selection of contractor, selection of designer design, co - operation of parties, contract documents and lack of communication (Joy, 2014).

The other study conducted by Ever line in his study on factors affecting the performance of Construction projects in Kenya, identified four major factors that most important determinants in general construction projects; Experience and qualification of personnel, quality of materials and equipments, conformance to specification and quality assurance training and meetings (Everline, 2014).

The other study showed by Birhanu in his study identified that lack of effective supervision, communication, management of commitment, proper equipments and materials available for use, quality assurance team lead the process, staff turnover, skilled turnover, Inefficient resource management and problems with contractors are some of the challenges he identified to the attainment of project quality (Birhanu, 2014).

Furthermore, Temesgen on his study identified three major problems related to unsuccessful projects and that contribute to failures of projects in Ethiopia public sectors; the first is resource problem that includes shortage of adequately trained and skilled human, financial and material resources. Second involves, management problems such as weak sharing of responsibility during planning, weak follow-up, poor coordination and third, technical problems which include loose linkages with sectoral policy and strategy, weak technical skill and poor project design are some of the identified problems (Temesgen, 2007).

The problems identified by different researchers are almost similar even though there is variation due to their practical context of the projects. Accordingly, these variables are also considered in the researcher study to consider in the context of the construction projects.

The research conducted on Quality Management in Construction Projects" in India, is also be well-thought-out for empirical review of this study. This India researcher discovers the practices of quality management and quality management implementation factors in construction projects.

The conclusions of the study quality management in construction projects in India needs to be strengthened and there are problems in relation to quality management implementation that require attention.(Abdulsalam, 2013) studied on factors affecting design quality in construction industry in Syria, briefs his research on factors affecting design quality in construction.

Poor design is the main factor that reduces the overall performance of the construction project. The main factors are insufficient overall design time, method of selecting the designer, lowest price offer, lack of documentation and changes in client requirements.

The identified problems by the scholars are more or less similar however there is variation due to the empirical evaluation of quality management from quality gurus such as Deming (1986) Juran (1993), Crosby (1979), Feigenbaum (1991) and Ishikawa (1985) Their propositions are the basis for understanding the concept of total quality management.

According to the previous study by Hellston and Klefsjo, (2000) stated that three important components should be considered in order to implement total quality management these are a documented quality system, teamwork and the use of improvement tools and techniques. Moreover they said, the implementation of total quality management should begin with the identification of core values that should characterize the organization. The next step is to distinguish techniques that are suitable and support the core values. Then in order to support the techniques found to be suitable tools must be identified and used in an efficient way.

Al-Sehali, (2001) demonstrated that Quality Management has become one of the best solutions to overcome construction industry's problems and specification could be used as a gateway to introducing total quality management to many organizations. Various construction 26 companies are dismissive about implementing total quality management in order to reduce quality problems in their projects because it is not uncommon for them to consider total quality management to be synonymous with quality assurance (QA).

quality management system becoming more than a way of saving organizations by increasing profitability in a short term. In addition to that total quality management companies enjoy cost-efficiency, flexibility and responsiveness.

For Brah, (2002) total quality management is a set of guiding principles and practices as well as a philosophy which address not only the management of quality but also the quality of management. He suggest that the previous studies regarding Total quality management considered the concept of the total quality management as one of the best solutions to overcome the construction industry problems.

their practical context of the projects. Hereafter, these variables are also considered in my study to consider in the context of the real estate construction projects.

2.2.5 Research gap

The gap considered the missing piece or pieces in the research literature, is the area that has not yet been explored or is under-explored: Quality management system need having the organizational structure, responsibilities, procedures, processes and resources for implementing quality management such that there is a guiding framework to ensure that every time a process is achieved the same information, method, skills and controls are used and practiced in a consistent manner. Quality Management System(QMS) has been defined as a comprehensive systematic, integrated, consistent, organization-wide effort devoted to customer satisfaction through continuous enhancement. With its primary focus being the contribution of everyone, QMS has the potential to advance business results, greater customer satisfaction, worker participation, team working and better management of workers within companies. Though, the real estate industry in Ethiopia has been slow to the concept of QMS.

2.2.6 Conceptual Frame Work

This section presented the distinct dimensions related to QMS as presented in literature dealing with the topic. This has formed the basis for a comprehensive framework that encompasses the different features of QMS. The key dimensions of QMS as per (ISO 9001, 2015) have been recognized with emphasis on their critical value in the framework. The dimensions of QMS defined in this section have all been thoroughly recognized by many authors and experts on the subject. This is also captured in the conceptual framework, which shows list of management responsibilities in project and assess the practice and implementation of QMS. The scope has additional divided into four influences describing them such as customer focus, Effective communication , Monitor detailed documentation, improvement, quality planning processes, people's engagement and QMS guidelines which potentially explain the implementation and practice of QMS as per (ISO 9001, 2015). These elements in conceptual model show the relationship among the variables to describe the practice and the extent of implementation of QMS in the real estate housing construction project. The study was guided by the formulated conceptual framework as described on figure 2.2.5

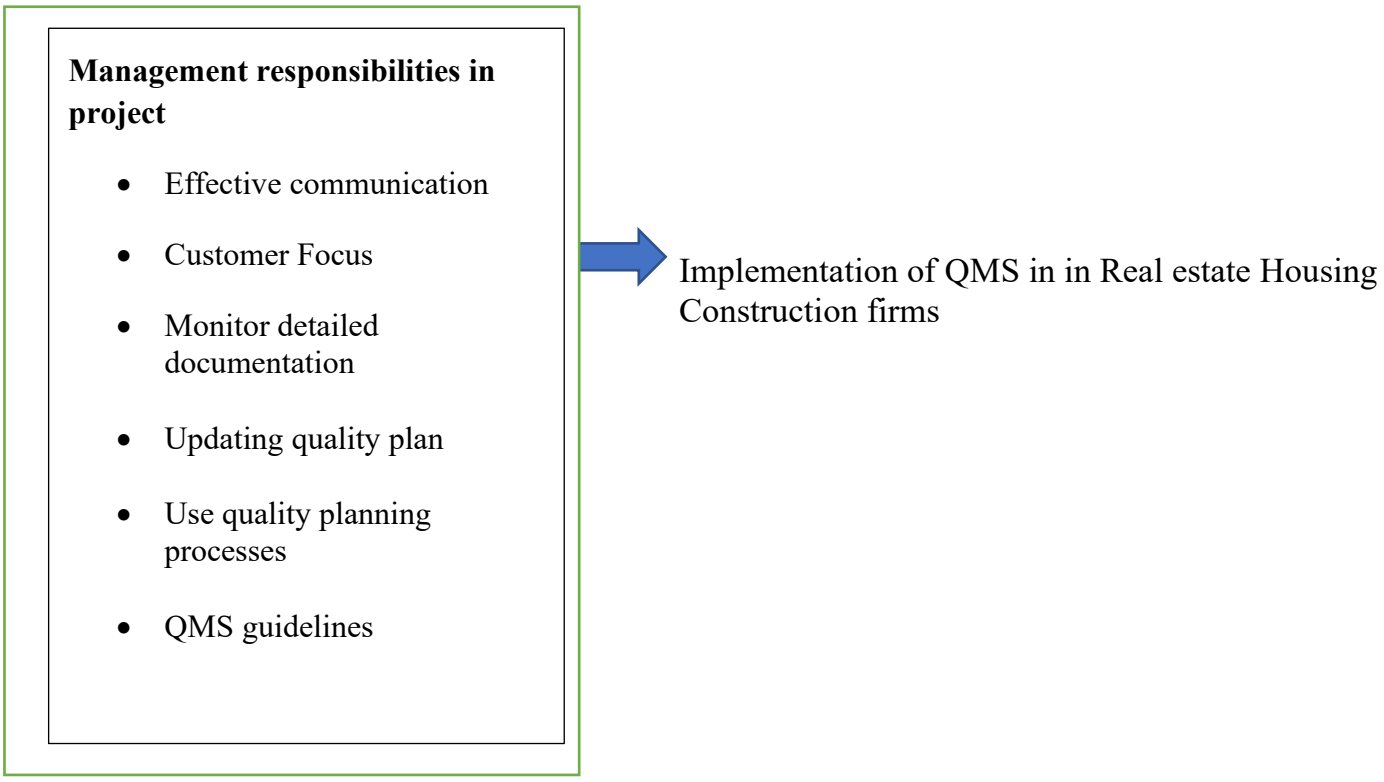


Figure 2.2.5 Conceptual Frame Work to analyze the Practice and Implementation of QMS (researcher own source)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter explains the methodology of the study including the research approach, research design, population and sampling, data collection instruments, reliability and validity test, data analysis techniques and ethical considerations.

3.2 Research design

This study applied mixed methods design which is a procedure for collecting, analyzing and producing of results by mixing both quantitative and qualitative data at some stage of the research process within a single study. This approach comprised two complimentary methods: a questionnaire survey and interview. The questionnaire generated quantitative data, while the second provided richer qualitative details, while at the same time validating the quantitative findings. Hurmerinta-Peltomaki and Nummela (2006) have found there is value- adding to results based on the adoption of mixed methods, when compared with using a single method.

Since the objective of this study was to assess the implementation of QMS the study is a descriptive type of research. A descriptive survey method was used to measure the characteristics described in the research question. In connection with the application of descriptive survey method, it was stated that this method is a method of investigation which attempts to describe and interpret what exists at present in the form of conditions, practice, process, trends, effects, attitudes, beliefs, etc

3.3 Population and Sample Design

The target population for this study was one of the real estate construction firms found in Addis Ababa. This real estate company was selected using random sampling techniques from list of real estate Company which had implemented QMS in their organizational system .The company is well organized and run projects in all sub cities of the city. Population size of the study was all of the permanent employees of Gift real estate out of which 60 personnel who are working directly on project managerial and project expert level were selected purposively.

3.4 Data sources and data collection tools

Both primary and secondary data sources were used for the study. According to (Kothari, 1985) questionnaires, interviews and direct observations are the most important means of data collection tools. The questionnaire was designed using five levels Likert Scale (Cooper and Schindler, 2008) to obtain the required information. The Likert scale is preferred because it allows measuring the attitudes of the respondents in a scale of 1 to 5 (from the least to the most) as to how they disagree or agree, disapprove or approve the attributes or factors presented as questions. Therefore, in this study, both closed and open ended questionnaires and semi structured interviews were employed as a primary data collection.

The primary data collected was checked, filtered and entered for further statistical analysis with the version of SPSS-20 (IBM, 2010) software and also employed ranking, the weighted average methods mean, and standard deviation.

3.5 Data analysis and interpretation

Analysis and discussion was done based on the primary & secondary data obtained. The research questions were addressed one at a time. Statistical results were described in a way that it is performed to answer the research question.

The statistical tools were aligned with the objectives of the research. Moreover, the qualitative data was transcribed and then coded and put into categories and discussed. As a system of analyzing qualitative data, the content analysis could be used as it had been focused on identifying text about the different theme. For easy understanding of the level of practice and implementation QMS of the company, the researcher had formulated a rating system which encompasses an Excellent, Very Good, Moderate, and Unsatisfactory rating to summarize and conclude the practice and implementation of QMS based on the participants‟ response.

3.5.1 Excellent is rated to the activities that are very well known, very well done and very well implemented QMS which is equal and above 80% of the response.

3.5.2 Very Good is rated for the activities that are well known, well-practiced and well implemented QMS, which include from 65% to 80% of the response.

3.5.3 Moderate is rated for the activities that are fairly know, practiced and implemented QMS but not in-depth, which include from 50% to 65% of the respondents.

3.5.4 Unsatisfactorily rated for the activities, which are practiced and implemented inadequately, which include less than 50% of the respondents.

At the end of the study, there is a conclusion and recommendation based on the findings and literature.

3.6 Research validity and reliability

The quality of research design determined by different dimensions these are validity and reliability to applied to establish the checked of balanced research so Validity has important factor to identify the relevant of validity. Which means the results are true or correct and that can be represent by analysis approach to show the validity of research while reliability is a measure for the consistency of collected data through time and among respondents (Patton, 2002)

According to Field (2009), using Cronbach alpha, coefficient alpha provides a good estimate of reliability. Alpha values of 0.7 or higher are considered to be adequately reliable. Values between 0.5 and 0.7 are acceptable while values of below 0.5 are considered to be less reliable. The questionnaire was tested using Cronbach‟s alpha reliability measurement scales.

3.7 Ethical Consideration

Ethical considerations in research are a set of principles that guide your research designs and practices. Scientists and researchers must always adhere to a certain code of conduct when collecting data from people. The goals of human research often include understanding real-life phenomena, studying effective treatments, investigating behaviors, and improving lives in other ways. What you decide to research and how you conduct that research involve key ethical considerations. In order to keep the confidentiality of the data given by the respondents they were not required to write their name and they were assured those responses will be treated in strict confidentiality. The purpose of the study was related in the preliminary part of the questionnaire. Furthermore, the researcher tried to avoid misleading.

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND DISCUSION

4.1 Introduction

This chapter presents the result of the analysis and discusses that the data collected to answer the research questions and the derived objectives that the study was set to achieve. The result of the survey was discussed by triangulating the different source results: questionnaire results, interview and document review results. For the purpose of clarifying the methods that the researcher analysis and discussions: Quantitative data was analyzed by employing descriptive and explanatory statistics using statistical package for social science (SPSS) version 20.

A total of 60 questionnaires were spread to various respondents of interest for the study. Out of the covered population, 50 were responsive representing a response rate of 86%.

4.2 Analysis of Results And Discussion

4.2.1 Demographic Characteristics of the Respondents

4.2.1.1 Gender composition

The demographic statistics shown in the figure below illustration the distribution of respondents by gender. Participants were asked to indicate their gender by selecting the appropriate option provided (male or female). Accordingly only 16 (32%) of the respondents were female while the remaining 34(68)% were male. This clearly indicates that the sample population was dominated by male respondents.

Table 4.1. sex of the respondents

Source: own survey, 2022

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	34	68	68	68
	Female	16	32	32	100.0
	Total	50	100.0	100.0	

4.2.1.2 Educational Background

From the analysis on educational background of the respondents, it was found that only 41 respondents (86.0%) have Bacheler Degree, 7respondents (14.0%) have master's degree and above. This profile shows that majority of the respondents have Bachelor degree or first degree level.

Table 4.2: Educational Background of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bacheler Degree	43	86	86	86
	Master's Degree and above	7	14	14	100.0
	Total	50	100.0	100.0	

Source: own survey, 2022

4.2.1.3 Work Experience

The study choose to consider respondent's level of experience in the project area, which is vital towards knowledge of project management. 23% of the respondents have less than 5 years' work experiences, 20% have between 6-10 years, and only 7% of them have 11years and above of experiences . This profile shows that most employee are less than 5 years experienced in the organization.

Table 4.3: Work Experience of the respondents

Source: own survey, 2022

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 5 years	23	46	46	46
	(6-10) years	20	40	40	86
	11 years and above	7	14	14	100.0
	Total	50	100.0	100.0	

4.2.1.4 Work Division

From table 4.3, the work Most of the employees are Technical team member. This indicates that other professions like project management have less included.

Table 4.4: work division respondents

Source: own survey, 2022

	Frequency	Percent	Valid Percent	Cumulative Percent
Project manager	3	6	6	6
Office engineer	13	26	26	32
Project consultancy	1	2	2	34
Technical team member	24	48	48	82
Construction Forman	9	18	18	100
Total	50	100	100	

4.2.2 Descriptive Analysis of variables

Table 4.5: Basic Information Regarding to (QMS) Implementation

Item	**Statement**	**Response**	**Frequency**	**Percent**
I	Have you used any form of QMS in your current construction industry?	Yes	36	68%
		No	14	32%
		Total	50	100%
II	Have you ever been communicated about QMS from Senior Management in your current project?	Yes	39	78%
		No	11	22%
		Total	50	100%
III	Do you think each site should have a Quality Manager responsible for implementing Quality Plans and Checklists?	Yes	44	88%
		No	6	12%
		Total	50	100%
IV	Do you agree QMS help reduce defective work and the number of problem corrections in your current project?	Yes	34	68%
		No	16	32%
		Total	50	100%
V	Have you ever received training in any form of QMS?	Yes	20	40%
		No	30	60%
		Total	50	100%

Source: Data collected by the researcher through Questionnaire, 2022

Result from Table 4.5 shows that more than 68% of the respondents have positively responded to the given statements. This result could show that they are fully dependent and believed that practice and implementation of QMS is a responsibilities of the quality manager. Furthermore, the communication and training about QMS found to be at its lowest level in Gift real estate project.

4.2.3 Status of Management Responsibility in the selected Real Estate Company

Table 4.6 Customer Related Issues

Question 1, The project understands the needs of existing and future customers			Question 3,. The project measure customer Satisfaction is good		
Response	Frequency	Percent	Response	Frequency	Percent
Strongly disagree	1	2%	Strongly disagree	-	0%
disagree	3	6%	disagree	16	32%
neutral	20	40%	neutral	10	20%
agree	19	38%	agree	16	32%
Strongly agree	7	14%	Strongly agree	8	16%
Mean	3.56		Mean	3.32	
Std. deviation	.884		Std. deviation	1.09	
Question 2,. The project activities can meet customer requirements			Question 4,. The project aims to exceed customer expectations.		
Response	Frequency	Percent	Response	Frequency	Percent
Strongly disagree	-	0%	Strongly disagree	5	10%
disagree	5	10%	disagree	4	8%
neutral	22	44%	neutral	27	54%
agree	19	38%	agree	9	18%
Strongly agree	4	8%	Strongly agree	5	10%
Mean	3.44		Mean	3.10	
Std. deviation	.787		Std. deviation	1.035	

For Question 1, response Table 4.6 showed that 19(38%) of the respondents responded “agree” that their project understands the needs of existing and future customers. Moreover the average mean value (3.52) and standard deviation (0.884) shows that the Gift real estate’s project understands the needs of existing and future customers. This illustrations that Gift real estate can be able to produce a comprehensive understanding of their customers through put on an intelligent customer engagement, which is a key to reaching core business goals in their real estate construction.

Regarding to Question 2, in Table 4.6 19(38%) of the respondents replied that project activities to meet customer requirements agree that its good. But the statistical analysis of the rest of the respondents and the average mean value 3.44 and standard deviation (0.787) showed that the project activities of Gift real estate meet the customer requirement in an average manner. This shows that there could be a challenge in adjusting their level of service to suit their customers' needs. The result specifies that the company is providing basic level of service while there is a need to go beyond customer expectations.

Regarding to Question3, in Table 4.6 27(54%) of the respondents agree that measuring customer satisfaction was good. Then the rest of the respondents (46%) showed that it is neutral and disagree and this showed that the company did not adequately measure the customer satisfaction. It is also learned that majority of the respondents on the open ended questionnaire indicated that they rarely measure their customers satisfaction.

Regarding to Question 4, in Table 4.31 27(54%) of Gift real estate, respondents confirmed that their project aims to exceed customer satisfaction in a moderate way. This indicates that Gift real estate as a company treats issues that are related to customer focus and it tries to continuously improve to meet as well as go beyond customers‟ expectations. On the other hand, response on the open ended questionnaire and interview response dictates that Gift real estate tried to go beyond customer expectations as they were introducing initiatives like, customer focus groups, customer survey cards or a suggestion box. These initiatives send a clear message to customers that they are interested in their input.

4.2.4 Quality planning processes

Table 4.7: Frequencies and percentages of the ratings of Quality planning contains

	Strongly dis-agree	Dis-agree	Neutral	Agree	Strongly agree
Brief description of the project	3(6%)	20(40%)	9(18%)	16(32%)	2 (4%)
List of contract documents and Drawings	1(2%)	22(44%)	13(26%)	11(22%)	3(6%)
Project quality objectives	2(4%)	21(42%)	11(22%)	14(28%)	2(4%)
Site organization chart, with named personnel if known	3(6%)	19(38%)	14(28%)	13(26%)	1(2%)
Responsibilities and authorities of project staff	4(8%)	21(42%)	14(28%)	10(20%)	1(2%)
Site layout plan	0(0%)	18(36%)	15(30%)	17(34%)	0(0%)
construction programme and sub-Programmes	4(8%)	23(46%)	12(24%)	9(18%)	2(4%)
schedules of subcontractor nomination, material and Equipment	2(4%)	21(42%)	18(36%)	8(16%)	1(2%)
procurement, based on the construction programme	1(2%)	21(42%)	13(26%)	15(30%)	0(0%)
list(s) of materials and appliances used for the project, showing the verification requirement of each	2(4%)	15(30%)	14(28%)	16(32%)	3(6%)
Inspection and test plans, or list	2(4%)	21(42%)	15(30%)	11(22%)	1(2%)
list of quality procedures and work instruction applicable to project by making reference to the company's Quality Manual and Procedures	3(6%)	20(40%)	11(22%)	14(28%)	2(4%)
list of project-specific procedures, work instructions and inspection	3(6%)	22(44%)	12(24%)	13(26%)	0(0%)
checklists, or target dates for their Provision	3(6%)	19(38%)	14(28%)	13(26%)	1(2%)
list of quality records to be kept, including appropriate quality records from subcontractors	4(8%)	23(46%)	11(22%)	11(22%)	1(2%)
frequency (or provisional dates if possible) of internal quality audits	2(4%)	23(46%)	14(28%)	11(22%)	0(0%)
Frequency of updating the quality	1(2%)	22(40%)	13(26%)	13(26%)	1(2%)

Most of the result shows that the respondents had disagree with project quality planning processes. According to Harris and McCaffer, (2001) defined quality planning as a set of activities whose purpose is to define quality system policies, objectives, and requirements, and to explain how these policies will be applied, how these objectives will be achieved, and how these requirements will be met. And also from project management body of knowledge quality planning means how to fulfill process and product (deliverable) quality requirements. Quality planning contains the standard variables for construction project as recommended by Chung, (1999). So the result shows does not contain most of planning process such as ; updating the quality plan, appropriate quality records from subcontractors, internal quality audits, company's Quality Manual and Procedures and schedules of subcontractor nomination, material and equipment.

4.2.5 Quality Assurance

Table 4.8: Frequencies and percentages of the ratings of Quality Assurance processes

	Strongly dis-agree	Dis-agree	Neutral	Agree	Strongly agree
Selects the appropriate quality management system requirements for each contract.	3(6%)	22(44%)	12(24)%)	8(16%)	5(10)
Clearly specifies the quality management system requirements in tender and contract documents.	2(4%)	21(42%)	15(30%)	9(18%)	3(6%)
Evaluates and selects subcontractors on their ability to satisfy specified requirements.	2(4%)	24(48%)	13(26%)	11(22%)	0(0%)
Appropriate checking, measurement or testing of products and keeping proper records.	1(2%)	23(47%)	15(31%)	10(47%)	0(0%)

Source: own survey, 2022

This result illustrations most of the respondents had disagree on quality assurance performance which is not enough applied on appropriate checking, measurement or testing of products and keeping proper records , Clearly not specifies the quality management system requirements in tender and contract documents and the other result is did not Selects the appropriate quality management system requirements for each contract. According to Harris and McCaffer, (2001) defined quality assurance occurs during the execution phase of the project and includes the evaluation of the inclusive performance of the project on a regular basis to offer confidence that the project will satisfy the quality standards defined by the project.

4.2.6 Quality control

Table 4.9: Frequencies and percentages of the ratings of Quality control

	Strongly dis-agree	Dis-agree	Neutral	Agree	Strongly agree
Select what to control and set standards that provide the basis for decisions regarding possible corrective action.	3(6%)	24(48%)	13(26%)	10(20%)	0(0%)
Establish the measurement methods used, compare the actual results to the quality standards.	1(2%)	23(46%)	16(32%)	8(16%)	2(4%)
Act to bring nonconforming processes and material back to the standard based on the information collected.	3(6%)	21(42%)	13(26%)	11(22%)	2(4%)
Monitor and standardize measuring devices, include detailed documentation for all processes.	1(2%)	24(48%)	17(34%)	5(10%)	3(6%)

Source: own survey, 2022

This result shows most of the respondents had mostly disagree on organization applying quality control processes which are Monitor and standardize measuring devices include detailed documentation for all processes, Select what to control and set standards that provide the basis for decisions regarding possible corrective action , compare the actual results to the quality standards and not enough checklist as a quality control tools is practiced in their construction activities. According to Chang, 1999 defined, a good quality control system should have to consider Quality control processes. Meanwhile, the organization does not consider project quality control processes.

4.2.7 Quality management implementation challenges

Table 4.10: Frequencies and percentages of the ratings of quality management implementation challenges

	Strongly dis-agree	Dis-agree	Neutral	Agree	Strongly agree
Inadequate management support	2(4%)	4(8%)	16(32%)	15(30%)	13(26%)
Unwillingness of project staff to accept the quality system	1(2%)	8(16%)	12(24%)	22(44%)	7(14%)
Difficulties in understanding the quality system	5(10%)	4(8%)	9(18%)	21(42%)	11(22%)
Problem with more paper works	1(2%)	5(10%)	12(24%)	19(18%)	13(26%)
Problem with documentation	3(6%)	5(10%)	9(18%)	21(42%)	12(24%)
Difficulties in measuring results	2(4%)	7(28%)	14(28%)	16(32%)	11(20%)
Problems with contractors' performance	6(12%)	7(28%)	11(20%)	14(28%)	12(24%)
Problems with consultants performance	3(6%)	4(8%)	7(14%)	20(40%)	16(32%)
Ineffective communication	1(2%)	3(6%)	12(24%)	23(46%)	11(22%)
Increase of cost	0(0%)	2(4%)	13(26%)	22(44%)	13(26%)
Increase of time	2(4%)	4(8%)	12(24%)	22(44%)	10(20%)
Inadequate information	0(0%)	3(6%)	14(28%)	22(44%)	11(22%)
Inadequate technical expertise/skills	0(0%)	3(6%)	19(38%)	22(44%)	6(12%)
Problem with Government bureaucracy	2(4%)	5(10%)	19(38%)	17(34%)	7(14%)
Problem with raw materials shortage due to inflation	1(2%)	2(4%)	16(24%)	19(38%)	12(24%)
Problem with Right of way	0(0%)	1(2%)	10(20%)	19(38%)	20(40%)
Problem with scope change	1(2%)	4(8%)	14(28%)	16(32%)	15(30%)
Lack of standardized quality management guidelines	0(0%)	6(12%)	13(26%)	17(34%)	14(14%)
Employee turnover	0(0%)	9(18%)	16(32%)	18(36%)	7(14%)

Source: Data collected by the researcher through Questionnaire, 2022

This result shows most of the respondents had agree on organization face a lot of quality management implementation challenges such as ; on employee turnover, lack of standardized quality management guidelines , problem with raw materials shortage due to inflation, problem with government bureaucracy, inadequate technical expertise/skills, increase of cost, problems with consultant's performance, problem with documentation, difficulties in understanding the quality system and unwillingness of project staff to accept the quality system. Most of the Authors from the literature were similar with those implementation challenges. According to Turner (2000) on his part described good quality in the context of projects and programs as being to meet the customer requirement, meet the specifications, solve the problem, fit the purpose and satisfy the customer in this case the community who are served by the project. For successful project quality implementation and management institutional as well as national quality management system guidelines should be needed, and accountability and responsibility of each individual for project and other related works should also be developed.

4.2.8 Assessment of Resource Management in Projects Activities

Table 4.11 Identification of Project Resources

The project can identify, estimate, schedule and allocate all relevant resources.

	Frequency	Percent
Strongly Disagree	1	2.0
Disagree	9	18.0
Moderately Agree	27	54.0
Agree	10	20.0
strongly Agree	3	6.0
Mean	3.10	
Std. Deviation	0.839	

Source: Data collected by the researcher through Questionnaire, 2022

Result from Table 4.11 provides that twenty-seven (54%) of the gift real estate respondents were moderately agreed, Moreover, the average mean value for company's respondents shows the response to this item is moderate. This could show that the company may moderately use the description of project scope for which they can determine key start and end dates, major assumptions behind the plan, and key constraints and restrictions.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In this section the summary, conclusions and recommendation were derived from the research findings. The main purpose of this study is to investigate the practice and implementation of quality management system in Gift Real Estate Company. The results of the questionnaire survey and discussion of the findings in line with the literature review were presented in section four of this paper.

5.1. SUMMARY OF MAJOR FINDINGS

Preceding to the main analysis of the study, a reliability test was run to checked whether the questionnaire is reliable or not. In this regard, all three parts of the questionnaires were reliable and adequate with Cronbach's Alpha result greater than 0.70.

Associated to the demographic characteristics, it could be incidental that the major composition of staff and senior management experts of the company have an adequate experiences in their assigned position to practice and implement QMS, which could further helps them to transform their institutional activities in a better way and to a higher level of achievements.

The main purpose of this project work was to identify objective of Gift Real Estate Company in order to improve quality management practices.

I. Foremost findings concerning to the objectives, which focused on the understanding of management responsibilities within gift real estate construction projects, are listed below.

A, From customer perception, gift real estate have confirmed a very practice and execution regarding to understanding the need of customer and surpassing their expectation. The average mean value (3.56) it tries to continuously improve to meet as well as go beyond customers‟ expectations.

B, Regarding to practice in related within relation management gift real estate have good performance in identification and selection of suppliers to manage costs, optimize resources and create value in the project environment.

II, Foremost findings concerning to the basic knowledge of the employees towards implementation of QMS

- The application and communication of QMS is accomplished well in their project

activities, and they also understood that quality manager is responsible for implementing quality plans and checklists.

- The respondents stated that QMS could help them to reduce defective work and problems in their current project. This implied that they are well informed and practiced QMS in their company. But, the response dictates that the provision of training to them seems to be not satisfactory.

Some of Challenges Gift Real Estate Confronted are

- unable to trace information and some project activities, and there is no clear responsible person for updating and monitoring the system;
- Absence of innovation
- Lack of constant follow up and continuous improvement
- Lack of continuous QMS training
- Absence of employees' commitment
- High turnover of qualified personnel.

The reviewed empirical literature also displayed that some of the above listed barriers are also prevail in some of the construction company while they are practicing and implementing QMS. The identified problems and the findings of this research are more or less similar even if there is variation due to their practical context of the projects

5.2. CONCLUSION

The study assessed project quality management practices in real estate projects at Gift Real Estate a general objective of assessing the quality management practices .On the basis of the major findings of the study and as discussed in detail in the literature review part of this study, successful project management enhances the chance of successfully completing projects within time, cost, scope, and quality constraints. Project quality management also helps to achieve project constraints such as within customer satisfaction, and meeting the organizational goal of the project.

The next important measure is implementing a comprehensive quality control mechanism starting from the planning phase and continuing into the end of the project implementation phases. The project quality management practice at the organization is challenged by various factors mainly; insufficient management support, problems with contractors, unrealistic deadline and lack of quality management policy and strategy for successful quality management in real estate projects.

Consequently, it may be concluded that, undertaking complete quality management process by developing quality management policy at organizational level helps to improve the quality management related problems listed and working on the factors that affect the quality of projects.

a. The results also allow one to conclude that the top management of gift real estate is not adequately committed in the implementation and practice of QMS.
b. It can be concluded that the good engagement of people helps the real estate company to be competent in the construction market. It is also concluded that the organization established learning and knowledge sharing program including core and job specific requirements.
c. It can be concluded that the practice of activities related to overall improvements within the organization is done unsatisfactorily.
d. It can be concluded that the practice of activities related to overall improvements within the organization is done unsatisfactorily.
e. It can be concluded that gift real estate projects explicitly showed underperformance regarding with gathering, monitoring, measuring, and analyzing reliable data .
f. Design related problems are the most important problem to reduce the quality problem issues in the organization. Design related issues like completeness and consistency of design document is very important for success of quality.

5.3 RECOMMENDATIONS

The following recommendation is given to improve the level of management responsibilities within Gift real estate construction projects.

Based on the findings of study it is recommended that Gift real estate considers the following areas of improvement in management of its projects in general and quality management in particular.

- Furthermost of the employees at Gift real estate are first level degree. So the organization should update their skills, and most of the employees also Engineers; this indicates that the management system does not as much concerned with project quality management. Hence, Gift real estate should employ more project managers for a successful project quality management.
- The Gift real estate should shape capacity of project staff on project quality management to use skilled and experienced staffs to follow up the use of good quality of materials and equipment to ensure the project conformances to specification and standard requirements.
- According to different scholars, planning is the first stage of any activity. Since, as observed in the result most of the planning process does not apply in the organization. This indicated that the system does not organize with project quality management. So, the organization should follow quality planning process in order to prevent project defect.
- contractors should have to give training at different level about quality management techniques.
- Quality Assurance authority should give attention to appropriate quality management system requirements for each contractor, consultant, and tenders of imported construction materials, and the authority should appropriate checking, measurement or testing of products and keeping proper records.
- The organization should also focus on project management body of knowledge areas in order to minimize the real estate construction project challenges, and should assign more project manager professional at the organizational level.
- Quality management of construction projects require stakeholders collaboration from clients, contractors, consultant sides on the basis on their respective roles and responsibilities defined. Therefore, the organization should strongly work on to build partnership/collaboration with its stakeholders.
- As observed regarding consultants, there was a time gap between project design and project

implementation; this may happen scope change. Therefore, due to scope change the project incurred additional cost, time, as well as the project will phase-out. So gift real estate should be minimizing the gap.

- Currently, there is no enough quality management policy document in the organization, the organization is considering project agreement document as reference/basis for quality management, but there should be defined quality policy since there are many projects undertaken by the sector to improve the customer satisfaction.

Therefore, the organization can make use of the results of this study to identify areas of improvements in order to manage its projects quality as per the standards of other literature which helps to manage the project in a more effective and efficient manner.

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Appendix

QUESTIONNAIRE

St. Mary's University School of Graduate Studies

M.A Research on Project Management

Dear respondent,

The purpose of this questionnaire is to collect data for the study on Assessment of Quality management practices in Addis Abeba: **THE CASE OF GIFT REAL ESTATE** for partial fulfillment of a degree Masters of Art in project Management. Believing that your frank and genuine responses will contribute vastly to the quality of the findings of this study, I would like to request you kindly to complete this questionnaire which will be kept confidentially for the study purpose. I would like to express my heartfelt thanks in advance for taking part in this endeavor.

Wongel Awoke ,

Phone, no,0912036803,

Email awokewongel@gmail.com

Part I. General information

Please put a "√" mark to all your responses in the circle provided beside each statement.

Sex:	☐	Male	☐	Female		
Educational Background:	☐	Blow Diploma	☐	Diploma		
	☐	Bachelor Degree	☐	Master's Degree & above		
Work Division:	☐	Project manager	☐	Engineer	Other:_____	
Work Experience:	☐	less than 5 years	☐	(6-10)years	☐	11years & above
	☐		☐		☐	

Part II. This sub-section covers questions related to quality management process and problems encountered in GIFT REAL ESTATE.

The scale rating description: 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree. Does your quality plan contain the following?

Project quality planning contains:-	1	2	3	4	5
Brief description of the project					
List of contract documents and drawings					
Project quality objectives					
Site organization chart, with named personnel if known					
Responsibilities and authorities of project staff					
Site layout plan					
construction programme and sub-programmes					
schedules of subcontractor suggestion, material and equipment					
procurement, based on the construction programme					
list(s) of materials and appliances used for the project, showing the verification requirement of each					
Inspection and test plans, or list thereof					
list of quality procedures and work instructions applicable to project by making reference to the company's Quality Manual and Procedures					
list of project-specific procedures, work instructions and inspection					
checklists, or target dates for their provision					
list of quality records to be kept, including appropriate quality records from subcontractors					
frequency (or provisional dates if possible) of internal quality audits					
Frequency of updating the quality plan					

Quality Assurance

Do you consider the following factors in your quality assurance mechanism?

Descriptions	1	2	3	4	5
Selects the appropriate quality management system requirements for each contract.					
Clearly specifies the quality management system requirements in tender and contract documents.					
Evaluates and selects subcontractors on their ability to satisfy specified requirements.					
Appropriate checking, measurement or testing of products and keeping proper records.					

Quality control

Do you consider the following factors in your quality control mechanism?

Descriptions	1	2	3	4	5
Select what to control and set standards that provide the basis for decisions regarding possible corrective action.					
Establish the measurement methods used, compare the actual results to the quality standards.					
Act to bring nonconforming processes and material back to the standard based on the information collected.					
Monitor and standardize measuring devices, include detailed documentation for all processes.					

Identification of Project Resources

The scale rating description: 1= strongly disagree, 2= disagree, 3=Moderately Agree , 4= agree, 5= strongly agree.

Descriptions	1	2	3	4	5
The project can identify, estimate, schedule and allocate all relevant resources.					

Quality Management Implementation Problems /challenges

List of Quality Management Implementation Problems:-	1	2	3	4	5
Insufficient management support					
Unwillingness of project staff to admit the quality system					
Difficulties in understanding the quality system					
Problem with more paper works					
Problem with documentation					
Difficulties in measuring results					
Problems with contractors' performance					
Ineffective communication					
Increase of cost					
Increase of time					
Inadequate information					
Inadequate technical expertise/skills					
Problem with Government bureaucracy					
Problem with raw materials shortage due to inflation					
Lack of standardized quality management guidelines					
Employee turnover					

With respect to customer focus

1	The project understands the needs of existing and future customers	1	2	3	4	5
2	The project activities can meet customer requirements	1	2	3	4	5
3	The project measures customer satisfaction.	1	2	3	4	5
4	The project aims to exceed customer expectations.	1	2	3	4	5

Part III.

Questions to be responded Yes or No, and with Comments

This part helps the researcher to identify basic information regarding to quality management system (QMS) implementation in your respected construction activities. Please respond to each of the listed statement by saying yes or no and put you comment on it.

No	Statement	Yes	No	Comment
1	Have you used any form of QMS in your current construction industry?			
2	Have you ever been communicated about QMS from Senior Management in your current project?			
3	Do you think each site should have a Quality Manager responsible for implementing Quality Plans and Checklists?			
4	Do you agree QMS help reduce defective work and the number of problem corrections in your current project?			
5	Have you ever received training in any form of QMS			

Part v. Interview Questions

1. What kinds of activities do you use in order to ensure quality in your current project?

2. What is the importance of quality management in your construction project?-

3. How do you express your project activities from cost, schedule and quality performance?

4. What are the major challenges faced by your construction firms in practicing quality management system?

5. What roles in the organization have an effect on the implementation and maintenance of the QMS?

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