



ST. MARY'S UNIVERSITY GRADUATE SCHOOL
SCHOOL OF BUSINESS

**ASSESSING THE PRACTICE AND CHALLENGES OF PROJECT QUALITY
MANAGEMENT:**

THE CASE OF HORRA REAL ESTATE COMPANY IN ADDIS ABABA

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ID NUMBER: SGS/0321/2014A

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JUNE 2023

ADDIS ABABA, ETHIOPIA

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DECLARATION

I, MIKIAS NEGUSSIE hereby declare that the Research proposal entitled Assessing the practice and challenges of project quality management: the case of Horra real estate company in Addis Ababa submitted by me for the award of master's Degree in project management is my original work and it has not been presented for the award of any other Degree, Diploma, Master's or any other similar titles of any other university or institutions.

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ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

Advisor

Signature

St. Mary's University Addis Ababa, Ethiopia June, 2020

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ABBREVIATION AND ACRONYMS

PMBOK Project Management Body of Knowledge

PMI Project Management institution

SSPS Statistical Package for Social Science

QMS Quality Management System

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ABSTRACT

Implementing of quality management system, in today's challenging and competitive construction project area, helps to increase organizational performance and success in their overall activities. However, very few construction companies are seen in Ethiopia that have conducted quality management in their projects. This research study intended to Assessing the practice and challenges of project quality management at Horra real estate projects in Addis Ababa. In order to understand the extent of management responsibility in conducting and practice in projects activities were the major question and points looked in this research study. In order to achieve the objectives of the research, necessary data was collected by using qualitative and quantitative methods the respondents were selected using purposive sampling and it includes project experts in the project environment. Also both primary and secondary data were used and primary data included questionnaires' and interviews. The data were collected with 86.7% response rate from the distributed 30 questionnaires' and the response were analyzed using Statistical Package for Social Scientists version 25 (SPSS) for descriptive statistical analysis.

The finding of the study shows that the company's practice regarding to communication, use of quality management tools for the projects, material and equipment quality control and the aid of top management to the employee. On the contrary the company didn't give QMS training for all employees, a lack of non-stop supervision, trend of giving swift solutions for different quality related challenges is not adequate and the quality operation or management practice is not adequate. It is therefore recommended that in order for a quality management system to be implemented and practiced effectively it is mandatory for the real estate construction company to provide a Quality management system related training for the employee, improve the practice of non-stop supervision, and focus on customer satisfaction.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Project management is very crucial and mandatory for one organization because of its importance on strategic alignment; as it ensures what is being delivered, is right, and will deliver real value against the business opportunity, for leadership; as it brings leadership and direction to projects by motivating employees, coaching and inspiring the team to do their best work, for clear focus & objectives; as it ensures there's a proper plan for executing on strategic goals, for realistic project planning; as it ensures proper expectations are set around what can be delivered, by when, and for how much, for quality control; as it ensures the quality of whatever is being delivered, consistently hits the mark.

Quality is a concept that used widely and has become one of the important agendas in most organizations in order to achieve one's goal. Quality management is not an event rather it is a process, a consistently high quality product or service cannot be produced by a defective process. Quality management is a repetitive cycle of measuring quality, updating processes, measuring, updating processes until the desired quality is achieved (PM4DEV, 2008).

According to (Taylor, 2022), the method of project quality management takes into account how to carry out a project in order to produce deliverables of the appropriate caliber. Project managers must continuously assess the effectiveness of the procedures and activities used in the project. When it comes to project quality management, deliverables are measured against specified criteria, and furthermore corrections must be made as needed throughout the project.

There are three main processes of project quality management. These are Quality Planning, Quality Assurance, and Quality Control. Planning is focused on shaping a clear goal/s for the project. Assurance uses tests, metrics, and checklists to demonstrate to stakeholders the project is running as it should. Quality content is all about identifying solutions to problems relating to quality.

Real estate Casing development is one of the base of our civic conditioning to satisfy the need of domestic casing in the municipalities. With no mistrustfulness this conditioning is need to be managed in a proper quality operation system to satisfy their guests. Enforcing Quality Management System(QMS) grounded on(ISO 10006, 2017) are important in helping construction systems to come more competitive in the construction assiduity.

(Mane, 2015), stated that the quality in the casing construction assiduity is linked with customer's satisfaction, and the perpetration of a quality operation is a crucial tool in constantly and reliably managing the construction conditioning. For perfecting the position of performance in the casing construction company, QMS plays a great and important part. It helps the construction enterprises to seek and to sustain itself in the being construction request which is largely grueling and competitive.

From the perspective of a real estate housing Construction Company, quality operation means maintaining the quality of housing construction works at the needed standard so as to gain client's satisfaction that would bring long term competitiveness and business survival for the companies and to guarantee that the design labors are delivered fit for purpose. The process of enforcing a QMS is an important occasion to reorganize and contemporize an association. It's an external, extensively accepted motive to change functions, procedures, and old habitudes in the association.

This trouble would else be considered as a gratuitous and unjustified redundant trouble. It's also an excellent occasion to introduce new tools and work ways, therefore restructuring the association not only to achieve the instrument but also to make it more effective and rational. To stay competitive, companies have to concentrate their business strategies on strategic advantages through the improvement of business excellence and performance.

Different construction companies and Real Estate companies are joining the sector to contribute their part in casing development beside to aiming to quench their thing of wealth maximization and profit maximization. These companies are involved in constructing and dealing of houses. The Real Estate assiduity is on the way of growing indeed though its speed isn't within the required range. There are different reasons that can be raised for the actuality of this problem. Scarce coffers substantially plutocrat, operation inefficiencies, inadequate structure installations are among the reasons.

For systems handed with sufficient budget and comprehensive architectures, design quality operation inefficiencies took the captain part for the result of poor design performance and design failure. This study focused on Assessing the practice and challenges of project quality management of case of Horra real estate Company in Addis Ababa.

1.2 STATEMENT OF THE PROBLEM

Construction projects usually encounter many problems in developing countries in general and Ethiopia in particular. No matter how projects are mostly initiated to increase organizational capabilities, meeting new demands, realizing new opportunities or to overcome the challenges faced due to very frequent change of organization's environment, they challenged different quality related problem issues either during execution or after delivery of product or services. Also as we all know that a number of new companies are entering to the real estate development business this day's but still the products and services quality problem is continued as a major problem.

As Bezawit cited a research conducted by Neyestani & Juanzon, 2016, most real estate construction companies face many challenges, such as workmanship defects, project delay, and cost overrun in completing their projects. Since over the past three decades, the globalization and competition have been increasing.

As Douglas Omoregie Aghimien, (2019) stated that Construction projects are still being delivered beyond schedule, above budget and below quality, in many countries, achieving the desired projects is more of a dream than a reality for construction clients as poor-quality delivery has left most clients dissatisfied. Chan and Chan have earlier noted that the built environment, in general, has been battling with quality problems for a long time, and this has its own significant effect on the economy. This show that the problems occurred because of lack of quality becomes worse and requires a serious attention.

Project quality management is very crucial while executing of projects which can satisfy the required project performance in terms of quality and performance requirements. Due to the nature of the business, companies that are engaged in Real Estate industry are expected to apply project quality management widely. Number of house demands is taking cared by the involvement of these Real Estate developers. On the other hand, different problems are observed in Real Estate projects. According to (Fikreab Markos, 2016), 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 Ethiopia have been struggling with quality issues for many years; while they have been wasting resources as a result of faulty construction.

Secondary data indicated that there is some degree of problem in practice of QMS in Horra real estate Company. This real estate company has conducted QMS in their overall construction activities but the inadequate practice of Quality management system resulted the project of the real estate to become more challenging. This could direct their project activities to undertake in some level of uncertainty and expose the projects to external influence and unseen events. This research is relevant to Horra real estate Company so that they can know the level of their implementation of quality management system, to point out their gap and to know what they must do in the future.

On the research conducted by Bezawit, (2020) about Assessment of quality management system in real estate construction in Addis Ababa, the objective of the study focused to explore the practice of quality management system Flintstone real estate but didn't identify the major challenges of conducting the quality management system and suggest possible solutions for them. Also Yetnayet eshetu's, (2021) research on assessment on quality management practice of real estate developers in Addis Ababa focused on investigating and evaluating quality practices of the real estate developers but the research didn't investigate the challenges of quality management in the real estate companies. On the other hand this thesis is focused on investigate the trend or practice of project quality management and its major challenges in HORRA Real Estate company this can be very much helpful by identifying the challenges of quality and then giving suggestions based on the findings

1.2 RESEARCH QUESTION

- What are the major quality management practices used in HORRA real estate
- What are the main challenges of implementing the quality management system in Horra real estate

1.3 OBJECTIVES OF THE STUDY

1.3.1 General objective

- To investigate the trend or practice of project quality management and its major challenges in HORRA Real Estate company.

1.3.2 Specific objective

The specific objectives of this study were:

- To identify the main quality management practices those are implemented in the Horra real estate.
- To identify the major challenges of quality management practices in the Horra real estate.

1.4 SIGNIFICANCE OF THE STUDY

This research is important in helping to explore the practice of implementing the current project quality management in Horra realestate. And it can help Horra real estate Company to use the recommendation that it stated so that to improve their weaknesses and project quality practices so that they will gain more competitive advantage. From real estate perspective the research can assist real estate companies by pointing out the major challenges of project quality and suggesting possible solutions and measurements to overcome those challenges and achieve the intended project quality plan. On top of that it can aid in clearly showing real estate developers the advantages of implementing projectquality management for improving the organizational effectiveness and efficiency in delivering products and services and also gaining the competitive advantage among their competitor. Also the research has a great role in Contributing to the continuous improvement of quality in projects. Because of this, the research paper can be used as background study for future researches on other Ethiopian Real Estate company's project management and project success.

1.5 LIMITATION OF THE STUDY

This study was limited to one of the project management knowledge area which is quality management. It assessed quality management practices and challenges on Horra Real Estate Company.

The study had limit itself to assess and describe the implementation of project quality management in the Horra real estate company which works in Addis Ababa and it tried to investigate the practice and challenges of implementing project quality management.

1.6 ORGANIZATION OF THE STUDY

This research paper consists of five main chapters as follows:

Chapter one is all about Introduction that contains background of the study, statement of the problem, objectives of research, research questions, significance of the research and Scope and limitation of the study.

Chapter two is the Literature review portion and this chapter shows a detail review from concepts and definitions to show what project quality means, to identify the benefits of project quality management and also the effect of absence of quality in construction project.

Chapter three deals about Research methodology and this chapter contains the methodology that was used in this research so that to hit the required objectives and to answer the research questions.

Chapter four contains Result analysis and discussion part that shows result, description and discussion of research findings.

The last chapter which is the chapter five deals about the Conclusions and recommendations made based on the results and findings of the research and it also contains improvement suggestions.

CHAPTER TWO: LITERATURE REVIEW

2.1 THEORETICAL LITERATURE

2.1.1 Project and project management

Several definitions had been given to project by many authors; the truth is project is a multidisciplinary word that has different meaning from various perspective and orientations. Managers, engineers, and so on, have their definitions derived out from their previous experiences as far as their professions are concerned. However, it is more convenient to refer several definitions of a project so that we can understand it very well.

A project is an organization of people dedicated to a specific purpose or objective. Projects generally involve large, expensive, unique, or high risk undertakings which have to be completed by a certain date, for a certain amount of money, with some expected level of performance. at a minimum, all projects need to have well defined objectives and sufficient resources to carry out all the required tasks.(Tuman, 1983)

In lines of the definition provided by Pinto & Slevin (1988), a project can be defined aspossessing the following characteristics:

- (1) A defined beginning and end (specified time to completion)
- (2) A specific, preordained goal or set of goals (performance expectations)
- (3) A limited budget
- (4) A series of complex or interrelated activities

Project management system as software that has the ability to help strategize, organize, and manage resource streams and develop resource approximations. Depending on the complexity of the software, resource breakdown structures, resource availability, resource rates and various resource calendars can be defined to assist in optimizing resource utilization. (Project Management Institute (PMI), 2013)

2.1.2 Concepts of Quality

Definition of Quality

The term quality means different things to different people. Some take it to be the characteristics of a product or service that stands on its ability to satisfy a need. Whereas others take it as the degree, to which a product exceeds a customer's requirements and expectations. On the other hand, others think it is the attainment of given standards. (Chiari ni, 2013)

As Ashokkumar,(2014), concurs that quality is the degree of fineness in a competitive sense, such as reliability, serviceability, maintainability, or even individual characteristics. Usually, we understand quality in terms of an excellent product or service that fulfill or goes more than our expectations. These expectations are based on the intended purpose or use and its cost expensiveness.

Quality in construction is more difficult to explain. Firstly, the product is not an automatic unit but a piece of work with specific characteristics. An example will be building construction, the product can be a whole building or just a prefabricated component that eventually forms part of a building. Besides, the need to fulfill includes not only the client but also the expectations of the community as a whole, into which the completion of the building will be taking part. The construction cost and time of delivery are also important characteristics of quality. In other words, all these things must have properly introduced in designing the building and the outcome should have expressed absolutely in drawing and specifications. (Oyedele et al., 2015)

2.1.3 Quality Management

Quality management can regarded as top management process responsible for the policy, objectives responsibilities and implementation of quality of the construction products achieved through planning, assurance, control and improvement. (Ojoh, 2010)

As (IJIRSET, 2014) stated on their research, QMS places emphasis on prevention, not correction. The goal which works that is 100% free of errors, free of accidents, and 100% free of waste. The aim of the project is to do things right at the first time, eliminating waste and rework. To achieve this, it is necessary to focus on “processes.” A process is a task or a series of tasks. A process might be the vibration of fresh concrete, the fabrication of structural concrete, the preparation of a drawing, or a way in which the project manager acts with a client and with other members of the projects.

Vein, Tan and Abdul-Rahman, (2011) defined Quality Management System (QMS) as an accumulation of organizational structure with roles and distinct process and the requisite resources for implementing a comprehensive quality management. QMS is an organized description used to improve the quality of construction products and/or construction services.

It's a framework that directs and ensures that controls are in place to achieve success in management of a business.

According to IJRSET, 2014, Quality management refers to all activities of overall management functions, especially top management leadership, that determine quality policy objectives and responsibilities for all members of the organization.

Project quality management uses policies and procedures to implement, within the project's context, the organization's quality management system and, as appropriate, it supports continuous process improvement activities as undertaken on behalf of the performing organization. Project quality management works to ensure that the project requirements, including product requirements, are met and validated. (Oschman, et al., 2006)

According to Harris and McCaffer, (2002) cited in Iruobe, Ojambati, Akinpade and Tracey (2012) includes some policies and procedures which consist of all the activities that managers perform to improve their quality. These includes: Quality planning, Quality control, Quality assurance and Quality improvement. As (Orji Solomon, 2016) stated that these are processes of getting rid of poor quality from production rather than getting rid of poor quality product. These processes will be discussed in detail below.

Quality Assurance

Quality assurance is the planned and systematic preventive activity, which increases productivity by placing the importance of product and service (D.Ashok kumar, 2014). As noted by D.Ashok kumar (2014), quality assurance highlights defect prevention, focuses on the prevention of the production of non- conforming products to provide the confidence of organizational outputs, and ensures meeting customer satisfaction. Besides, it aims to control quality at all stages of production that have designed to confirm that the final product and service meets customer expectations. Quality assurance verified that quality have created in the design stage, but not in the control stage because all the activities have done before the manufacturing or planning process of a product or service respectively. Thus, it involves the development of new operating approaches that avoid or reduce the chances of defects in a product or service.

Quality Inspection

Quality inspection is a set of activities, which include measuring, examining, testing, gauging one or more characteristics of the products and services, and comparing all the results with specified requirements to assess each characteristic through determining conformity. On the other hand, Inspection ‘works as an effective and efficient way of discovering defects of the product and service at the required level. Hence, it is necessary to examine, test, and measure within industries and organizations. Therefore, inspection is used to grade the final product to ensure the desired quality. (Reddy, 2014),

Quality Control

Quality control is concerned with operation techniques and activities that have been used for checking and reviewing work to manage quality. Quality control involves product design, operation process, and outputs to ensure all activities have mainly been done according to the required standard. (Oni et al., 2019). Quality control is a business method rather than a technical activity because technical activities that involve material, machines, and process and operating.

Human relationship is a basic element in quality control activity to generate gradual commitment to TQM such as top management, employee involvement, supply management, open communication and measuring quality cost. (Osteinmann et al., 2014)

Quality Improvement

It is the systematic approach to the processes of work that looks to remove waste, loss, rework, frustration, etc. in order to make the processes of work more effective, efficient, and appropriate. Quality improvement refers to the application of methods and tools to close the gap between current and expected levels of quality by understanding and addressing system deficiencies and strengths to improve, or in some cases, re-design project processes. (PM4DEV, 2016)

2.1.4 Quality management principles

One of the definitions of a — principle is that it is a basic belief, theory or rule that has a major influence on the way in which something is done. — Quality management principles are a set of fundamental beliefs, norms, rules and values that are accepted as true and can be used as a basis for quality management.

The QMPs can be used as a foundation to guide an organization's performance improvement. They were developed and updated by international experts of ISO/TC 176, which is responsible for developing and maintaining ISO's quality management standards. (ISO, 2015)

According to the International Organization for Standardization (ISO), quality management system (QMS) is defined as coordinated activities to direct and control an organization with regard to quality. It is a standard developed by the ISO and act as a framework for organizational quality management systems (Bell & Omachonu, 2011).

As International Organization for Standardization mention, the seven quality management principles are:-

Customer focus: The primary focus of quality management is to meet customer requirements and to strive to exceed customer expectations.

Leadership: Leaders at all levels establish unity of purpose and direction and create conditions in which people are engaged in achieving the organization's quality objectives.

Engagement of people: Competent, empowered and engaged people at all levels throughout the organization are essential to enhance its capability to create and deliver value.

Process approach: Consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes that function as a coherent system.

Improvement: Successful organizations have an ongoing focus on improvement.

2.1.5 The Benefit of Quality Management in Construction

Contractors do see obvious benefits of quality improvement. More repeat customers and reduced rework are two of the most cited benefits. The study by McIntyre and Kirschenman (2000) found similar results. Overall, contractors who use TQM reported higher customer satisfaction, improved schedule performance, improved relationships with architect/engineering firms and reduced rework (McIntyre & Kirschenman, 2000).

Love et al. (1999) found that the costs associated with rework (having to redo a step or portion of construction due to poor craftsmanship or change in plan) were as high as 12% of the total project costs and required as much as 11% of the total project working hours.

As Thomson Gray, 2018 stated that Quality management offers several opportunities to enhance all aspects of a project, and those of the company delivering it. He also lists some benefits of quality in construction project.

- Reduce both the time *and* cost of delivering a project to a higher standard.
- Better meet the needs of clients, delivering competitive advantage by constantly asking - can we do this better?
- Reduce waste, whether waste of materials, or time lost through poor management and practices.
- Fully involving all parties in quality delivery, from clients through to operators, will achieve better outcomes. Opinions are valued, new ideas evaluated and acted upon.

2.2 EMPIRICAL

There are a number of studies are done in different countries worldwide that related with assessing the practice of project quality management. Some of them are summarized as follows.

Brian & Nicholas (1989) on his study wrote that Total Quality Management practices are determined by people who lead or are led. Effective leadership leads to effective TQM. Therefore, model leadership has to be demonstrated for effective TQM practices to be adopted effectively

According to (Pro Crew Schedule, 2021) now a day the Fundamental Factors that affect the Quality Management of construction projects include:

1. **Subcontractor Mishandling**-According to a study, over half of the construction defects can be credited to human mistakes. If you hire new employees who are not competent and without the right skills, workmanship errors that can be unnoticeable for years tend to occur. In because of this reason, training newly hired employee's looks very important.

2. **Damaged and Low-Quality Materials-** Too much sand and water in the concrete mix, improperly graded steel, and lumber cut from undersized trees can result in extensive construction quality issues. In order to avoid these problems, the author suggested that the company should ensure to make orders from the most trusted construction suppliers and Assign a quality control officer from one of your crews to check each shipment of materials regularly.
3. **Failure to Document Changes and even Practices-** Some quality issues are not directly associated with a design change or a specific mistake. It is primarily due to the lack of documentation of that particular change. If the material is already being submitted for another with a different replacement cycle and maintenance, failure to make updates about the final documents may result in improper management from the maintenance team.
4. **Miscommunication between your Teams-** Several studies about the construction sector show that project managers often feel that issues in communication are the number one leading cause of quality problems. The research also mentioned the consequences of Miscommunication including misapplication of new tactics, mismatched materials of all sorts, the lack of secondary and final testing that helps in discovering current problems
5. **Lack of Project Management Software-** A cloud-based project management system help construction companies to determine the ideal intervals for testing the job completed so far for omissions and errors. Without a detailed plan and a system for quality control and assurance, the construction may be waiting too long to execute necessary checks on every work. Research conducted by Feyera (Agbenyega, 2014) the study focus on solving the potential barriers, which are to be 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.

In order to effectively utilize massive resources that are being invested annually in this industry the construction management is of at most interest. The construction industry in Ethiopia faces numerous challenges. (Kefyalew, 2020). Similarly, Gadisa and Zhou (2019) also makes their point by stated that on project performance in Ethiopia revealed that weak management leadership skills as one of the critical factors affecting government financed infrastructures project performance.

As Girma cited (Mallawaarachchi, 2015) for the implementation of quality management in project management, the concepts of quality planning, quality assurance and quality control in the quality management processes are important. Among those, quality assurance and quality control are mostly used in construction. The quality control procedure in construction projects is based on tender documents, specifications, working drawings etc., therefore, the pre tender stage quality and standards of the work should be properly maintained.

According to Feyera research, she cited the research conducted on Quality Management in Construction Projects in Malaysia. 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.

2.2.1 Project quality management maturity in the construction industry of developing country (case of Ethiopian contractor)

According to (Chartered Institute of Building, 2002), the major task of project management in construction is primarily to coordinate professionals in the project team to enable them to make their best possible contribution to the project efficiently. Furthermore to the knowledge of project management and general Management, managing construction projects needs an understanding of the design and the construction process (Hendrickson).

The ability to communicate and the ability to manage team are also very important for successful management of construction projects (Chen, Partington, & Qiang, 2009).

It is important to study project management practices in the context of developing countries to better understand and able to manage projects successfully in those countries. However, research works on project management in those countries has not yet received enough attention and still they are at infant stage (Jekale, 2004).

For developing countries, the potential benefit of project quality management is extremely high and the proper application of it may even be critical; as in those countries; resources are extremely scarce and, achievement of project objective, in most cases, is extremely important.

The work of (Voropajev, 1998) also indicated that Project management is much more important in developing economy (transitional economy) than it is in developed economies (as risk and change are extremely high in the developing countries). As the majority of projects in the developing countries are development related, failure of a project usually has a far reaching effect beyond financial losses. Likewise, successes in projects in developing countries may mean a considerable contribution in improvement of the life of millions.

2.2.2 Quality Management in Construction

Quality management in building and construction projects is an essential factor to avoid defects in the end product, which could lead to the need for replacements, faults, accidents or any kind of anomalies that will end up having a negative impact on the final result and the customer's experience.

Quality management also offers other very helpful benefits for all companies, such as eliminating waste related to replacements or returns of defective products, saving on unnecessary costs or improving technical performance of products and efficiency of processes. (ULMA Architectural Solutions team)

Ayalew, Dakhli and Lafhaj (2016) noted that the main reasons in project failure in developing countries are: lack of advanced planning, a holistic approach, lack of comprehensive engineering and inconsistency in monitoring and follow-up and above all, absence of a methodological approach.

(Grace Ellis, 2022) stated that during the course of a project, quality can have a negative impact on your ability to complete closeout and ensure that all quality issues are addressed. This problem is widespread in the industry, with 68% of general contractors reporting that they experience problems “getting off the job” on at least 25% of their projects, according to an Autodesk and Dodge Data & Analytics report. Moreover, nearly 60% say this has a “high” to “very high” negative impact on their profitability. This shows how important it is to give attention to quality during implementing construction project.

2.2.3 Quality management in real estate construction companies in Ethiopia

Quality management is the foundation for construction projects and plays a significant role in defining whether the project is a success or a failure. Every construction company desires to deliver quality work, as it has become the company's judging criteria and plays a vital role in building its reputation. (Ruta Patel, 2020)

Currently, the real estate housing construction industry is widely denounced for the low quality of delivery of construction projects both on the finished product quality and on the process used during the project design and construction stage. (Eshetu, 2021)

Ethiopia is one of the developing countries which cannot achieve its construction project goals due to lack of adherence to different major success factors. (Belay, Tekeste & Ambo, 2017)

2.2.4 Conceptual Framework

The same as other industries the construction industry has been facing with different challenges that influence the performance and final result of the project. Pointing out the possible major factors that can affect the project quality assurance of horra real estate company's project before starting implementation of the projects will help to complete the project quality in acceptable manner because by identifying the Factors that can influence the project implementers, they can conduct preventive tasks or endeavors and execute approaches that would help to improve the entire process so that they can satisfy the project objective and meet customer expectations. However, pointing out the potential major factors alone may not avoid the problem of quality practice on the other hand it will provide a way to assist to project team to improve those positive factors that reduce errors. The conceptual framework contains the necessary process that going to be applied to guide this research. In this research, the conceptual framework is conducted from the study above empirical literature and the variables are derived those study. The following quality management concerns shows the level of implementation of independent variables during the project assurance.

Conceptual frame work

Quality Management process factors

- Quality planning ➤ Top management support
- Quality Assurance ➤ Qualified and experienced personal
- Quality control ➤ Effective Communication
- Quality improvement ➤ Quality of material and equipment

Quality Management challenges

- Unable to get management support
- Financial constraints
- Failed of applying continuous supervision

For this research Project success measures are going to be taken from Kerzner (2009). Research conducted by Befkadu w/kidan (Kerzner (2009) about Project success, He stated that a project to be considered as successful, it should be according to the allocated time period, within the budgeted cost, at the proper performance or specification level, with acceptance by the customer/user, with minimum or mutually agreed upon scope changes, without disturbing the main work flow of the organization, and without changing the corporate culture. The Ethiopian Building standards and Code Standard (1995) is also implemented for pointing quality specification of construction projects. It stated that, a project to run in proper performance or specification level it should satisfy both ultimate limit states and serviceability limit states.

The ultimate limit states which may require consideration include the following (EBCS, 1995):

- Loss of equilibrium of a part or the whole of the structure considered as a rigid body
- Failure by excessive deformation, rupture or loss of stability of the structure or my part of it, including supports and foundations.

The serviceability limit states correspond to states beyond which specified service requirements are no longer met .Serviceability limit states which may require consideration include the following (EBCS, 1995):

- Deformation or deflections which affect the appearance or effective use of the structure (including the malfunction of machines or services) or cause damage to finishes of nonstructural elements.
- Vibration which causes discomfort to people, damage to the building or its contents, or which limits its functional effectiveness.
- Cracking of the concrete which is likely to affect appearance, durability or water tightness adversely.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter of the research explains and justifies the methods and means in which the objectives of the study will be achieved including the research approach, research design, population and sampling, data collection instruments, reliability and validity test, data analysis techniques and ethical considerations.

3.1 RESEARCH DESIGN AND APPROACH

This study is a descriptive research and it used both quantitative and qualitative data for collecting, analyzing and producing of results at some stage of the research process within a single study.

3.1.1 Qualitative research method

It gives a different approach to scholarly analysis than styles of quantitative research. Qualitative approaches seek to gain directions and to understand people's attitude of the world whether as individualities or groups. In qualitative exploration, the understandings, beliefs, views, opinions, and so on of people are explored.

3.1.2 Quantitative research

Is established focused on the dimension of quantum or volume. It's applicable to things that can be expressed in terms of volume. In this study quantitative data was used as a dimension for answering objectives of the study for the conception of quality and quality operation and factors that substantially affect the quality practice. Those can be answered by using quantitative data by ranking and measuring numerically.

The type of research conducted in the study was descriptive research. Since the objective of this research or study is to assess the project quality management the study was a descriptive type of research.

Main source of data are Horra real estate Company. Accordingly, responses gathered through questionnaires and interview from these real estate company were used as a main ingredient for the analysis.

3.2 POPULATION AND SAMPLING TECHNIQUE

Currently Horra real estate has four ongoing project sites under construction around Bole Mini, Africa Union, Sarbet and Lebu/Haile Garment.

- The population size that used for this study was Horra real estate construction company project experts who engage in project quality management responsibilities in all the four ongoing projectsites of Horra real estate Company including project managerial and project expert's level like contractors, consultants, project manager, supervisors, Forman's, contract administration team were selected purposively. 26 project experts and 6 key personnel's were involved in the study.

Purposive sampling was used for selecting interviewees and for the distribution of questionnaires as a sampling method in which to permits a researcher to find information from a sample of the population that one thinks or knows much regarding to the subject matter. The main reason for planning to use this technique was to focus on those who are more experienced and more responsible persons in the practice and conducting of quality system in Horra real estate Company. In addition, this sample assisted the researcher to understand the problem and the research question as they were being considered to be rich in information in quality practice.

3.3 DATA SOURCES AND DATA COLLECTION TOOLS

To achieve the objectives of this research, both primary and secondary data sources were used. Primary data was collected using questionnaire, interview and direct observations. Observation is going to be used to consider on ground problems about the Real Estate sites. Whereas secondary data was collected from Books, different kinds of literature, journals, conference proceedings and internet sources, and they were reviewed to understand the quality management background, benefits, problems and trends or practices of quality in the construction project.

3.4 METHODS OF DATA ANALYSIS AND INTERPRETATION

The methods of analysis used in this research were selected due to the type of data available which means from primary & secondary data for the analysis and the objectives of the research. Tables and Figures were used to analyze the existing QMP.

In analyzing the quantitative data, two techniques are known the most and these are: descriptive and inferential statistical techniques. Descriptive statistics were used to analyze the response of the respondents clearly and simply. Both qualitative and quantitative methods of data presentation were used. So that to express the data's in an understandable form so as to make the conclusion based on the available data.

The data gathered through questionnaires was coded, entered into computer and analyzed and presented in the form of paragraph, Figures, and tables by using SPSS Statics version 25 software.

3.5 RESEARCH VALIDITY AND RELIABILITY

As Fiona Middleton, (2019) stated that Reliability and validity are concepts used to evaluate the quality of research. They indicate how well a method, technique. or test measures something. Reliability is about the consistency of a measure, and validity is about the accuracy of a measure. So, on this research reliability analysis was carried out using Cronbach's alpha and according to his principle 0.7 or higher is considered acceptable or reliable for internal consistency of data gained from respondents. Values between 0.5 and 0.7 are considered to be reliable and on the other hand values that are below 0.5 are taken as less reliable. Field (2009).

The questionnaires of this research was tasted using reliability measurement scale of Cronbach alpha in order to test if the scale used in the research study is internally consistent or not. And for this study the result was 0.76 which is acceptable based on our literature stated.

Reliability Statistics	
Cronbach's Alpha	Number of Items
0.76	3

Source: survey result (2023)

3.5 ETHICAL CONSIDERATIONS

For keeping the confidentiality of the data that were given by the respondents they were not required writing their name and they were promised and assured that their responses will be used in strict confidentiality. The purpose of the study was disclosed in the questionnaire introductory part. In addition, the researcher tried to avoid inappropriate or misleading statements in the questionnaire.

CHAPTER FOUR: RESEARCH AND DISCUSSION

4.1 INTRODUCTION

In this chapter, the main findings and results were discussed that derived from the interviews and questionnaires that were conducted and interpreted to achieve the desire research objectives. In this study the respondents were selected using purposive sampling and it includes project experts including the contractors, consultant, project managers, supervisors, Forman's and contract administration teams of the real estate that involved in all construction projects. Also 30 questionnaires were distributed and 26 questionnaires were turned successfully from the respondents. This shows that it was found to be with 86.7% response rate to conduct the study. After the questionnaires that had been responded by the respondents were collected appropriately, it were analyzed using Statistical Package for Social Scientists version 25 (SPSS) for descriptive statistical analysis. In addition, regarding to the research interview it focused on key personnel like project team leaders, and project managers and coordinators.

4.2 RESPONDENTS PROFILE

4.2.1 Gender disposition

Based on the respondent's response, only 23.1 % of respondents were female and the remaining 76.9 % were male. This indicates most of the respondents were male. The demographic statistics of the genders of the respondents are going to be showed using the figure below.

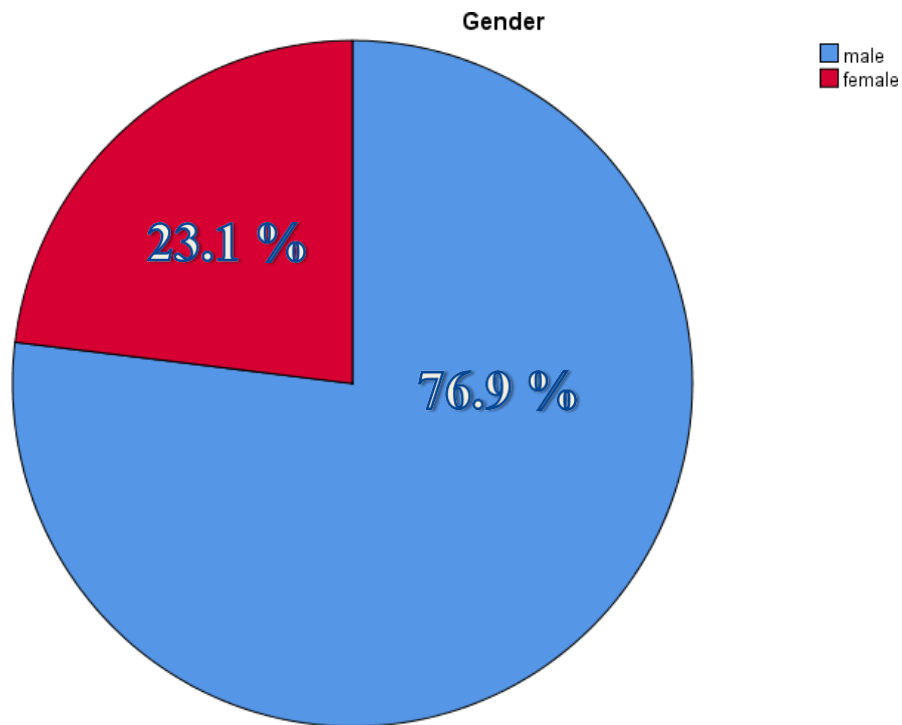


Figure 4.1 Gender of respondents

Source: Data collected by the researcher through Questionnaire, 2023

4.2.2 Educational Background

Table 4.1 Educational background of respondents

Education level	Frequency	percent
Post graduate	9	34.60%
Under graduate	17	65.40%
Total	26	100

Source: Data collected by the researcher through Questionnaire, 2023

Table 1, shows that according to the educational level of respondents analysis, it is found that 34.6% respondents are post graduates and the remaining 65.4% of the respondents are under graduates. Based on this data, the majority of the respondents are under graduate.

4.2.3 Role and Experience

Table 4. 2 Demographic Characteristics of the Respondents

Role of the Respondents	Experience(Years)				Total
	<5	6 to 10	11 to 15	>16	
Contractor	**	**			4
Consultant	*	***			4
Project Manager	**	**			4
Supervisor	*	***			4
Forman	*	***			4
Contract Administration Team	**	****			6
Total No.	9	17	–	–	26
Percent	34.6%	65.4%	0 %	0 %	100%

Source: Data collected by the researcher through Questionnaire, 2023

As the above table shows, 34.6% of the respondents have less than 5 years of work experience on Horra real estate Company and 65.4% of the remaining respondents have a work experience between 6 to 10 years on Horra real estate Company.

4.3 DESCRIPTIVE ANALYSIS

4.3.1 Quality Management & process

Regarding to the question raised about the existing of quality management system in Horra real estate all the respondents respond that the company implement quality management system in its every real estate construction project.

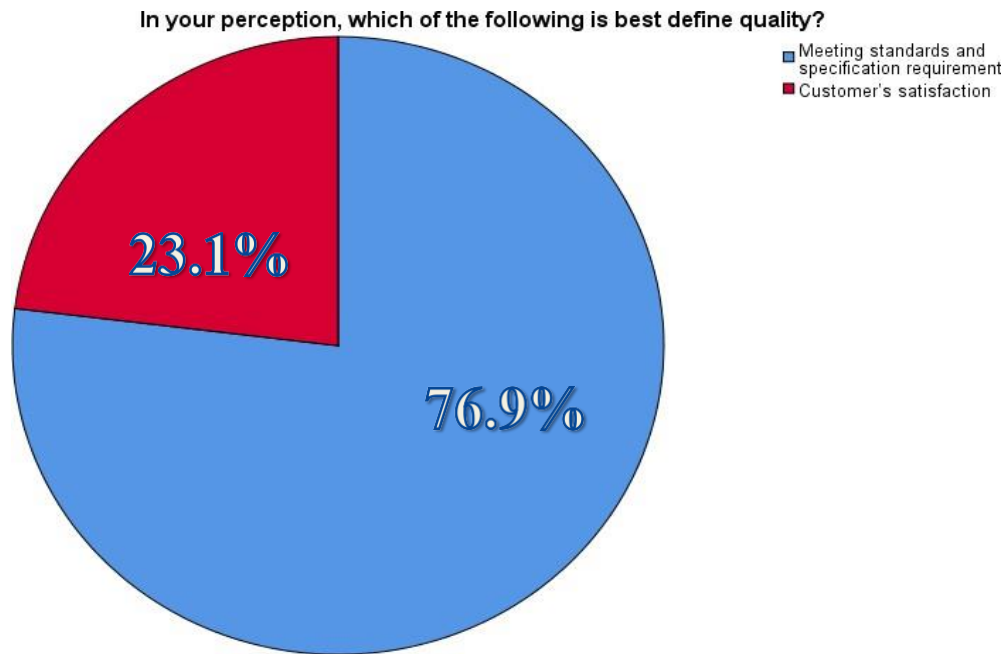


Figure 4. 2 Respondents perception about Quality

Source: Data collected by the researcher through Questionnaire, 2023

The data collected regarding to the perception of the respondents about the concept and definition of quality by giving them possible answers including Expensive, Meeting standards and specification requirements, Increased profit, Appearance and Customer's satisfaction; from this alternatives 20(76.9%) respondents replied by selecting that quality is meeting standards and specification and 6(23.1%) respondents answered that quality defined by customer's satisfaction.

As Biniyam, (2018) also stated on his research that many companies perception towards quality is for meeting specification requirement and for customer satisfaction. Contrarily, Based on this finding the majority of respondents of Horra real estate company believes that quality is more defined by meeting standards and specification.

Table 4. 3 Relevancy and importance of quality management plan

Response	Frequency	percent
Very low	-	-
Low	-	-
Moderate	-	-
High	8	30.8
Very high	18	69.2
Total	26	100

Source: Data collected by the researcher through Questionnaire, 2023

As the degree of importance of quality management plan to the real estate project asked to the respondents, on table 3, the finding indicates that 69.2% of the respondents answered that it has a very high degree of relevance and it is mandatory for the construction project success and 30.8% of respondents respond that it has high degree of relevance. Based on this finding we can say all the respondents believe that quality is the major and mandatory issue when thinking about construction or real estate projects. This finding supported by (Ruta Patel, 2020) stated that Quality management is the foundation for construction projects and plays a significant role in defining whether the project is a success or a failure.

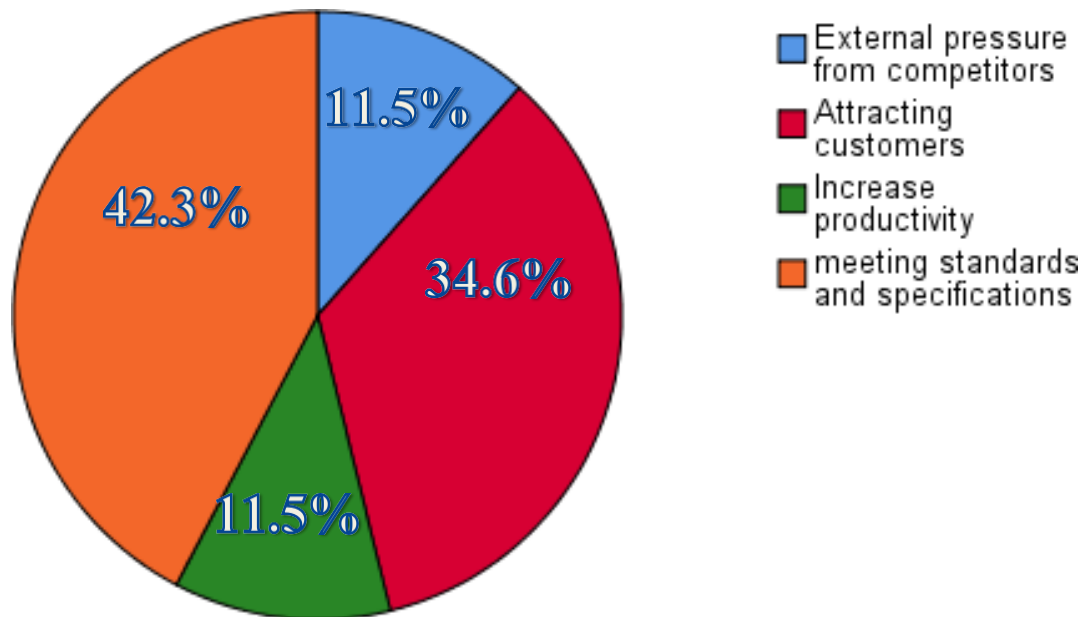


Figure 4. 3 Need for quality management system

Source: Data collected by the researcher through Questionnaire, 2023

The above figure deals about factors that respondents believe that would lead to the need for quality management system and as we can see 42.3% (11) respondents stated that meeting standards and specifications is major factor that would lead to the need of quality management system and 34.6% (9) respondents agrees that quality management system is more needed for the sake of attracting customers.

And also 11.5% (3) respondents respond that it is external pressure from competitors that initiate for the use of quality management system for projects and the rest 11.5% (3) respondents agrees that it is the desire of increasing productivity that would lead to implementing quality management system.

Research Finding of Yetnayet, (2021) on Assessment on quality management practice of real estate developers in Addis Ababa showed that the need for implementing a quality management system is due to the pressure from the competitors. Unlike her research, our majority of the respondents believe that meeting standards and specification is the main factor for implementing quality managements system in Horra real estate projects.

Table 4. 4 Quality Management & process aspects

Item	Statement	Response	Frequency	Percent
1.	Have you ever been communicated about QMS from top Management in your current Project?	Yes	21	80.8%
		No	5	19.2%
		Total	26	100%
2.	Have you used ISO 9001 QMS in your design or project?	Yes	13	50%
		No	13	50%
		Total	26	100%
3.	Do you have a Quality director or Manager who is responsible for executing Quality Plans and Checklists?	Yes	26	100%
		No	0	0%
		Total	26	100%
4.	Have you ever taken any training related with any form of QMS?	Yes	9	34.6%
		No	17	65.4%
		Total	26	100%

Source: Data collected by the researcher through Questionnaire, 2023

On table 4, for item 1, 21 respondents (80.2%) of the respondents confirmed that they have been

communicated with the top management about quality management system. This shows that the company has a trend of informing and communicating the importance and purpose of the quality management system. Also Horra real estate creates understandable vision and mission to the workers. This finding is similar with Bezawit, (2020) which concluded that communication of QMS in Flintstone Real Estate Company is performed well in their project activities.

Item 2, focused on if Horra real estate company used ISO 9001 QMS in their project and following this question, 13 (50%) of the respondents answered that they use or follow the international standard organization. This shows that there is a gap in implementing ISO 9001 QMS by Horra real estate Company or there is a gap on conducting the document that sets out what's needed to implement a quality management system do not followed by the company adequately. This can affect the customer's expectation and the success of the project.

When we come to Item 3, all the respondents confirmed that there is a quality manager who is responsible for executing Quality Plans and Checklists. This implies, Horra real estate company hired a quality manager for all current projects that conduct quality plans and make sure that the project is implementing according to this plan and on top of that the manager uses checklists to identify which activities are being conducted and which are not.

For item 4, regarding to training related with any form of QMS, 65.4% (17) respondents said that they didn't took any training of QMS in this real estate where as 34% (9) respondents replied that they took training related with QMS. According to a research conducted on Flintstone real estate company by Bezawit, (2020) the response of respondents dictates that the provision of training to them seems to be not adequate. Similarly to this literature result, Horra real estate Company didn't give QMS training for all employees and also this finding indicates that QMS training to the employees seems to be not adequate.

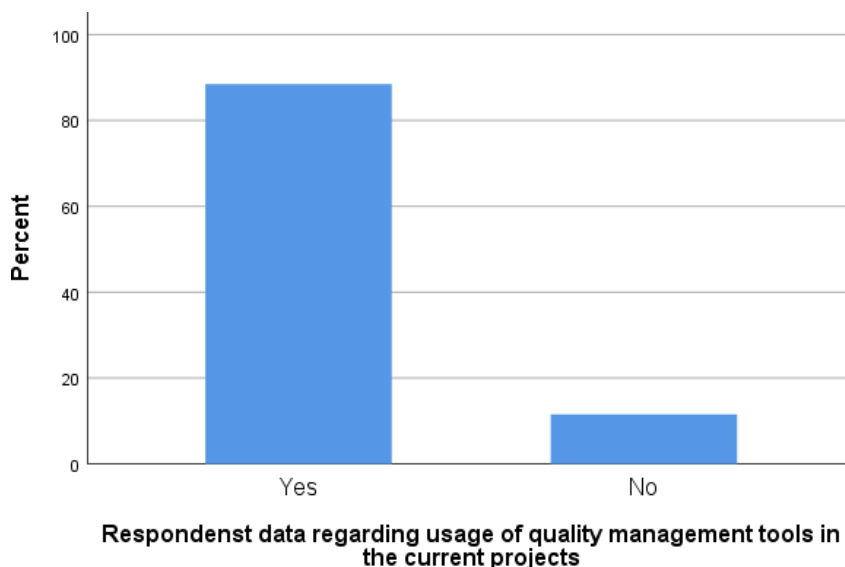


Figure 4. 4 Usage of quality management tools

As we can see on the above bar chart, 88.5 % (23) respondents confirmed that Horra real estate Company use quality management tools in the current project.

Also this response was supported by interview data conducted with the project team leader, project director support ad coordinators of the company and they stated that the company uses the 5 basic quality tools for efficient Project Management on each current project and these tools are: cause & effect diagram, check sheets (inspections), histogram, flow chart and Pareto diagram. This finding shows that Horra real estate Company used quality management tools that can benefit them by delivering a greater efficiency and less waste, better understanding of customer needs, regulation of successful working practices and for improved risk management.

Table 4. 5 Quality operation or management practice

Response	Frequency	Percent
It is improved	7	26.9%
It is maintained	8	30.8%
Not adequate	11	42.3%
Total	26	100%

Source: Data collected by the researcher through Questionnaire, 2023

For the question raised on how is Horra real estate Company's quality operation or management looks like, 42% (11) respondents confirmed that it not adequate. This significant portion of response indicates that as over all the company's practice requires more attention and improvement on quality management.

4.3.2 Quality Management Tools and Control

These findings focused on assessing the quality operation factors that are conducted or used on Horra real estate construction projects.

Table 4. 6 Quality operation factors

Item 1. Material and equipment quality control			Item 2. Effective Communication		
Response	Frequency	Percent	Response	Frequency	Percent
Strongly dis agree	–	–	Strongly dis agree	–	–
Slightly dis agree	–	–	Slightly dis agree	–	–
Moderately agree	11	42.3 %	Moderately agree	6	23.1 %
Strongly agree	11	42.3 %	Strongly agree	16	61.5 %
Very strongly agree	4	15.4 %	Very strongly agree	4	15.4 %

Source: Data collected by the researcher through Questionnaire, 2023

On table 5, When we look at Item 1 on above data, regarding to the material and equipment quality control implemented by the real estate on the current projects, 42.3 % of respondents strongly agree that the company has the practice of conducting quality control for materials and equipment's. In addition, this response also supported by the interview conducted with the project team leader. He stated that quality of the materials used for the project will be tested and inspected before they are going to be used. He also mentioned the processes they follow during controlling the quality of materials and work. And this are:- Define and communicate acceptable criteria, Create an inspection plan, Use checklists and notes to conduct inspections, Correct deficiencies and verify acceptance criteria, and Analyze to prevent future deficiencies. According to AZEB, (2021) Purchasing good quality materials are very important because construction materials have direct effect on the quality of building construction project. Also our finding shows that the real estate company gives attention to material and equipment quality control.

Item 2 refers about the responses on the degree of effective communication during implementation of Horra real estate construction the projects and significant percentage of the response (61.5 %) indicates that the respondents strongly agreed that the degree of communication is effective. this response also supported by the interview with project director and coordinators. They states that the company uses different method of communication s that it can avoid misunderstanding and to increase accuracy and on time information delivery. They mentioned the method of communication including Meetings, Status reports, Records and documents, Email/Text messaging and Phone calls. This finding indicates that the company trend of communication is very good.

4.3.3 Quality Assurance

Table 4. 7 Quality Assurance aspect with in the project

Item	Statement	Response	Frequency	Percent
1.	Easily specifies the quality system conditions in tender and contract documents.	Yes	14	53.8 %
		No	12	46.2 %
		Total	26	100 %
2.	Evaluates and selects subcontractors on their capability to satisfy specified conditions.	Yes	5	19.2 %
		No	21	80.8 %
		Total	26	100%
3.	Collects, reviews and controls the quality records that the supplier is contracted to give.	Yes	19	73.1 %
		No	7	26.9 %
		Total	26	100 %

Source: Data collected by the researcher through Questionnaire, 2023

The above table focused on different aspects of quality assurance. On Item 1, respondents were asked whether the quality system conditions in tender and contract documents is easily specified or not and significant portion of response indicates that it is easily specified so that it can be clear and accurately understood by the tenderers.

Item 2 refers to the evaluation and selection of subcontractors based on their capability and the majority of the respondents were disagreed by that. Based on the significant portion of response shows that subcontractor doesn't gets selected by their capability to satisfy specified conditions. Similarly Bealu Girma, (2019) concluded on his research on assessment of project quality management practices of Addis Ababa river side green project, The firm didn't Evaluate and select the project subcontractors on their ability to satisfy specified requirements. is This can lead to serious quality problem because if awarded subcontractor is not well experienced then his work might lead to affect the intended quality and might even lead for reworking the specific activity.

Based on item 3, the respondents were asked if the company Collects reviews and controls the quality records that the supplier is contracted to give and 73.1 % of the respondents were agreed by that. This implies that the company has its own way of collecting, reviewing and controlling method to the quality records of suppliers of construction materials.

This finding supported by the research of Bealu Girma, (2019) concluded on assessment of project quality management practices of Addis Ababa river side green project, he concluded that the practice of the firm regarding to Collecting, reviewing and controlling of the quality record seems very good. This can increase the quality control effectiveness and also ensure that the suppliers are delivering the quality materials in which they are expected to.

4.3.4 Quality Management Challenge

Table 4. 8 Quality Management Challenge with in the project

Item 1. In adequate management aid			Item 2. Lack of non-stop supervision		
Response	Frequency	Percent	Response	Frequency	Percent
Very less	4	15.4%	Very less	–	–
Less	12	46.2%	Less	7	26.9 %
Moderate	4	15.4 %	Moderate	9	34.6 %
Strongly	6	23.1 %	Strongly	10	38.5 %
Total	26	100 %	Total	26	100 %
Item 3. Financial constraints					
Response	Frequency	Percent			
Very less	6	23.1			
Less	8	30.8 %			
Moderate	11	42.3 %			
Strongly	1	3.8 %			
Total	26	100%			

Source: Data collected by the researcher through Questionnaire, 2023

Table 7, has a possible challenges and obstacles of quality operation in the project. Item 1 contain respondents answer about in adequate operation or management aid in the current project and significant percentage of response shows that the challenge comes from inadequate operational or management aid to the employee on any quality related issue seems to be very less. Based on this finding the aid of top management to the employee seems to be good or it is not a major concern to the respondents compared to other factors.

On Item 2, showed that 34.6 % of the respondents said that the lack of non-stop supervision is moderate and 38.5% of the respondents confirmed by strongly agreed that there is a lack of non-stop supervision challenge on the current projects this finding indicates that since significant

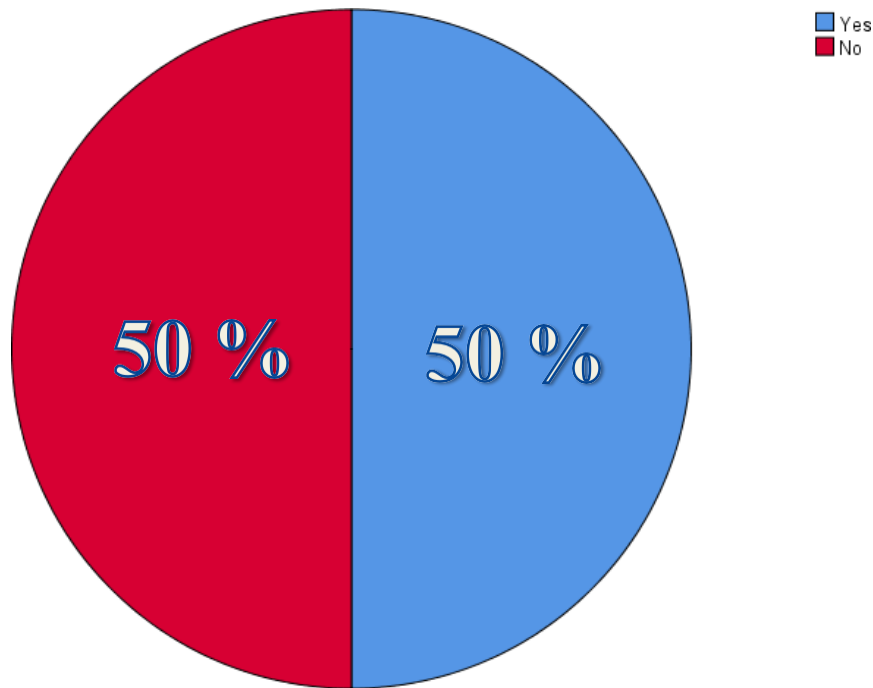
portion of respondents confirmed by agreeing on this obstacle the current project of

The company is not adequately supervised and this might create a defects and a quality variation or difference between the intended and the actual quality because if there is no continuous supervision, the probability of achieving the intended quality standards would be in question mark. This finding also supported by Bealu, (2019) research who conducted on assessment of project quality management practices of Addis Ababa river side green project, he stated that the major problems in the order of their rank was lack of continuous supervision and this shows how their trend of supervision need attention.

For item 3, results showed that significant percentage of response which is 42.3 % of Horra real estate respondents claimed that the financial constraints problem seems to be moderate. This implies that there is a gap in the company when they allocate funds for resources or it is expected to be improved by significant respondents so that it could be fully solved. This finding also supported by the interview with project team leader, project director support and coordinators by stating that lack of getting enough fund during on the progress of work seems present in some extent in the current projects this is because of late approval of the company for the budget requests.

Based on this findings the projects of Horra real estate company seems be trapped by the financial constraint challenges and this might lead for delaying the project finishing time because not able to provide the necessary fund might affect different activities from being implemented. According to IJIRSET, (2014) stated on their research that limitation of Finance was the main factor of construction and in every type of work where contractor had to plan for financial payment to eliminate the risk because it might affect the project, financial constraints is main challenge of assuring quality.

Figure 4. 5 Solutions taken to overcome challenges



Source: Data collected by the researcher through Questionnaire, 2023

The above figure data of respondents showed that 50 % of respondents claimed by saying the company gave proper solution to overcome the challenges and on the other hand 50% of respondents confirmed that Horra real estate didn't gave solutions for all challenges and obstacles encountered during the project. Based on this data significant portion of respondents believe that Horra real estate company should engage itself more in dealing with those major challenges and obstacles of quality operation in the project so that they can ensure that the project is conducted according to the intended plan and also they can guarantee the success of the project without any unwanted and unforeseen quality problems.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

This chapter has two main parts. The first part presents the conclusion of the study that made from the major results and findings of the study and the second part covers the recommendation that were made based on the findings.

5.1 CONCLUSION

The quality practice of Horra real estate Company was assessed on this research. And regarding to the existing of quality management system in Horra real estate almost all the respondents agree that the company implement quality management system in its every real estate construction project. Also participants agreed that quality focus on meeting standards and specification. On top of that respondents of Horra real estate Company agreed that quality management plan has a very high degree of relevance and it is mandatory for the construction project success.

The research findings also showed that participants confirmed that they have been communicated with the top management about quality management system. Based on this result we can conclude that the company has a good and appreciable practice of informing and communicating the importance and purpose of the quality management system. Also Horra real estate creates understandable vision and mission to the workers. On the other hand respondents disagreed that Horra real estate Company uses ISO 9001 QMS in the current projects adequately. Based on this finding we concluded that that there is a gap in implementing ISO 9001 QMS by Horra real estate company or there is a gap on conducting the document that sets out what's needed to implement a quality management system do not followed by the company adequately.

Regarding to taking trainings related with any form of QMS, respondents answered that they didn't took any training of QMS in this real estate and agreed that the company don't have a training program conducted on a regular base. Based on this result we concluded that that horra real estate company didn't give QMS training for all employees and the company don't give attention for the employee improvement that can come from quality focused trainings. On the other hand, respondents replied that Horra real estate company use quality management tools in the current project.

So we concluded that Horra real estate Company uses quality management tools for the projects that can help them by delivering a greater efficiency and less waste, improve participation of employee, regulation of successful working practices and for improved risk management.

About material and equipment quality control implemented by the real estate on the current projects, respondents strongly agree that the company has the practice of conducting quality control for materials and equipment's. Also they confirmed that degree of communication of the company is effective. based on this findings we concluded that Horra real estate company gives attention to material and equipment quality control and company trend of communication is very good and appreciable.

Regarding to whether the quality system conditions in tender and contract documents is easily specified or not, respondents were agreed by that but disagreed on the evaluation and selection of subcontractors based on their capability. Based on this result, we concluded that Horra real estate Company specified the quality documents easily but subcontractors didn't get selected based on their capability and level of experience.

Regarding to challenges and obstacles of quality operation in the current projects, respondents replied that the challenge comes from in adequate operational or management aid to the employee on any quality related issue seems to be very less but agreed that there is a lack of non-stop supervision challenge on the current projects also respondents also confirmed that financial problem is visible in some extent. Based on this result, we concluded that the aid of top management to the employee seems to be good or it is not a major concern to the respondents compared to other factors. On the other hand, obstacle the current project of the company is not adequately supervised and this might create defects and a quality variation or difference between the intended and the actual quality. In addition to it, the projects of Horra real estate Company seems be trapped by financial constraint challenges in some extent. Also respondents also believe that Horra real estate Company should engage itself more in dealing with those major challenges and obstacles of quality operation in the project.

Depend on data collected on the research study, respondents agreed by stating that Horra real estate Company's quality operation or management practice is not adequate. Based on this finding we concluded that the company's practice requires more attention and improvement on quality management in general.

5.2 RECOMMENDATION

Horra real estate Company has to provide a Quality management system related training to its employee so that they can improve their trend of implementing and achieving quality standards

The company has to eliminate the inadequate practice of non-stop supervision in all its current projects so that they can ensure projects meet quality, schedule, safety, and budget plans.

The company has to aware its employee that quality is not only about achieving or meeting standards and specification but more importantly it is about meeting customer needs and expectations.

The trend of using ISO 9001 by the company has to be improved so that they can accelerate their profitability, win new business, hold their existing customers, pointing out gaps in their process, gain competitive advantage, prepare for the future and finally to continually improve their real estate business.

During selecting and evaluating of subcontractors, the company has to ensure that it focuses and based on their capability and their skill or experience so that to increase productivity, to avoid reworking of tasks because of quality defects and to achieve activities of the project in acceptable manner.

The practice of quality operation or management of the company has to be improved to help their construction team get the most out of their checklists and to achieve the intended quality plan.

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APPENDEX 1

QUESTIONNAIRE

St. Mary's University School of Graduate Studies

Department of Master of project management

MAPM Program

The study will focus on Assessing the practice and challenges of project quality management of Horra real estate Company. The following questionnaire's has been developed to help the researcher gather the information necessary to answer the research questions of the study.

Please answer the following questions by writing a brief answer or ticking “√” in the boxes provided.

PART A: Background Information

1. What is your gender?

Male

Female

2. What is your position?

Contractor

Consultant

Project manager

3. which of the following is your highest educational level?

Post graduate

Diploma

Under graduate

Certificate

Any other (specify _____)

4. How long have you been working in this real estate?

1 to5years

5 to10years

11 to15years

16 to20years

PART II: This part of questionnaire covers Quality management practices, Quality control tools and challenges in Addis Ababa greening project.

A. Quality Management & process

5. In your perception, which of the following is best define quality? (you can have a multiple answer)

- Expensive
- Meeting standards and specification requirement
- Increased profit
- Appearance
- Customer's satisfaction
- Others (please specify): _____

6. Does your organization have a quality management system?

- yes
- No

7. How relevant and mandatory do you think the quality management plan is to your constriction or real estate projects?

- 1. Very low
- 2. Low
- 3. Moderate
- 4. High
- 5. Very high

8. From the following points, which factors would lead to the need for quality management system?

- External pressure from competitors
- Attracting customers
- Increase productivity
- Effective planning for on time completion of projects
- Others (please specify): _____

9. Answer the following questions by ticking on the Yes or No box provided below after reading each question

No.	Statement	Yes	No	Comment
1.	Have you ever been communicated about QMS from top Management in your current Project?			
2.	Have you used ISO 9001 QMS in your design or project?			
3.	Do you have a Quality director or Manager who is responsible for executing Quality Plans and Checklists?			
5.	Have you ever taken any training related with any form of QMS?			

9. Do you use any quality management tools?

yes

No

B. Quality Management Tools and Control

Please express your opinion on the following quality operation factors that are conducted or used on the construction project that you are part of.

The scale rating description: 5 = very strongly Agree, 4 = strongly agree, 3 = moderately agree, 2 = slightly Disagree, 1 = strongly Disagree

no	Quality factors	Rating				
		5	4	3	2	1
2	Material and equipment quality					
3	Effective Communication					

C. Quality Assurance

Is the purpose of the systems defined in the first case?

1. Yes 2. No

Do you bear in mind the following factors in your quality assurance medium.

A). Easily specifies the quality system conditions in tender and contract documents.

1. Yes 2. No

B). Evaluates and selects subcontractors on their capability to satisfy specified conditions.

1. Yes 2. No

C). Monitors the workshop and the perpetration of the quality system.

1. Yes 2. No

D). Collects, reviews and controls the quality records that the supplier is contracted to give.

1. Yes 2. No

Quality Management Challenges

From the following list of possible challenges, What are the main challenges and obstacles of quality operation in the design in your opinion?

Description: 5 = very strongly, 4= strongly, 3= Moderate, 2= Less, 1= very less

No	Quality factors	Rating				
		5	4	3	2	1
1	Lack of operation aid					
2	Lack of nonstop supervision					
3	Financial constraints					

Does your real estate company give solution to these challenges? 1. Yes 2. No

13. How is your real estate company's quality operation or management practice look like?

1. It is improved 2. It is maintained 3. It is decreasing
 4. It is stopped 5. Not adequate Other, Please specify _____

APPENDIX 2

INTERVIEW QUESTIONS

1. Would you tell me your current position in your association, position and type of your education and experience on design operation?
2. Do you use any quality management tools in your current project? If you do, which method you use in your current project?
3. How do you control the quality of material and work?
4. How and in what ways are design quality related issues communicated?
5. What are the major challenges faced by your construction enterprises in rehearsing project quality management?