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SCHOOL OF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

THE EFFECT OF TOTAL QUALITY MANAGEMENT ON PROJECT PERFORMANCE - THE MODERATING ROLE OF STAKEHOLDER ENGAGEMENT: EVIDENCE FROM BREWERY PROJECTS AT HEINEKEN BREWERIES S.C

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STATEMENT OF DECLARATION

I declare that the research thesis entitled "The Effect of Total Quality Management on Project Performance – The moderating role of Stakeholder Engagement: The case of Heineken Breweries S.C." is my original work and it hasn't been published or submitted for any kind of qualification elsewhere. All sources of material used for the work have been duly acknowledged.

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STATEMENT OF CERTIFICATION

This is to certify that, this research thesis “The Effect of Total Quality Management on Project Performance – The moderating role of Stakeholder Engagement: The case of Heineken Breweries S.C.” undertaken by Soliyana Desalegn Lidetu in partial fulfilment of the requirements for Master of Arts in Project Management at Addis Ababa University School of Commerce, is an original work and not submitted earlier for any Degree either at this university or any other university.

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LIST OF ABBREVIATIONS

ASEAN – Association of Southeast Asian Nations

KPIs – Key Performance Indicators

PMBOK – Project Management Body of Knowledge

PMI – Project Management Institute

PMPA – Project Management Performance Assessment

S.C. – Share Company

TQM – Total Quality Management

ABSTRACT

The purpose of this study is to examine the effect of Total Quality Management (TQM) practices on project performance, with stakeholder engagement as a moderating factor in brewery projects at Heineken Breweries S.C., Ethiopia. A cross-sectional research design was adopted using a quantitative approach. Data was collected using structured questionnaires administered to project team members across the operating company. A total of 174 (90.6%) valid responses were acquired from 15 existing projects. Regression and moderation analysis was carried out to assess the causal relationship among TQM dimensions, project performance and stakeholder engagement. The results show that all independent variables have positive and statistically significant effect on project performance. In addition, stakeholder engagement showed a significant and positive effect on project performance. There was a positive and statistically significant effect on the relationship between moderating project performance and all TQM dimensions except for operation focus. Hence, the study determines that project performance is maximized when strong TQM practices are complemented by high levels of stakeholder engagement. The study adds to theoretical and applicable implications on quality management and stakeholder involvement in projects. Based on the results of the current study possible recommendations are forwarded and specific idea suggested for further research that may extend this study in wider scope and space in the brewing industry in the country. The study prompt hints to the brewing organization that in order to remain competitive among the industries, attention needs to be given to strengthening stakeholder engagement into the practice of TQM.

Keywords: Total Quality Management, Project Performance, Stakeholder Engagement, Heineken Breweries S.C Ethiopia.

CHAPTER ONE

1. INTRODUCTION

Total Quality Management is a philosophy that is considered as a set of guiding principles that represent the foundation of an excellent organization and to ensure survival of industrial organizations in today's competitive economy (Besterfield, 2011). It is a technique that underscores continuous improvement of product and service quality to satisfy customers and enhance productivity. TQM, in the last three decades, has become unavoidable and widely accepted in manufacturing, government, healthcare and banking subsectors of the developed economies. Continuous attention has been given to TQM in the industrialised countries, but researchers investigated quality practices in developing countries in the past decade (Ajayi, P. O, 2021).

The brewing industry has become increasingly competitive. To meet the required demands, companies need to focus on quality products, where consumers' expectations for taste profile, consistency, and safety are requirements. To address these demands, organizations are adopting TQM as a strategic approach to enhance efficiency and satisfaction of consumers (Vrellas, C. G., & Tsiotras, G, 2015). TQM is all inclusive management value that integrates all organizational processes in order to attain continuous quality improvement by involving all employees, focusing on the needs of customers (Talha M. 2004).

The recent advances made in economic development and urbanization, and changes in lifestyles, the brewery sector in Ethiopia has experienced immense changes over the last decade (Beza, 2020). Several of the breweries in Ethiopia including Heineken Ethiopia, BGI, Dashen, and Habesha have introduced newer technologies in their production system in order to satisfy the growing demand for alcoholic beverages. Although there were number of projects deliberated to fulfil the demands, there were challenges during implementation resulting in delays, inconsistencies, and cost variability (Nathan, 2023). This clearly created the need for an effective quality management system that will truly enhance sustainable performance.

Project performance is evaluated with objective achievement of project goals (Kerzner & Saladis, 2017). Performance measurement is a way of assessing efficiency and effectiveness of a project and the impact it brings about (Miller, 2007).

In the brewing industry, to function in increasingly dynamic and competitive market, employing global standards, advancement in technology and catering to customer expectations are necessary and demand greater levels of efficiency, quality and creativity. Management strategies therefore need to be employed by brewing industries to increase quality output, reduce waste and boost customer satisfaction to sustain in the market and remain competitive. Hence, TQM is one such strategic management style that focuses on employee involvement, teamwork, customer focus and continuous improvement in all organizational activities. (Sadikoglu & Olcay, 2014). Published reports elsewhere in areas of different subjects that include service, construction and manufacturing industries described that TQM practices positively impact the outcome of projects witnessing increased productivity, reduced cost, improved reliability, reduced defects, enhanced customer satisfaction and efficiency (Yee 2018). However, there is lack of similar studies with published reports that focused on the Ethiopian beer industry. This can be considered as one of limiting factors or gaps.

The other essential factor for the success of projects is stakeholder engagement. Projects that do not fully engage them in important decision making process are doomed to fail (Zhou et al,. 2021; Saad et al,. 2022). Lack of understanding of the interests of groups who are drivers of actions, could influence the lifespan of a project and may have major challenges in the project success in terms of schedule of delivery, budget line, and quality of the project output. This is when stakeholders may not be satisfied. This suggests that some stakeholders may not agree on some important project milestones and activities, which might hinder project delivery by causing the project to run behind time, exceed its initial design (Dallasega et al., 2021).

The rationale behind the accomplishment of any project depends on several factors including the status of stakeholder engagement. The success of project performance could be undermined where the practice of TQM is associated with poor stakeholder engagement.

Whereas with higher stakeholder engagement, the success of project performance is expected to be superior. In general, this study aimed to investigate the effect of TQM practices and at the same time examine the moderating role of stakeholder engagement in the relationship between TQM and project performance.

1.1. Background of the Organization

The brewery market is expanding in Ethiopia at a very high rate due to urbanization, the rising number of people, and rising per capita incomes. The Ethiopian beer market is made up of several brewery factories, including Heineken Habesha, BGI, and Dashen brewery, among others. Heineken is one of the major international brewery companies. This is an independent global brewery that was founded by Gerrard Adrian Heineken in the year 1864. This brewery is the largest brewer in Europe and the second-largest brewer in the world in terms of consolidated global volume (Beza, 2020).

Heineken entered the Ethiopian beer industry in the year 2011, by acquiring two government-owned breweries, i.e., Bedele & Harar Brewery S.C. In the year 2012, Heineken started the development operations for the new Greenfield brewery in Ethiopia, which was completed and became fully functional by January 2015. (Beza, 2020). Since then, it has been operating in three locations, one is situated in the eastern part of Ethiopia, Harar region, the second is located at the western part of Ethiopia, Bedele, and third is at the capital city of Ethiopia, Kilinto. (Nathan, 2023). The central office is situated at Addis Ababa, which has turned out as an important location for the firm as it is a developing as well as a rapidly growing market (africanbusinessreview.com)

The company manufactures other brands in addition to Heineken beer. Heineken has its own exclusive local and export quality beers. Heineken owns an enormous portfolio comprising premium, mainstream, economy, and low-and-no brands making this company unique in Ethiopia (Nathan, 2023).

Heineken Brewery in Ethiopia has been involved in various projects after joining the Ethiopian marketplace. These projects include purchasing two giant breweries, developing its own brewery in Addis Ababa and Kilinto, and expanding this brewery due to high volumes required throughout the country (Nathan, 2023).

1.2. Statement of the Problem

The brewery industry in Ethiopia has shown substantial expansion during recent years due to increased demand and significant investment by multinational enterprises and organizations such as Heineken Breweries S.C. Although such developments have been observed, there are still certain shortcomings and problems that persist in the brewery sector

with regard to project performance. These technical drawbacks remain as serious challenges towards efficiency and competitiveness in the exceedingly quality demanding markets.

Total Quality Management has long been recognized as a method of managing an organization's performance by integrating the principles of quality into all business operations. The application of Total Quality Management principles, including commitment from highest level of management, involvement of workers, key role of customers and continuous improvement, has been seen to have an important effect on project success (Oakland, 2014; Talib, Rahman, & Qureshi, 2013). However, most of the research studies were conducted not in areas of brewing industries which implies the existence of obvious information gaps with regard to the application of TQM principles. Although in general stakeholder engagement has been identified as important success factor in project performance (PMI, 2021), Only few works have been accomplished with regard to TQM practices and moderating roles of stakeholder engagement effect in the identification of relationship of TQM in performances of brewery projects.

1.3. Research Questions

The research aims to answer the following questions:

1. To what extent are TQM Principles practiced at Heineken Ethiopia?
2. What is the effect of leadership on project performance?
3. What is the effect of workforce focus on project performance?
4. What is the effect of customer focus on project performance?
5. What is the effect of measurement, analysis and knowledge management on project performance?
6. What is the effect of strategic planning on project performance?
7. What is the effect of operation focus on project performance?
8. How does stakeholder engagement moderate the relationship between TQM principles and project performance?

1.4. Objective of the Study

1.4.1. General Objective

The general objective of the study is to examine the impact of Total Quality Management Principles adopted by Heineken on project performance, while examining the moderating role of stakeholder engagement.

1.4.2. Specific Objectives

The specific objectives of this study are:

1. To assess the extent of implementation of TQM practices in Heineken Ethiopia.
2. To examine the effect of leadership on project performance.
3. To evaluate the effect of workforce focus on project performance.
4. To investigate the effect of customer focus on project performance.
5. To evaluate the effect of measurement, analysis and knowledge management on project performance.
6. To analyse the effect of strategic planning practices on project performance.
7. To investigate the effect of operation focus on project performance.
8. To examine the moderating role of stakeholder engagement in the relationship between total quality management and project performance.

1.5. Scope of the Study

This study aims to study the effect of total quality management on project performance centring various project teams of Heineken Breweries S.C. The project teams of the company dispersed in different locations in different regional states of the country. The location of the main projects are at the Head Office and Kilinto in Addis Ababa, Harar and Bedele. The target study population were project members of main projects found active in all branches of the operating company.

The study adopts a cross-sectional research design, collecting data from the target population at a single point in time. The research will follow statistical method of analysis. However, the effects of other variables both on total quality management and performances of projects other than stakeholder engagement will not be considered by this study.

1.6. Limitation of the Study

The study was carried out focussing exclusively on Heineken brewery, Ethiopia. Data collection was conducted across project teams within the branches of the organization that are found in different regional states including the capital city of Addis Ababa. The branches that are located in Harar and Bedele are very far geographically from the capital. The considerable distance from the company's head office which is in Addis Ababa, the short study project time, availability of little project finance, means of transportation and other necessary logistics made it challenging and exposed the study to some limitations: Only15

project teams were purposely selected for inclusion in the study. Data collection was also restricted to employees who are involved in the 15 selected projects within the branches excluding employees who do not participate in project activities. The research also focuses solely on the relationship that total quality management has on project performance, moderated by stakeholder engagement, excluding other potential factors that could influence the relationship like organizational culture and resource allocation. Since this study was conducted involving only Heineken brewery, the findings may not be considered as representative for other local brewery industries. As a result, generalizability of the findings to other organizations may be limited.

1.7. Significance of the Study

This study contributes by enhancing particular and additional information about the role of stakeholder engagement to the effect of total quality management for better project performance in the brewery industries. The study addresses the research gaps by testing the effect of total quality management dimensions such as commitment from top management, involvement of employees, focus on customers, measurement analysis and knowledge management, strategic planning and operation focus on project performance.

Furthermore, the results of the study provide evidenced information to the management of brewing industries that stakeholder engagement, actively involving actors of projects, beneficiaries of projects including customers in the total quality management practices would positively influence project performance.

1.8. Definition of Terms

Total Quality Management: Total quality management is the management style focused on quality. It involves all members of an organization and aims for long term success by achieving customer satisfaction. This approach benefits everyone involved and has a positive impact on the society (ISO, 2015).

Top Management Commitment: Top management commitment involves the unwavering dedication and involvement of top management. Leaders must ensure there is a clear vision for quality. This vision should align with the organization’s overall goals and make quality a fundamental value (Jadhav, 2025).

Workforce Focus: The level of employee involvement is the overall employee participation rate. The significance of this principle is that all employees are important knowledge sources and key participants in gaining improvements in quality (Jadhav, 2025).

Customer Focus: Customer focus can be defined as "the extent to which an Organization is aware of customer needs, both present and future, and attempts to meet these needs and then exceed their expectations by providing quality" (Jadhav, 2025).

Measurement, Analysis and Knowledge Management: is gathering, analysing, and using accurate data and information to help make decisions based on quality. This practice of TQM ensures lessons learned, performance data, and organizational knowledge are well managed to better the performances of projects (Yee, 2018).

Strategic Planning: Strategic planning is the methodological way of setting goals for a project or an organization and crafting plans to reach them. It ensures that quality projects and initiatives are aligned with the organization's long term objectives (Yee, 2018).

Operation Focus: It is the management and constant improvement of the most important processes in an organization or project to make sure they are efficient and of high quality (Yee, 2018).

Project: A temporary and unique set of activities undertaken to achieve a specific objective within defined time, cost and scope (PMI, 2021).

Project Performance: Project performance is defined as the extent to which projects reach their predetermined objectives within defined constraints. There are various ways to measure this, including cost, time, quality, and stakeholders' satisfaction" (Ahmed R., 2023).

Project Team: Refers to a group of individuals working together to achieve the objectives of a specific project by contributing their skills and expertise (PMI, 2021).

Stakeholder Engagement: This is the process of identifying, analysing, and working with individuals or groups who have an interest in or power over a project, with the objective of managing their expectations and project success (Mugabo, J. & Odengo, R. 2025).

1.9. Organization of the study

The study is classified into five chapters: Chapter one is Introduction: this chapter has sub sections that set an overview of the effect of Total Quality Management on Project performance. It explains the background information on the research problems, where

sufficient descriptions are provided on: statement of the problem objectives of the study, research questions, significance of the study, scope of the study and operational definition of terms and organization of the study.

Chapter Two: Review of related literature: This Chapter focused on review of related literatures available from different sources.

Chapter Three: Research Methodology: This chapter is divided into sub-sections that include research design, methods of (data sources and data collection, target population, sampling techniques, data collection methods, reliability and validity and ethical consideration) and study analysis.

Chapter Four: Data Presentation, Analysis and Interpretation: It is divided into sub-sections, that deal with overall findings or results of the effect of TQM principles on project performance.

Chapter Five: Summary, Conclusions and Recommendations: this section describes the summary findings, conclusions and sets of suggestions and recommendations.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Introduction

Total Quality Management is thinking about quality with respect to all functions of the enterprise. It is a system's approach that considers every contact among the rudiments of the organization. With customer driven leadership, total quality management is a proactive preventive strategy that concentrates on organizational members and procedures (Arora, 2006). Because it focuses on processes, workforce focus, customer satisfaction, leadership and continuous quality improvement, TQM is a unique philosophy that has an advantage over traditional reactive approach of quality control (Easton and Jarrel, 1998). TQM is composite term that combines the terms "management" and "quality". It is a methodical strategy to maintain organizational members' focus and behaviour focused on increasing customer satisfaction (Hinton and Schaeffer, 1994). This conceptual framework emphasizes the importance of total quality management in improving project performance, which is main focus for this research.

2.2. Theoretical Literature Review

2.2.1. Total Quality Management

The work of pioneers like Deming (1986) and Joseph (1999) had a major influence on the development of Total Quality Management (TQM) as a formal management concept in the middle of the 20th century, it was a response to the need for a more thorough approach to quality than just control and inspection. By integrating quality into every facet of an organization's activities, from design to production to customer service and human resources, the emphasis of total quality management changed from defect detection to defect prevention. The fundamental tenet of total quality management is that quality is a shared commitment throughout the entire organization rather than just the responsibility of one function (Jadhav, 2025).

A well designed and well executed total quality management process is one of the best ways to improve product and service quality, productivity and profitability. Nonetheless, quality confusion continuous to plague many organizations. One of the key factors influencing a company's performance is its product quality (Nwadukwe, Uche and Ogele Timinepre, 2013).

2.2.1.1. Evolution of Total Quality Management (TQM)

The concept of quality dates back to the early 1900s, when quality was first insured through inspections to confirm products were made in accordance with certain standards. This approach was more of reactive and focused on detecting and correcting errors after production was completed. Due to the expansion of the business and manufacturing industry in the Industrial Revolution, need arose for more than quality conformity inspection (Yee, 2018).

Then in the 1911s, Scientific Management era was introduced by Fredrick W. Taylor. He developed scientific management principles, stressing the importance of process analysis and functional expertise and productivity improvement which laid the base for a systematized approach of quality control (Yee, 2018).

From 1920s – 1930s was the era of statistical quality control, this era was pioneered by Walter Shewhart. He introduced quality control approach that was proactive and applied statistical methods to reduce the variation of processes. This work paved the way for the development of control charts and the statistical quality control (Yee, 2018).

At the time of the second World War in 1940, statistical quality started to become evident. Wartime application and the influence post the began. The techniques devised by Shewhart were employed in weapon production. After the war, W, Edwards Deming and Joseph Juran introduced principles of quality management in Japan (Yee, 2018).

The years from 1950 – 1980 were characterised by broader Organizational focus. Multiple scholars had an influence during this time. Dr. W. Edwards Deming stressed the responsibility of managerial people for quality and launched the Plan, Do, Study, Act cycle and additional 14 points for quality. and the company's management are important in delivering quality (Deming, 1982), Juran then stated that quality is 'fitness for use' and introduced the financial implication of quality and the trilogy of planning, controlling and improving (Juran 1999). The concept of total quality control was then developed by Feigenbaum. He stressed that organization wide commitment was very crucial. Later on, Crosby, developed the 'do it right the first time' concept. He was famously quoted as saying 'quality is free' and 'zero defects' mainly focusing on the importance of prevention and conformance to requirements. In the four stages of TQM's evolution inspection, quality control, quality assurance and TQM itself served as a benchmark (Yee, 2018).

The concept of quality has developed over the years. It evolved from a reactive approach where quality problems are only corrected after they occur, into a proactive approach, where quality is built into the product or process design. The initial concept of quality where quality was regarding inspection and variations correcting evolved into statistical control techniques using charts. Commitment of the entire organization from management to all levels of employees delivering quality was then introduced (Yee, 2018).

2.2.1.2. Total Quality Management Practices

According to multiple studies there are several definitions of total quality management, even though they complement one another. There is dispute over the design of TQM since different researchers have different opinions on the significance of TQM aspects. Problems arose when there were disparate TQM dimensions. Several scholars have chosen to develop their own models rather of adopting one that has been developed and tested by renowned writers. As a result, it is challenging to agree upon a set of standard TQM practices that characterize the many TQM frameworks (Psomas, Vouzas and Kafetzopoulous, 2014).

A. Leadership

Leadership is defined as a leader's unwavering commitment to ensuring that every member of a group is motivated and inspired to put out their best effort in order to achieve corporate goals and objectives (Watkins, 2020). Leadership responsibilities include strategies used by a leader to plan, direct, carry out, and inspire the team.

According to Scott (2013), leadership is subdivided into two types: senior leadership, and governance and societal responsibilities. It focuses on senior leader's guidance in leading and sustaining an organization, the organization's governance system and its legal, ethical, and societal responsibilities in supporting the key stakeholders. Senior leadership examines an organization's upper management leadership. The focus is on the actions of senior managers in creating and sustaining a high-performance organization, such as setting an organization's vision, values, and mission, promoting legal and ethical behaviour, and creating a sustainable organization. It also includes the communication between a leader and the entire workforce and key customers in order to improve organizational performance and focus on actions to achieve the organization's objectives.

B. Workforce Focus

Workforce Focus is divided into workforce environment and workforce engagement. workforce focus emphasizes an organization's efforts in building a conducive working environment, through engagement, management, and development of the workforce to maximize its full potential driving the organization’s overall mission, strategy, and action plans (Lee and Ooi, 2015).

Workforce environment focuses on workforce ability and capacity management such as competencies, skills, certifications, and staffing levels in accomplishing an organization’s work, new workforce recruitment requirements, work accomplishment management, and workforce change management. Workforce engagement focuses on an organization's development of workforce members, managers, and leaders to achieve a high performance through improvement and innovation (Yee, 2018).

C. Customer Focus

Customer Focus includes voice of the customer and customer engagement. This section addresses an organization's engagement with its customers for long-term marketplace success. By determining requirements, expectations, and preferences of customers through active listening to customers this will establish an improved relationship with customers (Lee and Ooi, 2015).

Understanding customers’ needs and requirements are one of an organization’s key processes for obtaining information about current and potential customers and markets and leads to greater understanding of emerging customer requirements and expectations. Customer engagement includes an organization’s processes in serving customers' needs and building a relationship with them. The activities include determining customer and market requirements for product offerings, developing key communication mechanisms to support customers, and identifying current and future customer groups and market segments for business growth (Yee, 2018).

D. Measurement, Analysis and Knowledge Management

This TQM principle is categorized as measurement, analysis and improvement of organizational performance and knowledge management, information and information technology (Lee and Ooi, 2015).

Measurement, analysis, and improvement of organizational performance in this category focuses on an organization's process of measuring, analysing, reviewing, and improving organizational performance by using data and information at all levels and in all parts of the organization. Knowledge management, information, and information technology evaluates an organization's process of managing and building its knowledge assets (Yee, 2018).

E. Strategic Planning

Strategic Planning is classified into, strategy development and deployment. The major focus is on an organization's development and deployment of strategic objectives and action plans, any changes of circumstances required, and measuring progress (Lee and Ooi, 2015).

Strategy development examines an organization's strategy development process in setting strategic goals and develops strategic objectives, leading and enhancing the organizations overall performance. Strategy implementation will be evaluated regarding the allocation of resources and the workforce to support and deploy the strategic objectives into action plans (Yee, 2018).

F. Operation Focus

Work processes and operational effectiveness make up operation focus. Work processes focus on an organization's design, management, and the improvement of its product and work processes, while operational effectiveness attempts to improve customer value and achieve organizational success and sustainability (Lee and Ooi, 2015).

2.2.2. Project Performance

A short-term activity undertaken to create a unique product or service is defined as project. The most common view of a project is as a process that changes inputs into outputs, and this view highlights the basic assumptions that are fundamental to this perspective. A project is a collaborative activity that is carefully planned to achieve a particular goal. According to the PMI (2021), projects are short term rather than long term systems created by teams within or between businesses to complete specific tasks within time limitations.

There is no commonly agreed framework for performance measurements regarding projects. It is impossible to develop a universal checklist for project success criteria due to the unique characteristics of the project where projects differ in terms of size, location, complexity, and uniqueness. Time, cost, and quality referred to as the 'iron triangle' are the commonly accepted performance indicators to measure the success of projects (Ogunlana, 2010).

Despite frequent criticism, the traditional iron triangle proportions are still regarded as essential for gauging the success of a project. The expected budget, schedule, technical specifications (product/service requirements), and capacity to meet customer service demands and expectations were taken into consideration while evaluating project performance (Neyestani, 2016).

2.2.3. Stakeholder Engagement

The term “stakeholder” refers to a wide range of individuals and institutions. Olander (2007) defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objectives." The term "stakeholder" describes people, organizations, or groups that managers, supervisors, and front-line staff must consider.

Stakeholders must be involved in the design process so that the values relevant to each project can be identified and understood, preventing assumptions about stakeholders' needs or expectations (Ingle & Mahesh, 2022). To ensure that the project is sensitive to and responsive to the local requirements and conditions, the focus of stakeholder engagement should be on identifying people who will be impacted (or likely to be affected) by the project and actively including them in its design and implementation (Yu et al., 2019).

Leung & Olomolaiye (2010) classified stakeholders in projects into clients, consultants (project professionals), contractors, external public parties and external private parties. Stakeholders in a project can be classified as either internal or external. According to Savage et al., (1991), external stakeholders are those who are greatly affected by the project, whereas internal stakeholders are those who provide financing or are members of the project coalition.

Generally, based on their stake in the project, stakeholders can be classified into Primary and secondary stakeholders. Primary stakeholders are those members of the project team who have a duty to the project team under contract or by law, and who oversee managing and allocating resources per schedule, cost, and technical performance goals (Samrawit, 2023). Secondary stakeholders are individuals who don't have a formal contractual connection to the project but may nevertheless be very interested in its progress (Vargas et al., 2022).

Stakeholder engagement enables the project manager to boost support and decrease opposition from stakeholders, considerably enhancing the likelihood of project success. This assertion demonstrates the substantial correlation between stakeholder engagement

processes utilized in a project and the performance of the project, both favourably and adversely (PMI, 2013).

Further, engagement needs to go through the same planning stages as other business projects, including sufficient analysis, planning, execution, reporting, assessment, and follow-up. An iterative approach should be used for stakeholder involvement to benefit from careful planning, detailed reporting, and the application of knowledge gained via proper assessment and monitoring (Stocker et al., 2020).

Engaging with stakeholders may help businesses achieve a variety of goals, from safeguarding the organization's operating permit to learning about enhanced market or product performance. If done well, it may even result in the creation of brand-new goods and services. However, if an engagement process is badly managed, it may erode stakeholder interactions, leading to conflict and distrust as well as making it much more challenging to build effective relationships in the future (Hollebeek et al., 2022).

2.3. Empirical Literature Review

2.3.1. The Effect of TQM on Project Performance

A study conducted by (Easton & Jarrel, 1998; Zehir & Zehir, 2023) indicated that a 90% improvement rate in employee relations, operating procedures, customer satisfaction, and financial performance is achieved due to TQM implementation. 20-30% of businesses that have accepted TQM have seen improvement in competitiveness, productivity and quality.

TQM can be implemented in construction companies using the following fundamental framework: customer feedback system, continuous improvement, teamwork encouragement, fewer suppliers, process management and improvement through productivity study, effective communication system, top management, organizational culture review, training plans, and monitoring (Rajan and Paul, 2017).

Certified companies outperformed non-certified companies in project management practices and financial management practices. ISO 9000 65 certification showed a positive moderating effect on the causal relationship between TQM practices and project success. The causal relationship between project management practices and project success were explained by comparing the project management practices between certified and non-certified companies (Lakhal, 2014).

Project Management Performance Assessment and its contributing variables were found to have positively influenced project success. The association between each of the individual PMPA variables was tested and cross-checked using two methods, linear regression and Pearson's correlation. Both analyses come to the same conclusion KPIs, staff, leadership, and lifecycle management processes were the most contributing variables to project success. Partnership and resources, and PM policy and strategy were ranked the lowest in association with project success. A multiple regression analysis concluded the best-fit model which would explain the greatest variance in project success were life-cycle management processes, policy, and strategy (Mir and Pinnington, 2014).

2.3.1.1. The Effect of Leadership on Project Performance

The literature on project management has highlighted the significance of leadership as a prerequisite for project excellence. Many theories of leadership style have arisen in the modern era, including emotional intelligence, contingency, competency, characteristics, and behaviour. These theories all assert that a suitable leadership style can improve performance and success (Kerzner, 2025).

Effective leadership is viewed as a critical factor for success in the management of organizations and it has also been shown an appropriate leadership style can lead to better performance. However, there is some contradiction in the literature where the leadership of a project manager is not regarded as a success factor of projects. In agreement with Anantatmula (2010) and Fung and Ramasamy (2015), this current study argues that though leadership style and competence are not directly related to project success, the leadership role is crucial to facilitate various project success factors that contribute to project performance. A project manager's leadership roles and responsibilities towards the project team and stakeholders influence the project outcomes (Fung and Ramasamy, 2015).

Jiang (2014), also made similar claims that suggested leadership could directly benefit project success with corresponding competencies or indirectly through improving teamwork to help achieve a successful project. A model was developed where Jiang proposed an appropriate leadership style can reduce the negative effect of the project type on teamwork and project success. Further empirical research is required because this is only a conceptual model. The results of the literature research offer an opportunity to investigate the role of project leadership in enhancing project performance.

2.3.1.2. The Effect of Workforce Focus on Project Performance

The workforce is the most dynamic resource in an organization. It dominates the operation process to ensure that an organization performs its daily operations effectively and efficiently (Sabella, Kashou and Omran 2014). Maintaining a high level of quality can be achieved by bringing out the best talents and capabilities of the workforce (Lee and Ooi 2015). A range of organizational development strategies, including staff training, involvement, empowerment, recognition, teamwork etc., can further strengthen these capabilities. Whan a company places a high priority on its workforce, its employees' needs like good work environment and possibilities for personal growth have to be taken into consideration. This leads to improved productivity and higher levels of satisfaction and morale. This strategy will eventually improve the organization's performance and production (Valmohammadi and Roshanzamir 2015).

Most of the studies reviewed indicate workforce focus has a significant relationship with performance. A study conducted in Spain showed an emphasis on workforce was one of the elements significantly affecting the service industry (Psomas, Vouzas and Kafetzopoulos 2014). This has been supported by Valmohammadi and Roshanzamir (2015), where implementation of workforce-oriented activities increased organizational performance.

2.3.1.3. The Effect of Customer Focus on Project Performance

A customer-centred approach has long been recognized as an important strategy for improving business performance. The concepts of knowing customer requirements and being responsive to customer demands and measuring customer satisfaction have led to an increase in cash flow, revenue growth, profitability, market share, and stock price (Williams and Naumann, 2011).

A study by Zou et al (2014) indicated that an active customer relationship management strategy improves project performance as the relationship changes during project phases, which further supports the customer focus notion. Customer focus policy was identified by Psomas, Vouzas, Kafetzopoulos (2014) as the primary TQM feature that had a favourable impact on Spain's service industry. This implies that a customer focused strategy improves an organization's performance by helping to better understand consumers' wants, which in turn leads to internal measures being performed and ultimately results in satisfied customers.

2.3.1.4. The Effect of Measurement, Analysis, and Knowledge Management on Project Performance

It is important for managers to make quality decisions for an organization based on the analysis of real and relevant data as emphasized by (Lee and Ooi 2015). It is the duty of an organization to ensure the availability of reliable, adequate, high quality, and timely data and information for all key users to improve performance.

This concern about the reliability and validity of data and information using appropriate tools of measurement and/or analysis to support quality-based decision making is necessary for the organization to improve its performance (Bouranta, Psomas and Pantouvakis 2017).

Valmohammadi and Roshanzamir (2015) suggest the implementation of data collection and an analysis system will increase the performances of a firm. Zeng, Phan, and Matsui (2015), in their study investigating 283 manufacturing plants observed quality information had a direct impact on quality performance in ASEAN countries. Other studies also showed quality information and analysis have had significant effects on performance such as Irfan and Kee (2013) and Agus (2011).

2.3.1.5. The Effect of Strategic Planning on Project Performance

Planning has been considered one of the critical factors for project success in the strategic management literature and project management literature (Turner 2014). Zwikael and Globerson (2006) recognized the importance of project planning and in their opinion, high quality planning increases the chances the project will be properly executed and completed. Adding to their previous study, Zwikael and Globerson (2006) asserted high-quality project planning in construction and engineering organizations has resulted in projects completed at half the cost and schedule overruns, compared to organizations in other industries such as information technology and communications, services, and manufacturing.

2.3.1.6. The Effect of Operation Focus on Project Performance

Operation management is a systematic approach in which all the resources of an organization are used in the most efficient and effective manner to achieve the desired performance. Operation focus emphasizes activities which includes preventive and proactive approaches to quality management. The activities include designing fool-proof and stable production schedules and work distribution to reduce variation and improve the quality of the product during the production stage (Bouranta, Psomas and Pantouvakis 2017).

There is a positive association between process management and performance. Valmohammadi and Roshanzamir (2015), Zeng, Phan, and Matsui (2015); Irfan and Kee (2013) and Zehir et al. (2012) all asserted that there is a substantial positive correlation between process management and performance.

However, there are some studies that showed contradictory findings. Shieh and Wu (2002) demonstrated process management did not have an association with project performance. A recent study (Talib, Rahman and Qureshi 2013) conducted on Indian service companies revealed similar findings. The results collected from 172 service companies showed process management had no significant effect on project performance.

2.3.2. The Effect of Stakeholder Engagement on Project Performance

Stakeholder Engagement is crucial for projects success. Stakeholders such as beneficiaries, community members, customers, employees, donors and partner organizations play significant roles in the lifecycle of a project (Wu et al., 2023). Research works conducted by several researchers reported that there is a positive relationship between project performance and stakeholder engagement and that ignorance or poor stakeholder management is key reason for project failure (Aaltonen, 2011). Many scholars have stated that poor project stakeholder management could be the main cause for the large number of public project cost overrun time delay, poor quality and ultimate failure (Karlsen 2002).

2.4. Existing Literature Gaps

Ethiopia's brewing industry has undoubtedly grown quickly. Additionally, growing consumer demand and international investments were reason for this expansion (Beza 2020). TQM has long been acknowledged as a strategy that, by integrating quality concepts, enhances operating organizations' overall performance (Oakland 2014). Majority of research that has been done in developed economies and in sectors like manufacturing and construction has provided no indication of how it may be used in Ethiopia's brewing industry. This raises enquiries regarding the applicability and efficacy of TQM procedures in the fast moving consumer goods market, which is marked by limited resources and particular routine challenges.

Furthermore, the role of stakeholder involvement has mostly been studied as an independent variable rather than as a moderator, even though it is widely recognized as a crucial component for project success (PMI 2021). Particularly in the brewing sector, the impact of

stakeholder engagement on TQM aspects in impacting project success is mainly unexplored. This gap limits the development of integrated frameworks that incorporate stakeholder engagement tactics with total quality management concepts.

2.5. Conceptual Framework

The conceptual framework (figure 1) explains the basic notion of the investigation. It was adopted from *The Influence of Total Quality Management on Project Performance: The Case of Construction Organizations in Malaysia* (Yee, 2018). The study examines how the independent variables like leadership, workforce focus, customer focus, measurement analysis and knowledge management, strategic planning and operation focus improve employees' abilities and experiences to increase their efficacy in projects. The dependent variable is project performance. The conceptual framework thus illustrates the dependent and independent variables as well as the moderating factor, stakeholder engagement that will be used in this investigation.

Stakeholder engagement is used as a moderating variable to explain how it strengthens or alters the direction of the relationship between TQM practices and project performance.

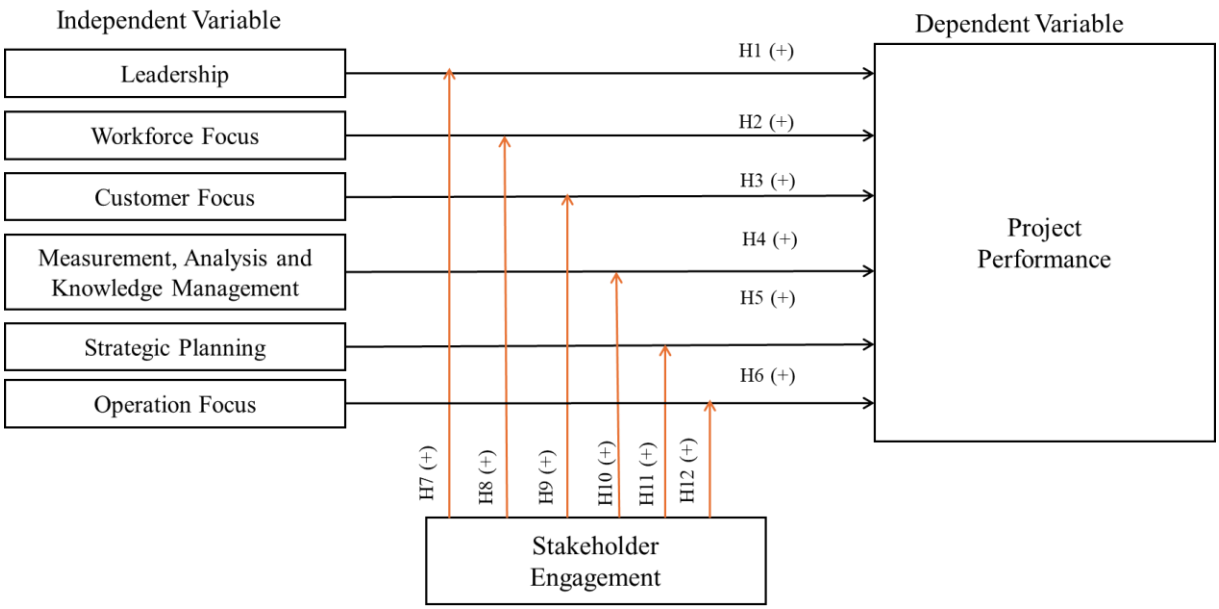


Figure 1 Conceptual Framework

Source: Yee, *(2018)*

2.6. Research Hypothesis

H1: *The effect of leadership on project performance is statistically significant and positive.*

H2: *The effect of workforce focus on project performance is statistically significant and positive.*

H3: *The effect of customer focus on project performance is statistically significant and positive.*

H4: *The effect of measurement, analysis and knowledge management on project performance is statistically significant and positive.*

H5: *The effect of strategic planning on project performance is statistically significant and positive.*

H6: *The effect of operation focus on project performance statistically significant and positive.*

H7: *The positive effect of leadership on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*

H8: *The positive effect of workforce focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*

H9: *The positive effect of customer focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*

H10: *The positive effect of measurement, analysis and knowledge management on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*

H11: *The positive effect of strategic planning focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*

H12: *The positive effect of operation focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This chapter presents the research design of the study, the research approach used, population, sampling techniques, data collection instruments employed, methods of data analysis used, and the ethical considerations employed to examine the effect of Total Quality Management practices on project performance and the moderating role of stakeholder engagement at Heineken Ethiopia S.C.

3.2. Research Design

This study employed a cross-sectional research design, allowing data to be collected from respondents at a single point in time through the use of structured questionnaire.

The study also used descriptive and explanatory research design to investigate the effect of total quality management on project performance and the moderating role of stakeholder engagement. The descriptive research design was used to determine the current status of total quality management, project performance and stakeholder engagement within the organization.

The explanatory research design was adopted to examine the causal relationship between the variables and to test the moderating effect using correlation and regression analysis.

3.3. Research Approach

Research can be categorized into qualitative, quantitative approaches depending on the type of data required. Also, a mixture of these methods is known as mixed method study that covers advantages of both methods (Creswell, 2014).

A quantitative research approach was adopted to examine the relationship between the variables by employing both numerical data and statistical techniques. This approach was considered appropriate as it enables objective measurement of variables and hypothesis testing using statistical techniques.

3.4. Study Population, Sampling Frame, Sampling Techniques and Sample Size

3.4.1. Study Population

The study population comprised employees of Heineken Ethiopia who are involved in project activities. There are estimated amount of 549 employees engaged in project activities. Of which about 369 employees are directly involved in 15 selected projects and was identified as a study population.

3.4.2. Sampling Frame and Sampling Technique

The sampling frame for the study consists of employees who are involved in 15 selected projects. A multistage sampling technique was adopted. 15 projects were purposely selected then strata was formed with each projects considered as a stratum. Finally, simple random sampling was employed to select respondents proportionally for each stratum.

3.4.3. Sample Size Determination

The total sample size for this study was determined using Slovin's formula as shown below.

$\boldsymbol{n = N / (1 + N(e)^2)}$

Where: N=Number of target population n = Sample size to be determined e = level of confidence = 0.05 Accordingly, $n = 369 / (1 + 369(0.05)^2) = 192$.

Therefore, the sample size for this study is determined to be 192 that represents employees from the above mentioned selected projects of Heineken Ethiopia S.C. Subsequently, the following formula was used to determine the sample size of each project:

Sample from projects = Number of employees * n/N

Table 1 Number of employees under different functions and regions

Project	Team Size	Sample Size Determined
Project 1	29	15
Project 2	18	9
Project 3	23	12
Project 4	32	17
Project 5	28	15
Project 6	17	9
Project 7	43	22
Project 8	15	8
Project 9	19	10
Project 10	26	14
Project 11	22	10
Project 12	26	14
Project 13	25	13
Project 14	27	14
Project 15	19	10
Total	**369**	**192**

3.5. Data Source and Collection Method

In this research, primary data were collected from Heineken Brewery S.C. employees located at all branches using a self-administered structured questionnaire. The questionnaire consisted of four sections. With the exception of the demographic section, all constructs were measured using five point Likert scale items with the options of Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

The first section of the questionnaire focuses on the demographic information of the respondents, like age, gender, level of education, tenure, function position, location based, knowledge of total quality management, project involvement. This allowed the researcher to segment respondents effectively.

The second section of the questionnaire is regarding total quality management. This was adopted from Yee, J. C. (2018). The questionnaire is multi-dimensional instrument that assesses to what total quality management is employed through six dimensions, which are

leadership (6 items), strategic planning (6 items), operation focus (5 items), workforce focus (6 items), customer focus (6 items) and measurement analysis and knowledge management (7 items).

The third section is related to the performance of projects which was adopted from Shenhar (2001), it constitutes 15 items, covering, cost efficiency, schedule adherence, quality workmanship, meeting objectives and stakeholder satisfaction. Project performance is treated as an observable variable rather than latent in this research.

The final section oversees stakeholder engagement by employing 22 items scale adopted from Ishimwe & Sanja, (2024) similarly adopted and tasted. it covers stakeholder identification, communication, consultation and grievance management.

3.6. Validity and Reliability

3.6.1. Reliability

According to Saunderes, Lewis & Thornhill (2009), reliability is the extent to which data collection tools or analytic techniques produce consistent results. Internal consistency reliability was assessed using Cronbach's alpha. All constructs recorded values above the recommended threshold of 0.70, indicating acceptable reliability.

Table 2 Cronbach's alpha values

Variable	Cronbach's Alpha
Leadership	0.853
Workforce Focus	0.829
Customer Focus	0.800
Measurement, Analysis and Knowledge Management	0.902
Strategic Planning	0.844
Operation Focus	0.870
Project Performance	0.937
Stakeholder Engagement	0.928

Source: Survey Data, 2026

3.6.2. Validity

Content validity was ensured by adopting measurement items from validated scales used in prior studies. To enhance response accuracy, ethical and procedural measures which include anonymity and academic use of data were maintained.

3.7. Methods of Data Analysis

The data was statistically analysed using IBM SPSS (Statistical Package for Social Sciences). version 27. Descriptive statistics were used to summarize and provide respondents' characteristics. Pearson correlation analysis was conducted to examine relationships between the variables. Regression analysis was implemented to test the direct effects of TQM practices on project performance and the moderating effect of stakeholder engagement.

Diagnostic tests, including reliability, normality, multicollinearity tests and ANOVA were also conducted to verify the suitability of the data for multiple regression analysis.

Power Analysis

To ensure the adequacy for regression analysis, a power analysis, conducted using the online calculator by Daniel Soper. This helps to minimize the risk of incurring type II error that is related with failure to detect true effects. The analysis assumes a medium effect size $f^2 = 0.15$ with a significance level of .05 and a target power of 80%. There are thirteen predictors (six TQM dimensions or main predictors, six interaction terms and a moderator). For a model having thirteen predictors, the tool suggested 75 participants. With a final sample size of 192 employees, the current sample size exceeds both Slovin's minimum and the power threshold as depicted by the Power analysis; hence the study is powered.

Model Specification

The relationship between total quality management and project performance is expressed using liner combination of the independent variable (project performance) plus an error term. Multiple linear regression model will be used in this study and is depicted as:

$$Y=b_0+b_1x_1+b_2x_2+b_3x_3+b_4x_4+b_5x_5+b_6x_6+b_7x_7+b_8(x_1\times x_7)+b_9(x_2\times x_7)+b_{10}(x_3\times x_7)+b_{11}(x_4\times x_7)+b_{12}(x_5\times x_7)+b_{13}(x_6\times x_7)+\varepsilon$$

Where:

- Y = Project Performance (dependent variable)
- b_0 = Constant term
- b_1–b_6 = Coefficients for six TQM dimensions:
    - x_1= Leadership
    - x_2= Workforce Focus
    - x_3= Customer Focus
    - x_4= Measurement, Analysis, and Knowledge Management
    - x_5= Strategic Planning
    - x_6= Operation Focus
- x_7 = Stakeholder Engagement (moderator)
- b_7 = Coefficient for the moderator
- b_8–b_{13} = Coefficients for interaction terms (each TQM dimension × moderator)
- ε = Error term

Here, the value 'b' indicates the regression coefficients for each independent variable. While x_1 to x_6 represent dimensions of total quality management. X_7 represents stakeholder engagement (moderator variable). x_1x_7 are the interaction terms which represent the moderated relationships. Whereas ε represents the error term.

3.8. Ethical Consideration

In this study, the researcher strictly followed all ethical paths during collection, analysis and interpretation of data. Each respondent of the study was informed about the nature of the study and requested his/her agreement to participate. Only respondents who gave their consent to participate without any pressure took part in the study. It was ensured that the data will be kept confidential. Respondents were given the right to withdraw from the study any time without providing reasons or being asked why.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1. Introduction

This chapter shows results of the survey. The findings are presented in tables, graphs and descriptions.

4.2. Response Rate

For the sample size of 192 individual respondents, an equal number of questionnaires were distributed and 174 were completed and returned timely making a response rate as shown in figure 2.

According to Mugenda and Mugenda (2003), a response rate of more than 70% can be considered as excellent response rate that is sufficient enough for analysis and reporting. Therefore, the response rate obtained, which was (91%) was surly highly satisfactory to enable the analysis of this study.

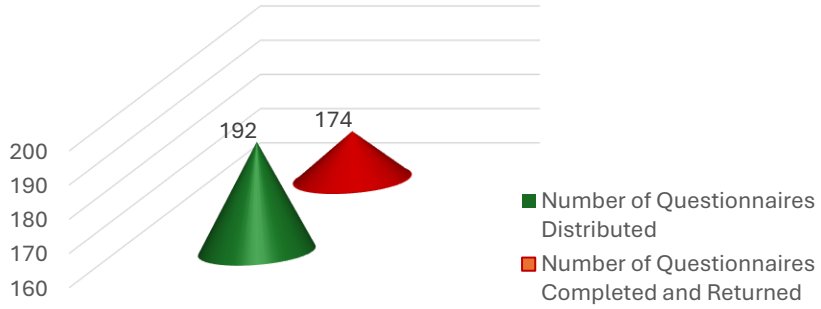


Figure 2 Respondents' questionnaire response rate

Source: Survey Data, 2026

4.3. Respondents' Demography

The objective of analysing the demographic data for this study was to comprehend the composition of respondents and to describe their responsibilities. Also to understand their level of experience and other information such as academic qualifications. The results are summarized as in (Table 3 – Table 11).

Table 3 Respondents' gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Female	73	42.0	42.0	42.0
Male	101	58.0	58.0	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

As per Table 4 the response collected shows that male respondents are higher than female respondents. It is illustrated that 58% of the total respondents are male, and the remaining 42% respondents are female. This gender composition clearly shows the proportion of men and women within the workforce.

Table 4 Respondents' level of education

Level of Education	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor's Degree	95	54.6	54.6	54.6
Master's Degree	52	29.9	29.9	84.5
PhD & Others	27	15.5	15.5	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

Table 4 shows that 54.6% of respondents hold a bachelor's degree, while 29.9% have a master's degree, indicating that most project team members are academically well qualified. The remaining 15.5% under PhD & Others reflects respondents with doctoral or other advanced professional or postgraduate qualification. Overall, the educational profile shows that respondents have the necessary knowledge and expertise to provide reliable information for the study.

Table 5 Respondents' base location

Base Location	Frequency	Percent	Valid Percent	Cumulative Percent
Head Office	96	55.2	55.2	55.2
Kilinto	41	23.6	23.6	78.7
Bedele	23	13.2	13.2	92.0
Harar	14	8.0	8.0	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

Table 5 shows that of the total respondents 55.2% of respondents are based at the head office, which signifies that the majority of them are situated at the head office. 23.6% of respondents are located at Kilinto, 13.2% are located at Bedele and the remaining 8% of the respondents are located at Harar.

Table 6 Respondents' service year at Heineken Ethiopia

Service Year	Frequency	Percent	Valid Percent	Cumulative Percent
<1 Year	44	25.3	25.3	25.3
1-5 Years	77	44.3	44.3	69.5
6-10 Years	34	19.5	19.5	89.1
>10 Years	19	10.9	10.9	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

Table 6 illustrates that 25.3% of the respondents have been working for less than a year, 44.3% of the respondents for years between 1 and 5, and 19.5% of the respondents between 6 and 10 years and the remaining 10.9% of the respondents for more than 10 years. This shows that respondents had enough knowledge and experience to respond to the questionnaire and the survey incorporated experienced employees of the organization to get accurate information in relation to total quality management practices.

Table 7 Respondent's position

Respondents' Position	Frequency	Percent	Valid Percent	Cumulative Percent
Managerial	64	36.8	36.8	36.8
Non-Managerial	110	63.2	63.2	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

The distribution of different positions held by respondents is shown in Table 7. 36.8% of the respondents were at a managerial level and the remaining 63.2% of the respondents were non-managerial employees. It was found that majority of the respondents held non-managerial positions.

Table 8 Respondents' Project Activity

	Frequency	Percent	Valid Percent	Cumulative Percent
Project Coordinator	32	18.4	18.4	18.4
Project Member	100	57.5	57.5	75.9
Project Support	42	24.1	24.1	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

Table 8 shows that majority of the respondents were team members which accounts for 57%. 24.1% of the respondents were support functions and the remaining 18.4% of the respondents were Project Managers.

Table 9 Respondents' engagement with project stakeholders

	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	49	28.2	28.2	28.2
Weekly	83	47.7	47.7	75.9
Monthly	31	17.8	17.8	93.7
Rarely	11	6.3	6.3	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

From Table 9, It is evident that of the total respondents, 28.2% of the employees have a daily engagement with project stakeholders, 47.7% employees have a weekly engagement, 17.8% have a monthly engagement and the remaining 6.3% rarely have an engagement with project stakeholders.

Table 10 Respondents' experience in other brewery industries

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	42	24.1	24.1	24.1
No	132	75.9	75.9	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

Table 10 shows that more than 75% of the respondents have not been an employee in other similar company as a major supply chain actor of beer producing that has implemented TQM and the remaining 24.1% have been employed by such organizations.

Table 11 Respondents' familiarity with TQM

TQM Familiarity	Frequency	Percent	Valid Percent	Cumulative Percent
Very Familiar	51	29.3	29.3	29.3
Somehow Familiar	90	51.7	51.7	81.0
Not Familiar	33	19.0	19.0	100.0
Total	174	100.0	100.0	

Source: Survey Data, 2026

Table 11 illustrates that 29.3% of the respondents are very much familiar with total quality management principles and 51.7% are somehow familiar and only 19% are not familiar at all with total quality management principles. This shows that the majority of the respondents have the know how about total quality management principles.

4.4. Descriptive Statistics

This section focuses on descriptive statistics for the variables that were studied. The variables explained in the descriptive statistics are total quality management principles namely leadership, customer focus, operation focus, workforce focus, strategic planning and measurement, analysis and knowledge management, project performance and stakeholder engagement. The statistics was conducted using mean and standard deviation. According to Sozen & Guven (2019), the survey scale used applies the following range of values for interpretation.

Table 12 Descriptive statistics mean interpretation

Mean Value	Interpretation
1.00 – 1.80	Strongly Disagree
1.81 – 2.60	Disagree
2.61 – 3.40	Neutral
3.41 – 4.20	Agree
4.21 – 5.00	Strongly Agree

Source: Sozen & Guven, 2019

i. Leadership

Table 13 Descriptive statistics for leadership

Leadership	N	Mean	SD
Top management actively participate in Quality management activities	174	3.83	0.96
Top Management encourages quality related concepts and skills	174	3.83	0.91
Top Management strongly encourages employee involvement in quality management activities	174	3.83	0.87
Top Management empowers employees to solve quality problems	174	3.83	0.88
Top Management arranges adequate resources for employee's education & training	174	3.85	0.93
Top Management discusses many quality-related issues in top management meetings	174	3.83	0.95
Leadership Grand mean	174	3.83	0.92

Source: Survey Data, 2026

Table 13 presents the descriptive statistics for leadership in total quality management practices. The results show that respondents generally agree that an active role is played out by the top management to promote quality management within the company.

The mean value of 3.83 (SD = 0.96) for the statement top management actively participates in quality management activities, shows that employees perceive that there exists a strong involvement in quality initiatives by the top management. Similarly, a mean of 3.83 (SD = 0.91) indicates that top management encourage quality related concepts and skill development initiatives amongst the employees.

The average 3.83 (SD = 0.87) suggests that top management encourage employees to participate in quality related activities. The mean score 3.83 (SD = 0.88) demonstrates that management provides employees with all the sufficient authority and confidence to address quality issues. Indicated by the mean value 3.85 (SD = 0.93) top management ensures the availability of necessary resources for employees regarding sustaining quality management practices. It is evident that quality matters are regularly addressed at the strategic decision-making level supported by by the mean value 3.83 (SD = 0.95).

In summary, the grand mean values 3.83 (SD = 0.92) across the leadership items suggest that top management demonstrates a strong commitment to quality management. It is reflected through active participation, employee empowerment, training support and regular quality issue discussion.

ii. Workforce Focus

Table 14 Descriptive statistics for workforce focus

Workforce Focus	N	Mean	SD
Employees are provided training and development programs.	174	3.87	0.92
Employees take part in designing quality improvement activities	174	3.83	0.91
Performance of employees is evaluated and measured	174	3.86	0.92
Satisfaction of employees is measured	174	3.85	0.92
Health and safety work environment is maintained for employees	174	3.80	0.90
Employees participate in quality improvement activities as a culture	174	3.84	0.94
Workforce Focus Grand Mean	174	3.84	0.92

Source: Survey Data, 2026

Table 14 summarizes employees' perceptions of participation, development and quality oriented work culture within the company. The provision of training and development programs records a mean score of 3.87 (SD = 0.92), showing that most employees have acknowledged the availability of learning opportunities designed to enhance their capabilities. In addition, employees' involvement in the design of quality improvement shows a mean value of 3.83 (SD = 0.91), indicating that the employees are not just implementers rather also contributors.

Employee performance management seems to be well managed, as evidenced by a mean of 3.86 (SD = 0.92). This clearly shows that there is a structured mechanism to monitor employee output aligning with the company's objectives. The measurement of employee satisfaction also seems to be managed and that the company places a strong importance on understanding employee perceptions supported by the mean value 3.85 (SD = 0.92).

The maintenance of a healthy and safe environment is also positively perceived, with a mean score of 4.02 (SD = 0.75). this clearly shows that the company is committed to creating favourable working conditions to support the safety of employees. Furthermore, the statement, employees' participation in quality improvement activities as part of

organizational culture has a mean value of 3.99 (SD = 0.73). The result implies that quality improvement practices are embedded in daily work routines and not treated as isolated initiatives.

Overall, the results show that the company promotes employee development, participation and wellbeing by supporting continuous quality improvement as evidenced by the mean 4.00 (SD = 0.73).

iii. Customer Focus

Table 15 Descriptive statistics for customer focus

Customer Focus	N	Mean	SD
Employees are trained on customer focus practices	174	3.93	0.95
Attention to customer needs is key to organizational success	174	3.89	0.95
Customers' complaints are given priority by the company	174	3.91	0.98
The company performs market research to find out customer needs & always meet customers' requirements	174	3.91	0.96
Customers have direct channels of communication with the organization	174	3.93	0.94
Employees conduct customer satisfaction survey	174	3.95	0.90
Customer Involvement Grand Mean	174	3.92	0.95

Source: Survey Data, 2026

Table 15 illustrates respondents' perceptions regarding customer focused practices within the company.

The mean 3.93 (SD = 0.95) suggests that employees generally acknowledge receiving guidance and capacity building support to enhance their customer oriented behaviour. In line with this, respondents express agreement that attention to customer needs is fundamental to the success of the company as it is reflected by the mean 3.89 (SD = 0.95).

The organization's responsiveness to feedback for customers is viewed favourably. The complaints of consumers are prioritized with a mean of 3.91 (SD = 0.98), suggesting that concerns of consumers are considered and resolved immediately. Similarly, the 3.91 mean (SD = 0.96) regarding the market research practice determines the needs of the consumers and how to satisfy their expectations shows that customer needs are actively sought for rather than guessed.

The mean value 3.93 (SD = 0.94) for the direct communication channels availability between customers and the projects suggests that communication with customers is facilitated well. This provides a transparent approach for customer connection to enable open discussion for issues and criticism. Employee involvement in conducting customer satisfaction surveys is supported by a mean of 3.95 (SD = 0.9) showing that there is systematic effort to assess the perceptions and experiences of customers.

All in all, mean value 3.92 (SD = 0.95) the findings suggest that customer focus is embedded in both organizational practices and employee responsibilities through trainings, market researches, feedback mechanisms etc.

iv. Measurement, Analysis and Knowledge Management

Table 16 Descriptive statistics for MAKM

MAKM	N	Mean	SD
Organizational Performance evaluation system is in use	174	3.80	0.94
Performance evaluation is conducted in consistent time interval.	174	3.75	0.96
Data is collected at all levels of the operating company.	174	3.79	0.97
Thorough analysis and review is done on the collected data	174	3.74	0.90
Key performance figures are available for analysis and decision making.	174	3.76	0.96
Findings from performance evaluation are used to develop action plans for continuous improvement	174	3.75	0.93
Other operating company's' are used to benchmark product and procedures quality	174	3.78	0.95
Measurement, Analysis and Knowledge Management Grand Mean	174	3.77	0.94

Source: Survey Data, 2026

Table 16 presents the descriptive statistics related to measurement, analysis and knowledge management practices within the projects conducted in the company.

The use of an organizational performance evaluation is reflected by a mean score of 3.80 (SD = 0.94), which indicates that the respondents recognize the existence of formal mechanisms for assessing performance of the organization. The consistency of performance evaluation over regular time suggested by the mean 3.75 (SD = 0.96) shows that activities are not conducted on ad-hoc basis.

As indicated by the mean 3.79 (SD = 0.97), data collection practices appear to be comprehensive. It shows that information is gathered across different functions to support an end to end performance assessment. The analysis and review of collected data shows a mean 3.74 (SD = 0.90) which indicates that data is actively examined rather than just stored increasing its usefulness for later learnings.

The availability of key performance indicators for analysis and making decisions has a mean of 3.76 (SD = 0.96) which implies that decision makers have access to relevant performance information. Evaluation findings utilization for action plan development for continuous improvement is shown to be supported by mean value 3.75 (SD = 0.93), showcasing that results of performance review are translated into corrective and performance improvement focused initiatives.

Setting target and benchmarking practices also shows positive outcome through the mean value 3.78 (SD = 0.95) for referencing other operating companies with topics related to quality.

In conclusion, the grand mean of 3.77 (SD = 0.94) indicates that there is a strong organizational focus on measurement, analysis and knowledge management.

v. Strategic Planning

Table 17 Descriptive statistics for strategic planning

Strategic Planning	N	Mean	SD
Mission statement of the company that is supported by it's employees exists	174	3.87	0.89
There is a comprehensive and structured planning process which regularly sets and reviews short and long term goals.	174	3.84	0.92
When developing organization's plans, policies and objectives, thinking consumers first is practiced	174	3.87	0.92
Tactical and strategic plans are linked to quality values	174	3.86	0.93
Planning and continuous quality improvement programs are integrated	174	3.84	0.94
Strategic Planning Grand Mean	174	3.86	0.92

Source: Survey Data, 2026

Table 17 shows respondents' view on the organization's strategic planning practices and their alignment with quality and customer oriented values.

The existence of a clear mission statement that is supported by employees is reflected by a mean value of 3.87 (SD = 0.89). this outlines that the project's purpose and overall direction is well communicated to the workforce. The mean value of 3.84 (SD = 0.92) shows that respondents agree that a comprehensive and structured way of working is employed with regards to planning. Additionally, consumer thinking during the objective setting, policy development and project plan development records a mean of 3.87 (SD = 0.92) highlighting how important customer consideration is for making strategic decisions.

It is also evident that there is an alignment between planning activities and quality values. Tactical and strategic plans being linked to quality values show a mean of 3.86 (SD = 0.93), indicating that quality principles are integrated into planning frameworks. Similarly, the integration of planning with continuous quality improvement records 3.84 as a mean (SD = 0.94) suggesting that initiatives for improvement are embedded within the organization's strategic agenda.

Finally, the grand mean of 3.86 (SD = 0.92) emphasizes that there is strategic planning within the projects. The result suggests that clear mission alignment, structured planning approaches, customer thinking and quality value integration contribute to a strategic approach.

vi. Operation Focus

Table 18 Descriptive statistics for operation focus

Operation Focus	N	Mean	SD
Key work processes are developed	174	3.82	0.91
KPIs are in place for monitoring purpose	174	3.75	0.94
Daily work process report system is in practice	174	3.75	0.92
Daily work process report system is monitored	174	3.77	0.90
Multiple tools are used to improve process performance and reduce variability	174	3.75	0.94
Two way communication exists with vendors	174	3.76	0.92
There is a well prepared risk mitigation system that ensures continuity of the operating company	174	3.78	0.98
Operation Focus Grand Mean	174	3.77	0.93

Source: Survey Data, 2026

Table 18 shows respondent's perception of operational focus and process management practices within the respective projects they're involved in.

The development of key work processes records a mean of 3.82 (SD = 0.91) which suggests that respondents generally agree that core operational activities are clearly defined and organized. In addition, the presence of key performance indicators (KPIs) for monitoring purposes show an average of 3.75 (SD = 0.94), showing that there is an emphasis on performance tracking against set objectives.

Routine operational monitoring appears to be a common practice amongst projects. The use of a daily work process reporting system shows an average of 3.75 (SD = 0.94), while the monitoring of these daily reports shows a mean of 3.77 (SD = 0.92). The results show that operational activities are not just reported but also actively reviewed.

The average score of 3.75 (SD = 0.94) shows that projects use multiple improvement techniques to better strengthen their process stability and operational outcomes.. Two way communication with vendors has a mean 3.76 (SD = 0.92) showing that there is a strong collaboration and exchange of information with external stakeholders. Risk preparedness is also positively perceived, as evidenced by a mean of 3.78 (SD = 0.98) for the existence of a well prepared risk mitigation system.

In summary, the grand mean 3.77 (SD = 0.93) reflects that there is a strong operational focus within the projects. The results show there is a defined way of working, performance evaluation and review process and continuous improvement methods and proactive risk management.

vii. Project Performance

Table 19 Descriptive statistics for project performance

Project Performance	N	Mean	SD
Projects are completed within budget	174	3.87	0.89
Resources are allocated effectively to minimize costs	174	3.82	0.87
Cost-saving measures are implemented appropriately	174	3.84	0.95
Projects are completed within the scheduled timeframe.	174	3.80	0.86
Delays are minimized through effective planning and coordination	174	3.81	0.93
Milestones and deadlines are met consistently	174	3.84	0.92
Work is completed to high standards of quality and craftsmanship	174	3.84	0.90
Attention to detail is evident in project execution	174	3.86	0.92
Quality control measures are implemented effectively	174	3.85	0.91
Stakeholder needs and expectations are met or exceeded	174	3.82	0.94
Communication with Stakeholder is clear and responsive	174	3.83	0.94
Stakeholder express satisfaction with the overall project experience	174	3.82	0.97
Projects consistently achieve their stated objectives and contribute to the organization's overall mission.	174	3.86	0.93
Projects effectively deliver tangible benefits to the intended beneficiaries and positively impact the communities.	174	3.80	0.89
Projects consistently meet or exceed key performance indicators.	174	3.86	0.93
Project Performance Grand Mean	174	3.84	0.92

Source: Survey Data, 2026

Table 19 illustrates descriptive statistics related to project performance, covering cost management, time, quality of outputs, stakeholder satisfaction and overall impact of the project.

With regards to cost control, projects appear to be managed efficiently. The mean 3.87 (SD = 0.89) for project completions within the set budget shows that financial planning and cost control mechanisms are in place. This is supported by a mean of 3.82 (SD = 0.87) for

effective resource allocation and 3.84 (SD = 0.95) for the implementation of cost saving measures.

Project completions within scheduled timeframes averages 3.80 (SD = 0.86), while minimizing delays of projects through the use of effective planning and coordination has a slightly higher mean 3.81 (SD = 0.93). In addition, the consistent achievement of milestones and deadlines, with a mean score of 3.84 (SD = 0.92), suggests project timelines are monitored.

Regarding quality related aspects, respondents agree that work is delivered to high standards of quality, which is reflected by the mean 3.84 (SD = 0.90). During the project execution stage, attention to detail has a high mean among the quality related items at 3.86 (SD = 0.92), reflecting that careful execution practices are used. Moreover, quality control measures effective implementation is supported by a mean of 3.85 (SD = 0.91), showing that there is a strong quality assurance process.

Meeting the needs and expectations of stakeholders or exceeding them shows a mean of 3.82 (SD = 0.94), clear and responsive communication with stakeholders has a mean value of 3.83 (SD = 0.94). Additionally, the satisfaction of stakeholders' regarding the overall experience of the project has a mean of 3.82 (SD = 0.97) which entails there is a positive perception of project outcomes.

The achievement of stated project objectives and contribution to the project's mission records a mean of 3.86 (SD = 0.93). Similarly, the delivery of tangible benefits to intended beneficiaries and positive community impact average is 3.80 (SD =0.89). The consistency in the achievement of key performance indicators is further confirmed by a mean value of 3.86 (SD = 0.93).

Overall, the grand mean of 3.84 (SD = 0.92) indicates a strong level of project performance. The research findings show that projects are effectively managed in terms of cost, time, quality, stakeholder satisfaction and strategic contribution.

viii. Stakeholder Engagement

Table 20 Descriptive statistics for stakeholder engagement

Stakeholder Engagement	N	Mean	SD
Project managers are well-experienced in the stakeholder engagement process	174	3.93	0.96
Project managers have full authority	174	3.93	0.90
The project team is well committed to the stakeholder engagement process	174	3.95	0.94
Stakeholder identification was done at the beginning of the project	174	3.94	0.88
An area of interest was identified at the beginning	174	3.87	0.92
The needs and expectations of stakeholders were explored	174	3.93	0.87
The attitudes and behaviours of stakeholders were assessed	174	3.90	0.89
Stakeholders influence was predicted at the beginning of the project	174	3.91	0.90
Communication with stakeholders is maintained	174	3.89	0.90
There is good management of information on sensitive and controversial issues	174	3.95	0.88
Stakeholders are communicated to on the decision-making process early	174	3.98	0.91
Proper & frequent communication with the stakeholders is maintained	174	3.91	0.91
Information is disclosed transparently	174	3.93	0.93
Continuous communication is maintained	174	3.98	0.91
There is informed participation from all stakeholders	174	3.91	0.91
Efforts were made to include project stakeholders in the planning stage.	174	3.89	0.87
Consultation with stakeholders happens continuously in the project from introduction to implementation	174	3.93	0.93
There is organizational flexibility in meetings and conferences	174	3.93	0.95
Grievance management was planned	174	3.93	0.94
Third party involvement where needed is practiced	174	3.94	0.89
There is no conflict between the project objectives and the customers in the process of goal definition	174	3.91	0.97
There is mutual trust and respect among stakeholders	174	3.93	0.93
Stakeholder Engagement Grand Mean	174	3.93	0.91

Source: Survey Data, 2026

Table 20 presents descriptive statistics related to stakeholder engagement practices. Rspondents generally agree that project leadership is well prepared to manage stakeholder relationships. The mean 3.93 (SD = 0.96) indicates that project managers are perceived to be well experienced in engaging stakeholders. A similar mean of 3.93 (SD = 0.90) shows that project managers are granted full authority to manage stakeholder related issues. Additionally, the commitment of project teams to the stakeholder engagement averages 3.95 (SD = 0.94) indicating strong collective involvement in managing stakeholders.

Stakeholder identification at the beginning of the project has a mean of 3.94 (SD = 0.88) while the identification of areas of interest averages 3.87 (SD = 0.92). similarly, exploring stakeholder needs and expectations records a mean of 3.93 (S-D = 0.87) and assessing attitudes and behaviours of stakeholders 3.90 (SD = 0.89). The prediction of stakeholder influence at the early stages of the project, with a mean of 3.91 (SD = 0.90) indicates proactive planning to manage potential stakeholder impact.

Communication related practices show consistently high means. Maintaining communication with stakeholders records a mean of 3.89 (SD = 0.90), while proper and frequent communication shows one of the highest means 3.95 (SD = 0.88). in addition, early communication regarding decision making process averages 3.98 (SD = 0.91), and frequent proper communication is maintained averages 3.91 (SD = 0.91) transparent information disclosure records a mean of 3.93 (SD = 0.93).Stakeholder participation and consultation are similarly emphasized. Informed participation from stakeholders averages 3.91 (SD = 0.91), while efforts to include stakeholders in the planning stage averages 3.89 (SD = 0.87). Having continuous consultation throughout the lifecycle of the project, starting from initiation to implementation has the highest mean 3.93 (SD = 0.93) this highlights there is sustained engagement. This is further supported by a mean of 3.93 (SD = 0.95) that there exists project flexibility in meetings and conferences.

In addition, grievance management planning records a mean of 3.93 (SD = 0.94), this indicates structured mechanisms for addressing stakeholder concerns is in place. The third-party involvement where necessary practice has a 3.94 mean (SD = 0.89) suggesting that projects have openness to external support. The absence of conflict between project objectives and customer interests record a mean of 3.91 (SD = 0.97) while mutual trust and respect amongst stakeholder is 3.93 (SD = 0.93) showing positive relational results.

Overall, the grand mean of 3.93 (SD = 0.91) shows a high level stakeholder engagement. The results show that stakeholder engagement is effectively managed through leadership, early stakeholder analysis, communication, inclusiveness and relationship building activities.

4.5. Correlation Analysis

Pearson correlation analysis is required to show a linear relationship between the dependent and independent variables in order to examine the degree of linkage in the model between variables. Correlation analysis can be explained as a statistical technique that can show whether and how strongly pairs of variables are related (Cohen, 2002).

Project performance shows a positive and statistically significant link with each of total quality management's independent variables (table 21). All correlation significance levels are less than $P < .05$ as indicated by the P-values of 0.00.

Project performance strongly correlates with the total quality management dimension, measurement, analysis and knowledge management (MAKM) ($P = 0.00$, $r = 0.724$), showing a significant and strong positive linear relationship. This shows that when improvements are made on measurement, analysis and knowledge management, it strongly relates with the performance of projects. Additionally, a significant and strong positive correlation is also observed between leadership and project performance ($P = 0.00$, $r = 0.659$) This means that higher perceptions of effective leadership are associated with better reported project performance.

Furthermore, Operation Focus shows significant and moderate to strong positive relationship with Project Performance ($P = 0.00$, $r = 0.623$) implying that clear project outcomes are significantly related to the effectiveness of operational procedures, consistency and process control.

Workforce focus shows that there is significant and moderate positive relationship with project performance ($P = 0.00$, $r = 0.616$). This shows project performance is higher in contexts where attention is given to involvement of workforce, autonomy and development.

The relationship between strategic planning and project performance is also significant and moderately positive ($P = 0.00$, $r = 0.604$). It can be inferred that planning for long term, aligning on objectives, and clarifying strategic directions are important for successful project execution.

Customer focus and project performance correlation is also found to be significant and moderately positive (P = 0.00, r = 560). This finding suggests that project success is positively related to customer needs understanding, feedback incorporation and value delivery to customers.

Table 21 Correlation analysis

Pearson Correlations							
	Leadership	Workforce Focus	Customer Focus	MAKM	Strategic Planning	Operation Focus	Project Performance
Leadership	1						
	174						
Workforce Focus	.440**	1					
	0.000						
	174	174					
Customer Focus	.481**	.422**	1				
	0.000	0.000					
	174	174	174				
MAKM	.485**	.437**	.412**	1			
	0.000	0.000	0.000				
	174	174	174	174			
Strategic Planning	.420**	.324**	.295**	.365**	1		
	0.000	0.000	0.000	0.000			
	174	174	174	174	174		
Operation Focus	.412**	.309**	.362**	.455**	.358**	1	
	0.000	0.000	0.000	0.000	0.000		
	174	174	174	174	174	174	
Project Performanc e	.659**	.616**	.560**	.724**	.604**	.623**	1
	0.000	0.000	0.000	0.000	0.000	0.000	
	174	174	174	174	174	174	174

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

Source: Survey Data, 2026

The direction and intensity of a linear relationship between variables is indicated by ‘r’ on a scatterplot. The value of ‘r’ is always within the range +1 and -1 (Deborah, 2016).

- -1: A perfect downhill (negative) linear relationship
- -0.7: A strong downhill (negative) linear relationship
- -0.5: A moderate downhill (negative) linear relationship
- -0.3: A weak downhill (negative) linear relationship
- 0: No linear relationship exists
- +0.3: A weak uphill (positive) linear relationship
- +0.5: A moderate uphill (positive) linear relationship
- +0.7: A strong uphill (positive) linear relationship
- +1: A perfect uphill (positive) linear relationship

Accordingly, all the total quality management principles have positive linear relationship with project performance.

4.6. Regression Analysis

The quality of the data is tested and explained using several diagnostic tests including tests of Normality, Kurtosis and Skewness, Linearity and Homoscedasticity and multicollinearity, regression analysis, model summary and ANOVA. These are all discussed in the following sections.

4.6.1. Normality Test

The researcher employed multiple regression model to regress independent variables and the dependent variable. The test of normal distribution could be checked by graphical (histogram and dot plot) method of tests. The fulfilment of regression model assumption shall be checked first. A normality test is conducted to make sure if sample data was taken from a population that is evenly distributed. As shown in figure 3, both the dependent and independent variables in this study have a normal distribution.

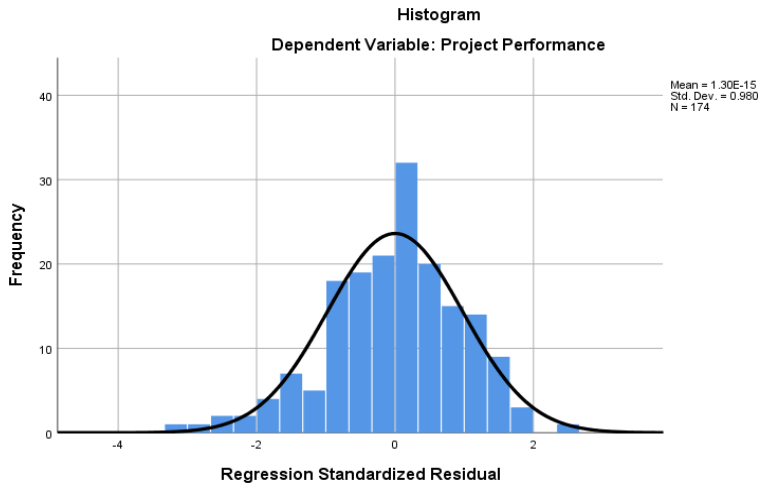


Figure 3 Histogram

Source: Survey Data, 2026

The standardized regression residuals histogram for the dependent variable project performance is shown in the above figure. The residuals show an approximately bell-shaped curve and symmetric distribution around zero, closely following the normal curve. The residuals are correctly centred and scaled appropriately as the standardized residuals' mean is close to zero and their standard deviation is near one.

Although minor deviations are seen, such kinds of deviations are common in empirical research and are not considered to be problematic, particularly as given the sample size (N = 174).

4.6.2. Test of Kurtosis and Skewness

Kurtosis value provides an indication about how peak the distribution is and skewness provides an indication of symmetry of the distribution. If the distribution is perfectly normal, the value of kurtosis is zero otherwise approach zero. skewness is a measure of the asymmetry of the probability distribution of a random variable about its mean. In other words, skewness provides the information regarding the amount and direction of skew (departure from horizontal symmetry). Kurtosis describes the height and sharpness of the central peak, relative to that of a standard bell curve (Scott, 2013).

Table 22 Test of Kurtosis and Skewness

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Leadership	174	-0.325	0.184	-0.426	0.366
Workforce Focus	174	-0.314	0.184	-0.312	0.366
Customer Focus	174	-0.717	0.184	0.147	0.366
MAKM	174	-0.295	0.184	-0.434	0.366
Strategic Planning	174	-0.246	0.184	-0.431	0.366
Operation Focus	174	-0.196	0.184	-0.492	0.366
Project Performance	174	-0.119	0.184	-0.916	0.366
Stakeholder Engagement	174	-0.485	0.184	-0.209	0.366

Source: Survey Data, 2026

Skewness and Kurtosis values were examined to assess the normality of the data. All variables show negative skewness values ranging from – 0.119 to – 0.717. The skewness values fall well within the commonly accepted threshold, confirming that the distributions are sufficiently symmetric to conduct regression analysis.

Kurtosis values range from – 0.916 to 0.147, which fall well within the acceptable range of -2 to +2 showing that the data distributions are approximately normal and do not deviate from a normal curve.

4.6.3. Linearity and Homoscedasticity Test

A linear relationship between the independent and dependent variables is assumed by the multiple linear regression model. Homoscedasticity assumption means that the range of variance for the dependent variable is uniform for all values of the independent variables.

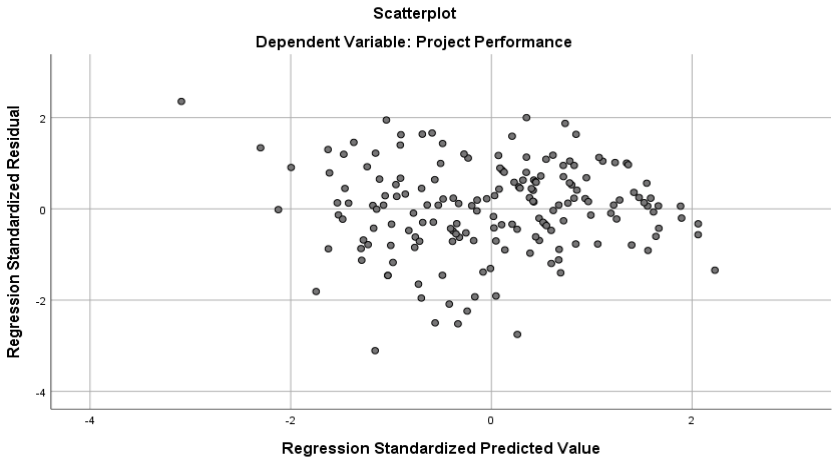


Figure 4 Scatter Plot

Source: Survey Data, 2026

The scatterplot of standardized residual versus standardized projected values for performance is displayed in figure 4. The random points' dispersion about the zero line and lack of distinct curved or systematic pattern indicates that there is a linear relationship between the dependent and independent variables. Therefore, the data is suitable for linear regression analysis, and the linearity conditions are met.

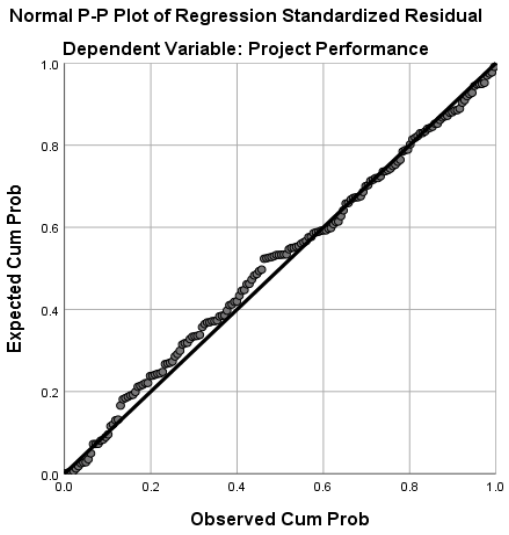


Figure 5 Normal P-P Plot

Source: Survey Data, 2026

The standardized regression residuals for project performance are shown in the normal P-P plot in figure 5 above. As it can be seen by the points' close adherence to the diagonal reference line, the observed cumulative probabilities are shown to be consistent with the

anticipated probability of a normal distribution. The assumption of normalcy is therefore met and that the residuals are roughly normally distributed.

4.6.4. Multicollinearity Test

Table 23 Multicollinearity test

Coefficients[a]		
Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Leadership	0.589	1.697
Workforce Focus	0.655	1.527
Customer Focus	0.680	1.471
MAKM	0.571	1.750
Strategic Planning	0.729	1.372
Operation Focus	0.695	1.439

Source: Survey Data, 2026

The findings show that all VIF values are below the widely recognized cutoff value of 10, as shown on the table above the VIF ranges, from 1.372 to 1.697, and all tolerance values are above the minimum acceptable level of 0.10, ranging from 0.571 to 0.729. these numbers show that the independent variables do not have significant multicollinearity problems.

4.6.5. Model Summary for Regression Analysis

Table 24 Model summary

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.914[a]	0.835	0.828	0.27665
a. Predictors: (Constant), Stakeholder Engagement, Operation Focus, Workforce Focus, Strategic Planning, Leadership, Customer Focus, MAKM				
b. Dependent Variable: Project Performance				

Source: Survey Data, 2026

There exists a strong positive connection between the independent variables and project performance as shown on Table 24 with the correlation coefficient (R=0.914). This indicates a significant relationship between the dependent variable and the predictors.

According to the R square value 0.835, the total effect of the independent variable in the model accounts for 83.5% of the variance in project performance. The adjusted R square value of 0.828 indicates that the model accounts for 82.8% of the variation in project performance after the number of predictors are controlled, which indicates that a there is a strong model fit and reduced danger of overestimation.

The model makes reasonably good predictions, as shown by the relatively low standard error of the estimate (0.276), which shows that the project performance projected values are near to the actual values.

4.6.6. ANOVA

Table 25 ANOVA table

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	64.387	7	9.198	120.185	.000[b]
Residual	12.705	166	0.077		
Total	77.092	173			
a. Dependent Variable: Project Performance					
b. Predictors: (Constant), Stakeholder Engagement, Operation Focus, Workforce Focus, Strategic Planning, Leadership, Customer Focus, MAKM					

Source: Survey Data, 2026

The results from the ANOVA table reveal that the regression model is very significant with F-value of 120.185 and a significance level of P = 0.00. Thus, it is evident that, project performance can be effectively predicted by the independent variables when considered together.

4.6.7. Multiple Regression

Table 26 Multiple regression table

Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	(0.948)	0.174		(5.438)	0.000	(1.292)	(0.604)
Leadership	0.145	0.039	0.151	3.668	0.000	0.067	0.222
Workforce Focus	0.162	0.038	0.166	4.255	0.000	0.087	0.237
Customer Focus	0.103	0.039	0.102	2.666	0.008	0.027	0.179
MAKM	0.231	0.037	0.261	6.261	0.000	0.158	0.304
Strategic Planning	0.189	0.034	0.205	5.547	0.000	0.122	0.257
Operation Focus	0.184	0.036	0.191	5.061	0.000	0.112	0.255
Stakeholder Engagement	0.232	0.049	0.203	4.722	0.000	0.135	0.329

Source: Survey Data, 2026

According to table 26, The effect of leadership on project performance is statistically significant and positive (P = 0.00, β = 0.151). This indicates that better leadership practices lead to improved project performance. Therefore, hypothesis 1 [*The effect of leadership on project performance is significant and positive.*] is accepted. The results of this study strongly support this hypothesis. In line with project management research, the regression results show that leadership predicts project performance significantly, confirming claims by Kernzer (2013) that leadership is essential for project excellence, and by Shore (2008) that leadership influences overall project culture. The positive and significant relationship found in this study also supports Patterson's (2010) view that leadership helps mobilize people toward change and better performance. Additionally, the results back the arguments

of Anantatmula (2010) and Fung and Ramasamy (2015), who argue that while leadership might not always directly determine project success, it plays an important role in enabling other success factors that ultimately improve project performance. The results also support Jiang's (2014) model, which suggested that good leadership can enhance teamwork and reduce contextual challenges, leading to better project outcomes.

The effect of workforce focus on project performance is found to be statistically significant and positive. ($P = 0.00$, $\beta = 0.166$). This implies that increased emphasis on employee, empowerment and development leads to improved project performance. Accordingly, hypothesis 2 [*The effect of workforce focus on project performance is positive and significant.*] is accepted. This finding is consistent with Sabella, Kashou and Omran (2014), who emphasized that workforce-related practices play a dominant role in ensuring efficient and effective organizational operations. Similarly, the positive impact found in this study matches the arguments of Lee and Ooi (2015). They suggested that fostering employees' talents and skills through involvement and development efforts leads to higher performance. The results also support the findings of Valmohammadi and Roshanzamir (2015). They discovered that practices like empowerment, training, and recognition result in improved productivity and performance over time. Additionally, the significant effect observed reflects the work of Psomas, Vouzas, and Kafetzopoulos (2014). They reported that focusing on the workforce is essential for performance in service-oriented settings. Overall, the evidence from this study shows that a focus on the workforce, especially through employee involvement, is a strong predictor of project performance.

The effect of customer focus on project performance is statistically significant and positive ($P = 0.008$, $\beta = 0.102$). This means that paying more attention to understanding customer needs, using feedback, and providing customer value helps improve project success. Therefore, hypothesis 3 [*The effect of customer focus on project performance is positive and significant.*] is accepted. Previous research has consistently shown that understanding customer requirements, responding well to customer needs, and measuring customer satisfaction led to better organizational and project results (William and Nauman, 2011). The strong relationship found in this study also matches the findings of Zou et al. (2014), which showed that active customer relationship management improves project performance at various stages by enhancing responsiveness and meeting stakeholder expectations. Additionally, these results are in line with Psomas, Vouzas, and Kafetzopoulos (2014), who recognized customer focus as an essential factor in total quality management that positively

affects performance in the service sector. Overall, the findings confirm that organizations that prioritize customer needs can better turn customer insights into effective project actions, thus enhancing project performance.

The effect of measurement, analysis, and knowledge management on project performance is statistically significant and positive (P = 0.00, β = 0.261). This shows that better data collection, performance measurement, analysis, and knowledge sharing greatly improve project performance. Therefore, hypothesis 4 [*The effect of measurement, analysis and knowledge management on project performance is positive and significant.*] is accepted. The significant effect found is consistent with Lee and Ooi (2015), who emphasized that having reliable, timely, and high quality data helps managers make informed decisions that improve performance outcomes. Similarly, Bouranta, Psomas, and Pantouvakis (2017) noted that using appropriate measurement and analytical tools supports quality oriented decision making, which is crucial for enhancing performance. The results of this study also match the findings of Valmohammadi and Roshanzamir (2015), who noted that systematic data collection and analysis practices lead to better organizational performance. Moreover, the strong predictive power of MAKM observed in this study backs up evidence from Zeng, Phan, and Matsui (2015), as well as Irfan and Kee (2013) and Agus (2011), who found that quality information and effective analysis directly and significantly impact performance.

The effect of strategic planning on project performance is statistically significant and positive (P = 0.00, β = 0.205). This shows that having clear long term plans, aligning objectives, and setting a strategic direction positively impacts project success. Therefore, hypothesis 5 [*The effect of strategic planning on project performance is positive and significant.*] is accepted. The significant connection observed matches the findings of Meredith and Mantel Jr. (2011) and Turner (2014), who stated that planning is a key factor in effective project execution and success. Similarly, these results are in line with Zwikael and Globerson (2006), who pointed that high quality project planning increases the chances of projects being executed and completed properly. The positive effect found in this study also supports the broader results of Zwikael and Globerson (2006), which showed that organizations that focus on strong planning practices have fewer cost overruns and better schedule performance in construction and engineering projects.

The effect of operation focus on project performance is found to be statistically significant and positive. (P = 0.00, β = 0.191) This indicates that efficient processes, consistency, and

control lead to better project results. Therefore, hypothesis 6 [*The effect of operation focus on project performance is positive and significant.*] is accepted. This relationship aligns with Lee and Ooi's (2015) findings, which show that a focus on operations, characterized by preventive and proactive quality management practices, leads to a better consistency and quality in processes within organizations. The results are also in line with the work of Bouranta, Psomas, and Pantouvakis (2017), who stated that having stable and well-structured processes reduces variation and improves performance. Additionally, the positive effect observed in this study supports evidence from Valmohammadi and Roshanzamir (2015), Zeng, Phan, and Matsui (2015), Irfan and Kee (2013), and Zehir et al. (2012). Each of these studies found a significant positive connection between managing processes and performance. Although some research has shown opposite results (Shieh and Wu, 2002; Talib, Rahman, and Qureshi, 2013), this study provides support for the idea that a strong focus on operations boosts process effectiveness and enhances project performance.

The effect of stakeholder engagement on project performance is found to be statistically significant and positive. ($P = 0.00$, $\beta = 0.203$) This means that more involvement, communication, and collaboration from stakeholders leads to better project performance. Existing studies regularly show a positive link between stakeholder engagement and project performance. Aaltonen (2011) highlights that poor or ineffective stakeholder management is a major reason for project failure, as it often causes conflict, resistance, and a lack of support for project goals. Similarly, Karlsen (2002) claims that weak stakeholder management greatly adds to problems in public projects, such as cost overruns, delays, and compromised quality.

4.6.8. Moderation effect of Stakeholder Engagement

4.6.8.1. Moderating role of Stakeholder Engagement in Leadership – Project Performance Relationship

As shown in table 27 below, the overall regression model shows a strong fit, with leadership, stakeholder engagement, and their interaction term significantly predicting project performance ($P < .05$, $R^2 = 0.654$, $F = 104.6$). The R-squared value indicates that 65.4 percent of the variance in project performance is explained by leadership, stakeholder engagement, and their interaction.

The interaction between leadership and stakeholder engagement is statistically significant and positive ($P < .05$, $B = 0.210$), with confidence intervals that do not include zero. This

indicates that stakeholder engagement significantly moderates the relationship between leadership and project performance. Specifically, the positive effect of leadership on project performance becomes stronger when stakeholder engagement is high.

The interaction plot (figure 6) supports this finding by showing a steeper increase in project performance under high stakeholder engagement compared to low engagement. This suggests that leadership is more effective and driving project success when stakeholders are actively involved and aligned with project objectives. Therefore, hypothesis 7 [*The positive effect of leadership on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*] is accepted.

Table 27 Moderation analysis of stakeholder engagement on the relationship between leadership and project performance

Predictor	Coefficient (B)	t	Sig.	LLCI	ULCI
Constant	3.790 (0.034)	111.953	0.000	3.723	3.857
Leadership	0.404 (0.049)	8.193	0.000	0.307	0.502
Stakeholder Engagement	0.601 (0.060)	9.999	0.000	0.483	0.720
Leadership × Stakeholder Engagement (Lead_SE)	0.210 (0.080)	2.627	0.009	0.052	0.368
$R^2 = 0.654$, R^2 change = 0.018 and F = 104.6					

Source: Survey Data, 2026

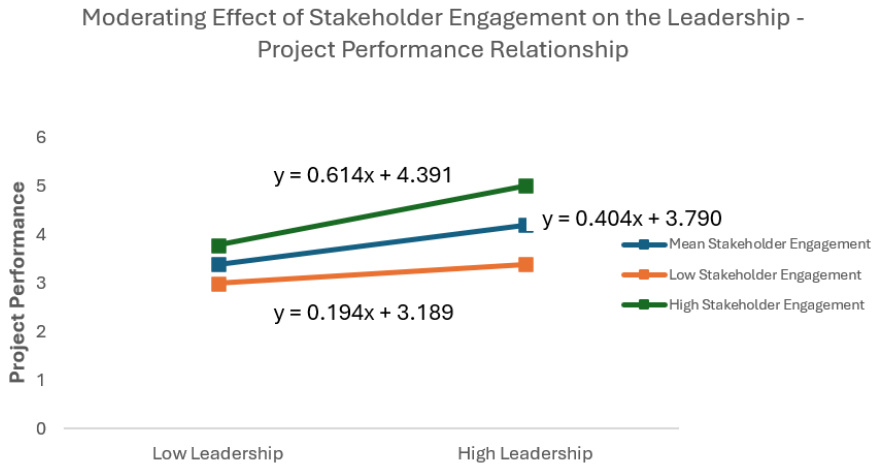


Figure 6 Moderating effect of stakeholder engagement on leadership & project performance

Source: Survey Data, 2026

4.6.8.2. Moderating role of Stakeholder Engagement in Workforce Focus – Project Performance Relationship

As the finding in table 28 shows, a substantial proportion of variance in project performance ($P < 0.05$, $R^2 = 0.612$, $F = 87.18$). Workforce focus and stakeholder engagement both show statistically significant and positive direct effects on project performance ($P < 0.05$).

The interaction between workforce focus and stakeholder engagement is also statistically significant and positive ($P = 0.006$, $B = 0.243$), and the confidence intervals do not include zero. This shows that stakeholder engagement significantly moderates the relationship between workforce focus and project performance. The positive effect of workforce focus on project performance is stronger when stakeholder engagement is high.

The interaction plot (figure 7) confirms this effect, showing a steeper increase in project performance under high stakeholder engagement compared to low engagement. This indicates that practices that are oriented on workforce add more effectively to project success when stakeholders are actively involved and supportive. Accordingly, hypothesis 8 proposing [*The positive effect of workforce focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*] is accepted.

Table 28 Moderation analysis of stakeholder engagement on the relationship between workforce focus and project performance

Predictor	Coefficient (B)	t	Sig.	LLCI	ULCI
Constant	3.780 (0.036)	104.645	0.000	3.708	3.851
Workforce Focus	0.366 (0.055)	6.624	0.000	0.257	0.475
Stakeholder Engagement	0.627 (0.064)	9.750	0.000	0.500	0.755
Workforce Focus × Stakeholder Engagement (WF_SE)	0.243 (0.087)	2.797	0.006	0.072	0.415
$R^2 = 0.612$, R^2 change = 0.019 and F = 87.18					

Source: Survey Data, 2026

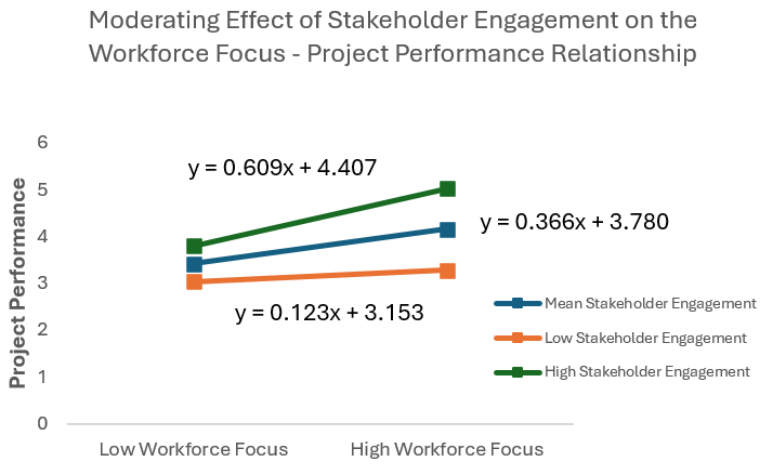


Figure 7 Moderating effect of stakeholder engagement on workforce focus & project performance

Source: Survey Data, 2026

4.6.8.3. Moderating role of Stakeholder Engagement in Customer Focus – Project Performance Relationship

As shown in table 29, a considerable proportion of variance in project performance exists ($P < .05$, $R^2 = 0.633$, $F = 95.479$). Customer focus and stakeholder engagement both have statistically significant and positive direct effects on project performance ($P < .05$).

The interaction between the variables is statistically significant and positive ($P < .05$, $B = 0.378$), and the confidence intervals do not include zero, confirming a moderating effect exists. This shows that stakeholder engagement strengthens the relationship between customer focus and project performance.

The interaction plot (figure 8) shows that project performance improves more sharply at higher levels of customer focus when stakeholder engagement is high, compared to when it is low. Accordingly, hypothesis 9 [*The positive effect of customer focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*] is accepted.

Table 29 Moderation analysis of stakeholder engagement on the relationship between customer focus and project performance

Predictor	Coefficient (B)	t	Sig.	LLCI	ULCI
Constant	3.778 (0.033)	113.363	0.000	3.712	3.844
Customer Focus	0.358 (0.051)	6.989	0.000	0.257	0.459
Stakeholder Engagement	0.712 (0.060)	11.855	0.000	0.593	0.831
Customer Focus × Stakeholder Engagement (CF_SE)	0.325 (0.079)	4.132	0.000	0.170	0.481
$R^2 = 0.633$, R^2 change = 0.037 and F = 95.479					

Source: Survey Data, 2026

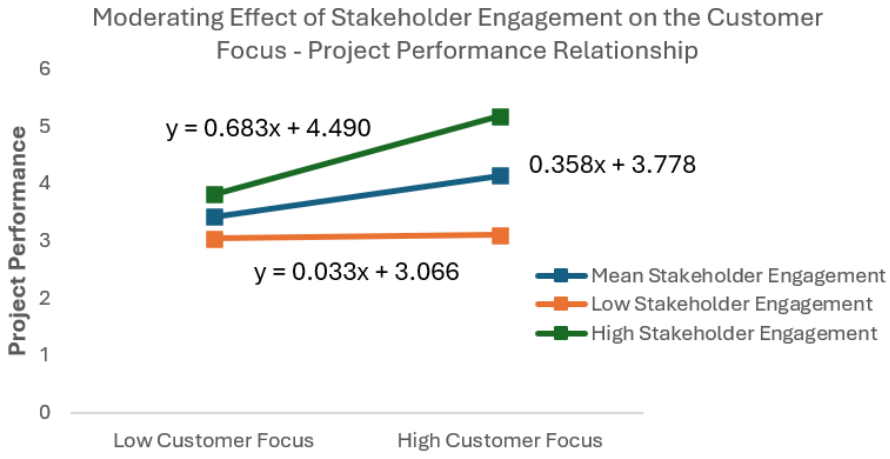


Figure 8 Moderating effect of stakeholder engagement on customer focus & project performance

Source: Survey Data, 2026

4.6.8.4. Moderating role of Stakeholder Engagement in Measurement, Analysis and Knowledge Management – Project Performance Relationship

According to table 30, MAKM and stakeholder engagement both have significant and positive direct effects on project performance ($P < .05$). The model explains that there is a substantial proportion of variance in project performance ($R^2 = 0.677$, $F = 116.17$, $P < .05$).

The interaction between MAKM and stakeholder engagement is statistically significant and positive ($P < .05$, $B = 0.193$). The confidence intervals do not include zero. This in turn confirms a moderating effect. This result shows that stakeholder engagement improves the relationship between MAKM and project performance.

The interaction plot (figure 9) shows that improvements in project performance associated with MAKM are considerably stronger when stakeholder engagement is high. Accordingly, the hypothesis 10 [*The positive effect of measurement, analysis and knowledge management on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*] is accepted.

Table 30 Moderation analysis of stakeholder engagement on the relationship between MAKM and project performance

Predictor	Coefficient (B)	t	Sig.	LLCI	ULCI
Constant	3.784 (0.032)	117.381	0.000	3.720	3.848
MAKM	0.431 (0.047)	9.184	0.000	0.338	0.523
Stakeholder Engagement	0.544 (0.062)	8.779	0.000	0.422	0.667
MAKM × Stakeholder Engagement (MAKM_SE)	0.193 (0.056)	3.424	0.001	0.082	0.304
$R^2 = 0.677$, R^2 change = 0.022 and F = 116.17					

Source: Survey Data, 2026

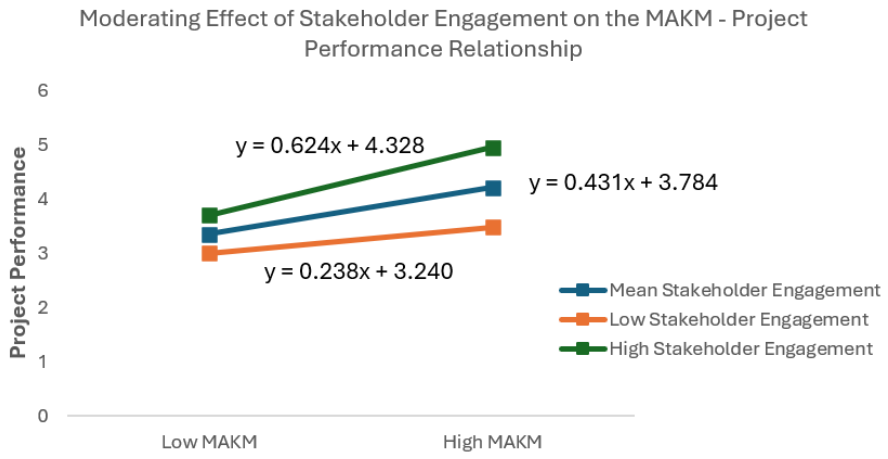


Figure 9 Moderating effect of stakeholder engagement on MAKM & project performance

Source: Survey Data, 2026

4.6.8.5. Moderating role of Stakeholder Engagement in Strategic Planning – Project Performance Relationship

As shown table 31, the regression model explains a meaningful proportion of variance in project performance ($P < .05$, $R^2 = 0.620$, $F = 90.35$). Strategic planning and stakeholder

engagement both have statistically significant and positive direct effects on project performance.

The interaction between strategic planning and stakeholder engagement is positive and significant (P = 0.024, B = 0.172). The confidence intervals do not include zero. This shows a moderating effect. This finding suggests that stakeholder engagement enhances the impact that strategic planning has on project performance.

The interaction plot (figure 10) illustrates that project performance increases more strongly with higher levels of strategic planning when stakeholder engagement is high compared to when it is low. Accordingly, hypothesis 11 [*The positive effect of strategic planning on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*] is accepted.

Table 31 Moderation analysis of stakeholder engagement on the relationship between strategic planning and project performance

Predictor	Coefficient (B)	t	Sig.	LLCI	ULCI
Constant	3.799 (0.035)	109.664	0.000	3.730	3.867
Strategic Planning	0.329 (0.049)	6.694	0.000	0.232	0.426
Stakeholder Engagement	0.650 (0.062)	10.438	0.000	0.527	0.773
Strategic Planning × Stakeholder Engagement (SP_SE)	0.172 (0.075)	2.278	0.024	0.023	0.321
$R^2 = 0.620$, R^2 change = 0.012 and F = 90.35					

Source: Survey Data, 2026

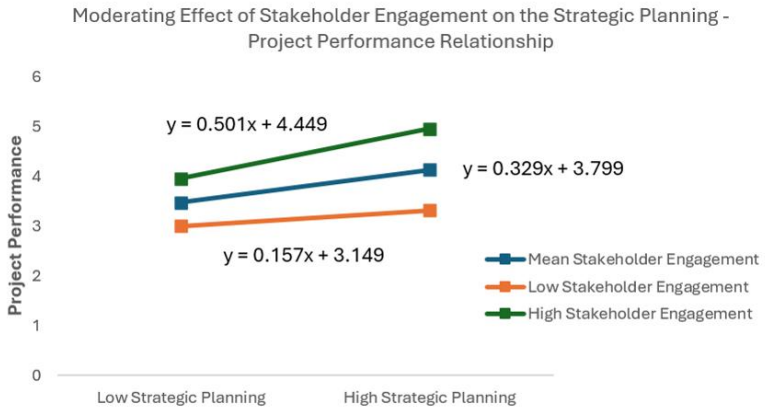


Figure 10 Moderating effect of stakeholder engagement on strategic planning & project performance

Source: Survey Data, 2026

4.6.8.6. Moderating role of Stakeholder Engagement in Operation Focus – Project Performance Relationship

As shown in table 32, the regression model explains a substantial proportion of variance in project performance ($P < .05$, $R^2 = 0.627$, $F = 93.02$). Operation focus and stakeholder engagement both have positive and statistically significant direct effects on project performance.

However, the relationship between operation focus and stakeholder engagement is not statistically significant ($P = 0.149$, $B = 0.107$). The confidence interval includes zero (LLCI = -0.039, ULCI = 0.254). This confirms that there is no moderating effect. Accordingly, hypothesis 12 [*The positive effect of operation focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.*] is not accepted.

Table 32 Moderation analysis of stakeholder engagement on the relationship between operation focus and project performance

Predictor	Coefficient (B)	t	Sig.	LLCI	ULCI
Constant	3.811 (0.034)	111.652	0.000	3.743	3.878
Operation Focus	0.369 (0.051)	7.290	0.000	0.269	0.469
Stakeholder Engagement	0.625 (0.062)	10.133	0.000	0.503	0.747
Operation Focus × Stakeholder Engagement (OP_SE)	0.107 (0.074)	1.448	0.149	-0.039	0.254
$R^2 = 0.620$, R^2 change = 0.005 and F = 93.02					

Source: Survey Data, 2026

4.7. Regression Model

Based on the regression and moderation analysis the revised regression model equation is as follows:

$Y=b_0+b_1x_1+b_2x_2+b_3x_3+b_4x_4+b_5x_5+b_6x_6+b_7x_7+b_8(x_1\times x_7)+b_9(x_2\times x_7)+b_{10}(x_3\times x_7)+b_{11}(x_4\times x_7)+b_{12}(x_5\times x_7)+b_{13}(x_6\times x_7)+\varepsilon$

Where:

- Y = Project Performance (dependent variable)
- b_0 = Constant term
- b_1–b_6 = Coefficients for six TQM dimensions:
    - x_1= Leadership
    - x_2= Workforce Focus
    - x_3= Customer Focus
    - x_4= Measurement, Analysis, and Knowledge Management
    - x_5= Strategic Planning
    - x_6= Operation Focus
- x_7 = Stakeholder Engagement (moderator)
- b_7 = Coefficient for the moderator
- b_8–b_{13} = Coefficients for interaction terms (each TQM dimension × moderator)
- ε = Error term

$Y = 0.948 + 0.151x_1 + 0.166x_2 + 0.102x_3 + 0.261x_4 + 0.205x_5 + 0.191x_6 + 0.210x_1x_7 + 0.243x_2x_7 + 0.325x_3x_7 + 0.193x_4x_7 + 0.172x_5x_7 + \varepsilon$

4.8. Summary of Hypothesis

Table 33 Hypothesis summary table

Hypothesis	Result	Decision
H1: The effect of leadership on project performance is positive and significant.	Significant (P = 0.000) Positive (β = 0.151).	Hypothesis Accepted
H2: The effect of workforce focus on project performance is positive and significant.	Significant (P = 0.000) Positive (β = 0.166).	Hypothesis Accepted
H3: The effect of customer focus on project performance is positive and significant.	Significant (P = 0.008) Positive (β = 0.102).	Hypothesis Accepted
H4: The effect of measurement, analysis and knowledge management on project performance is positive and significant	Significant (P = 0.000) Positive (β = 0.261).	Hypothesis Accepted
H5: The effect of strategic planning on project performance is positive and significant.	Significant (P = 0.000) Positive (β = 0.205).	Hypothesis Accepted
H6: The effect of operation focus on project performance is positive and significant.	Significant (P = 0.000) Positive (β = 0.191).	Hypothesis Accepted
H7: The positive effect of leadership on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.	Significant (P = 0.009) Positive (β = 0.210).	Hypothesis Accepted
H8: The positive effect of workforce focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.	Significant (P = 0.006) Positive (β = 0.243).	Hypothesis Accepted
H9: The positive effect of customer focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.	Significant (P = 0.000) Positive (β = 0.325).	Hypothesis Accepted
H10: The positive effect of measurement, analysis and knowledge management on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.	Significant (P = 0.001) Positive (β = 0.193).	Hypothesis Accepted

H11: The positive effect of strategic planning on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement.	Significant (P = 0.024) Positive (β = 0.172).	Hypothesis Accepted
H12: The positive effect of operation focus on project performance is stronger under higher level of stakeholder engagement than under lower level of stakeholder engagement	Not Significant (P = 0.149).	Hypothesis Not Accepted

Source: Survey Data, 2026

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary of Findings

- This study discovered that Heineken Ethiopia extensively used TQM in all its projects. Leadership commitment, staff involvement, customer orientation, structured planning, data driven management and operational focus are integrated into regular project activities.
- The regression findings indicate that TQM practices have a statistically significant and positive effect on project performance. Measurement, analysis and knowledge management shows the statistically significant and positive effect on the dependent variable project performance ($P < .05$, $\beta = 0.261$), indicating that the use of systematic data collection, performance measurement, analysis and organizational learning contributes to improved project outcomes such as cost management, timely project completion, quality delivery, and accomplishment of project objectives.
- Leadership shows a statistically significant and positive effect on project performance ($P < .05$, $\beta = 0.151$). This indicates that effective leadership contributes to achieving project objectives and maintaining expected quality standards.
- Workforce focus was found to have a significant and positive effect on project performance ($P < .05$, $\beta = 0.166$). As a result, employee training, participation in quality improvement initiatives, performance evaluation, and the provision of a safe and supportive work environment collectively contribute to increased ownership, accountability, and commitment to project outcomes.
- Customer focus was found to have a significant and positive effect on project performance ($P < .05$, $\beta = 0.102$), suggesting that projects that focus on understanding their customers and incorporate feedback are more likely to be successful.
- Both Strategic planning ($\beta = 0.205$, $P < .05$).and operation focus ($P < .05$, $\beta = 0.191$). were found to have statistically significant and positive effects on project performance. This shows that clear strategic direction, organizational goal alignment, effective management of processes and operational consistency contribute positively to the success of projects.
- Stakeholder engagement played a key role in how TQM practices affected project performance. When stakeholder engagement was higher, the positive impact of TQM

dimensions (P < .05, B ranges from 0.173 to 0.325) on project performance grew, except for operational focus, where the moderating effect was not significant (P > .05).

5.2. Conclusion

Based on the findings, this study concludes that Total Quality Management practices significantly enhance project performance in Heineken Brewery Ethiopia. All of the six dimensions of total quality management showed statistically significant and positive effect on project performance, confirming that quality focused management practices are essential for successful project implementation;

- The regression analysis shows that the application of TQM practices has a statistically significant and positive effect on project performance. This indicates that projects success is higher when quality principles are consistently integrated into planning, execution, monitoring, and control activities.
- Stakeholder engagement is further established by the study as a potent contextual factor that enhances the connection between TQM practices and project success. Initiatives for quality management were more beneficial to projects with significant stakeholder engagement than to those with lesser engagement.
- The moderating effect's strength varied among TQM dimensions; under high stakeholder engagement, leadership and measurement, analysis and knowledge management shown the strongest enhancement. This implies that stakeholder alignment, trust and involvement are especially important for leadership impact and data driven decision making. In contrast, operation focus maintained a direct effect on project performance irrespective of stakeholder engagement levels.
- Overall, the findings affirm that project success is maximised when strong total quality management practices are combined with high stakeholder engagement.

5.3. Implications of the Study

5.3.1. Theoretical Implications

- The results provide support for the use of TQM theory in project management, especially in developing nation breweries. By showing that TQM concepts are applicable to project based performance outcomes, the study expands the applicability of TQM literatures.
- The study on how stakeholder engagement has an important role as a moderator the relationship between total quality management and project performance showed the role it plays by amplifying the effectiveness. Further it reflects that TQM and Project Performance theory through an integrated framework that shows quality management practices bring about stronger project outcomes when conducted within high level of stakeholder engagement.
- The study offers a more thorough knowledge of how total quality management practices and stakeholder engagement jointly impact project performance by integrating the practices TQM and stakeholder engagement into a single framework.

5.3.2. Practical Implications

The findings of this study provide multiple practical implications for Heineken Ethiopia S.C.

- The results suggest that the operating company, in this case Heineken Ethiopia, need continue to strengthen TQM practices across all project activities. Embedding total quality principles into everyday project activities supports better control of projects related to cost, time, and overall performance.
- Sustained commitment to quality focused practices encourages consistency in execution, improves coordination among project teams, and supports continuous improvement initiatives.
- The findings emphasize how crucial it is to incorporate stakeholder engagement throughout the process of project implementation. To optimize the advantages of TQM dimensions, project managers need to place high priority on early stakeholder identification, open communication, ongoing consultation, and grievance handling.

5.4.Recommendations

Based on the findings of this study, the following recommendations are proposed:

- The regression results show that TQM practices have a significant and positive effect on project performance. However, the mean scores of the TQM dimensions range between 3.77 and 3.92 indicating that while these practices are present, they are applied at a moderate level. Therefore, it is recommended that the organization further strengthens TQM practices across projects which would in turn enhance the consistency and depth of quality oriented practices to lead to better project performance.
- Organizations need to focus on stakeholder engagement not only as an add on activity but also as crucial component in the project management.
- Enhancing continuous on job training for employees on TQM highly contributes to maintaining project performance and encourages them to actively participate in quality improvement during project implementation.

5.4.1. Suggestions for Future Research Study

- Studies that compare several industries could improve the findings' generalizability.
- A longitudinal study design is suggested in order to investigate and examine stakeholder participation in the effect of the overall quality management of projects in brewing industries in Ethiopia.
- In addition, the role of operation focus requires further investigation. Although operation focus was found to have a significant direct effect on project performance, its relationship was not significantly moderated by stakeholder engagement in this study. Future research could explore this finding in greater depth by examining whether operational focus behaves differently across project types or level of complexity.

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ANNEX

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

MASTER OF ARTS IN PROJECT MANAGEMENT

RESPONDENTS' QUESTIONNAIRE

Dear Respondent,

My name is Soliyana Desalegn, and I am currently pursuing a Master of Arts in Project Management at the University of Addis Ababa, School of Commerce. As part of the requirements for my final assessment, I am conducting a research study entitled: "The Effect of Total Quality Management on Project Performance - The moderating Role of Stakeholder Engagement: Evidence from Brewery Projects at Heineken Breweries S.C."

I kindly request your participation by completing this questionnaire as honestly and accurately as possible. The information you provide will be treated with strict confidentiality and will be used for academic purposes only**.**

Your participation is highly valuable, and I sincerely thank you in advance for your time and cooperation. Should you have any questions, please do not hesitate to contact me using the information below:

Addis Ababa,

Soliyana Desalegn

solidesgen@gmail.com

0931087448

With kindest regards,

Soliyana Desalegn.

Respondents' Questionnaire

Questionnaire to be filled by employees (all levels) of Heineken Ethiopia S.C

In responding to each question, please put tick (√ or X) mark in the box which most explains your answer. Your genuine responses to all questions in the questionnaire have immense values to the study. No need to write your name. The information provided will be treated with strict confidentiality and will be used for academic purposes only.

Part I. Questionnaire related to demographic data

1. Respondent's Gender
   - 1.1.Female
   - 1.2.Male
2. Please indicate which age group you belong to
   - 2.1.18-26 Years
   - 2.2. 27-35 years
   - 2.3. 36-44 years
   - 2.4. 45-53 years
   - 2.5.54-62 years
   - 2.6.Above 62
3. What is your highest level of education?
   - 3.1. High School
   - 3.2. Diploma
   - 3.3. Bachelors' Degree
   - 3.4. Masters' Degree
   - 3.5. PhD & Others
4. Where are you based?
   - 4.1. Head Office
   - 4.2. Kilinto
   - 4.3. Bedele
   - 4.4. Harar
5. How long has it been since you established your relationship with the company?
   - 5.1. Less than 1 year
   - 5.2. 1-5 years
   - 5.3. 6-10 years
   - 5.4. More than 10 years
6. What is your management level?
   - 6.1. Managerial
   - 6.2. Non-Managerial
7. What is your involvement level in projects
   - 7.1. Project Coordinator
   - 7.2. Project Member
   - 7.3. Project Support
   - 7.4. Not Involved

8. How often do you engage with project stakeholders?
   8.1. Daily
   8.2. Weekly
   8.3. Monthly
   8.4. Rarely
9. Have you been an employee in other similar company as a major supply chain actor of beer producing company (technical logistics, engineering, quality assurance & control, contract etc.) that has implemented TQM?
   9.1. Yes
   9.2. No
10. How familiar are you with total quality management principles?
   10.1. Very familiar
   10.2. Somehow familiar
   10.3. Not familiar

Part II: Questionnaire related to TQM elements

In this section, please indicate your agreement or disagreement about the Total Quality Management dimensions for the following statements by putting a tick mark (√) in the appropriate box. Please note that 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree.

S/N	Items Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	**Leadership**					
1.1	Top management actively participate in Quality management activities					
1.2	Top Management encourages quality related concepts and skills					
1.3	Top Management strongly encourages employee involvement in quality management activities					
1.4	Top Management empowers employees to solve quality problems					
1.5	Top Management arranges adequate resources for employee's education & training					
1.6	Top Management discusses many quality-related issues in top management meetings					
2	**Workforce Focus**					
2.1	Employees are provided training and development programs.					
2.2	Employees take part in designing quality improvement activities					
2.3	Performance of employees is evaluated and measured					
2.4	Satisfaction of employees is measured					
2.5	Health and safety work environment is maintained for employees					
2.6	Employees participate in quality improvement activities as a culture					
3	**Customer Focus**					
3.1	Employees are trained on customer focus practices					
3.2	Attention to customer needs is key to organizational success					
3.3	Customers' complaints are given priority by the company					
3.4	The company performs market research to find out customer needs & always meet customers' requirements					
3.5	Customers have direct channels of communication with the organization					
3.6	Employees conduct customer satisfaction survey					

SN	Description/Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
4	**Measurement, Analysis and Knowledge Management**					
4.1	Organizational Performance evaluation system is in use					
4.2	Performance evaluation is conducted in consistent time interval.					
4.3	Data is collected at all levels of the operating company.					
4.4	Thorough analysis and review is done on the collected data					
4.5	Key performance figures are available for analysis and decision making.					
4.6	Findings from performance evaluation are used to develop action plans for continuous improvement					
4.7	Other operating company's' are used to benchmark product and procedures quality					
5	**Strategic Planning**					
5.1	Mission statement of the company that is supported by it's employees exists					
5.2	There is a comprehensive and structured planning process which regularly sets and reviews short and long term goals.					
5.3	When developing organization's plans, policies and objectives, thinking consumers first is practiced					
5.4	Tactical and strategic plans are linked to quality values					
5.5	Planning and continuous quality improvement programs are integrated					
6	**Operation Focus**					
5.1	Key work processes are developed					
5.2	KPIs are in place for monitoring purpose					
5.3	Daily work process report system is in practice					
5.4	Daily work process report system is monitored					
5.5	Multiple tools are used to improve process performance and reduce variability					
5.6	Two way communication exists with vendors					
5.7	There is a well prepared risk mitigation system that ensures continuity of the operating company					

Part III: Questionnaire on Project Performance

In this section below, please indicate your agreement or disagreement about the Performance of the Project for the following statements by putting a tick mark (√) in the appropriate box. Please note that 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree.

S/N	Items Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	**Cost Efficiency**					
1.1	Projects are completed within budget					
1.2	Resources are allocated effectively to minimize costs					
1.3	Cost-saving measures are implemented appropriately					
2	**Schedule Adherence**					
2.1	Projects are completed within the scheduled timeframe.					
2.2	Delays are minimized through effective planning and coordination					
2.3	Milestones and deadlines are met consistently					
3	**Quality of Workmanship**					
3.1	Work is completed to high standards of quality and craftsmanship					
3.2	Attention to detail is evident in project execution					
3.3	Quality control measures are implemented effectively					
4	**Stakeholder Satisfaction**					
4.1	Stakeholder needs and expectations are met or exceeded					
4.2	Communication with Stakeholder is clear and responsive					
4.3	Stakeholder express satisfaction with the overall project experience					
5	**Meeting the Intended Goals**					
5.1	Projects consistently achieve their stated objectives and contribute to the organization's overall mission.					
5.2	Projects effectively deliver tangible benefits to the intended beneficiaries and positively impact the communities.					
5.3	Projects consistently meet or exceed key performance indicators.					

Part IV: Questionnaire on Stakeholder Engagement

In this section below, please indicate your agreement or disagreement about the Performance of the Project for the following statements by putting a tick mark (√) in the appropriate box. Please note that 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree.

S/N	Items Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
1	**Stakeholder Engagement**					
1.1	Project managers are well-experienced in the stakeholder engagement process					
1.2	Project managers have full authority					
1.3	The project team is well committed to the stakeholder engagement process					
1.4	Stakeholder identification was done at the beginning of the project					
1.5	An area of interest was identified at the beginning					
1.6	The needs and expectations of stakeholders were explored					
1.7	The attitudes and behaviours of stakeholders were assessed					
1.8	Stakeholders influence was predicted at the beginning of the project					
1.9	Communication with stakeholders is maintained					
1.10	There is good management of information on sensitive and controversial issues					
1.11	Stakeholders are communicated to on the decision-making process early					
1.12	Proper and frequent communication with the stakeholders is maintained					
1.13	Information is disclosed transparently					
1.14	Continuous communication is maintained					
1.15	There is informed participation from all stakeholders					
1.16	Efforts were made to include project stakeholders in the planning stage.					
1.17	Consultation with stakeholders happens continuously in the project from introduction to implementation					
1.18	There is organizational flexibility in meetings and conferences					
1.19	Grievance management was planned					
1.20	Third party involvement where needed is practiced					
1.21	There is no conflict between the project objectives and the customers in the process of goal definition					
1.22	There is mutual trust and respect among stakeholders					

Thank you for your cooperation!