

**INFLUENCE OF TOTAL QUALITY MANAGEMENT ON THE  
IMPLEMENTATION OF CONSTRUCTION PROJECTS IN KENYA:  
A CASE OF KENYA POWER PENSION FUND, NAIROBI COUNTY**

**BY**

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Requirements for the Award of the Degree of Master of Arts in Project  
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**DECLARATION**

This Research Project is my original work and has not been presented for an award in any other university.

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This Research Project has been submitted for examination with my approval as the University Supervisor.

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## **DEDICATION**

I dedicate this Research Project to my mum Ambliana Mitito, Phanice Dabani my wife, my sons Allan, Gavyn and Zuberi and friends who accorded me the much needed moral support.

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## **ABBREVIATIONS AND ACRONYMS**

<b>ISO -</b>	International Organization for Standardization
<b>KPPF-</b>	Kenya Power Pension Fund
<b>KPLC-</b>	Kenya power & Lightning Company
<b>M-</b>	Mean
<b>NSSF-</b>	National Social Security Fund
<b>OD-</b>	Organizational Development
<b>RBA-</b>	Retirements Benefits Authority
<b>TQM-</b>	Total Quality Management
<b>SD-</b>	Standard Deviation
<b>SQC-</b>	statistical quality control

## ABSTRACT

The study seeks to examine the influence of Total Quality Management (TQM) on the implementation of construction projects in Kenya: A case of Kenya Power Pension Fund, Nairobi County. The objectives of the study were to determine the influence of management skills, establish the influence of employee participation, examine the influence of customer focus and to assess the influence of continual improvement in TQM in the implementation of construction projects for Kenya Power Pension Fund. The study target population was the Trustees, employees and members of the Pension Fund. Members of the Fund comprised of in-service members, retired members and deferred members. The sample elements for the quantitative research consisted of 82 in service members of the pension fund based in Nairobi, 4 Trustees and 7 members of staff of the Pension Fund. In this study, only primary Data was used. Primary data was collected using questionnaires. The questionnaires were pre-tested on some respondents first before being administered to ensure that the study's objectives would be achieved. The data was analyzed using the SPSS software and presented in figures and tables to give a clear picture of the findings at glance. The study established that TQM was adopted due to the expected benefits that would be derived from it which would in the long run ensure improved business performance. Moreover, the influence of management leadership in TQM in the improvement of construction projects at the Kenya Power Pension Fund was found significant. This especially so with regard to monitoring and fine tuning of the process as well as proper communication and communication channels during the implementation process. According to the results, the establishment of an environment that encourages employee efforts, give the responsibility and authority, reward, train and develop them affects TQM implementation. The conclusion of the study was that focusing on the needs of the customer is a major TQM implementation aspect. This can be achieved by establishing what customers expect and trying to meet such expectations in order to ensure their needs are satisfied. Continuous improvement process at the Kenya Power Pension Fund is necessitated by the increasing external demands. This has ensured that the organization checks on its products and processes in order to ensure quality in the changing needs. Lastly, there was a significant relationship between management skills, employee participation, customer focus and continual improvement and implementation of construction projects at the Kenya Power Pension Fund. The four independent variables together predict about 80.3% of the implementation of construction projects at the Kenya Power Pension Fund. From the outcome of this research, the following recommendations were drawn; Construction companies need to create conducive and flexible organizational atmospheres which encourage the development and growth of practices concerned with quality management in all aspects of construction industry. When executing projects, administrators of different construction firms need to be supported to use methods which apply to quality management. The study focused on construction companies which are in the service sector. Further studies need to be carried out with a focus on product sector such as manufacturing companies so as to obtain more comparative results.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1. Background of the Study**

The aim of every organization is to attain and maintain a sustainable competitive edge. This is only possible if an organization indulges in operations or produces products that are able to effectively compete in the market. Considering the current state of the market due to continuous competition and the varying customer demands and expectations, each organization needs to come up with different competitive strategies so as to continuously produce goods and services which meet and even exceed these expectations and demands. This calls for continuous quality improvement through participation of all stakeholders both internal and external customers of the organization (Salaheldin, 2008). Total Quality Management (TQM) is a management approach which can be used to achieve continuous quality improvement.

Many organizations have come up with quality initiatives across the globe. Toyota Company has for example developed the philosophies of putting ahead the customer needs and quality of the product. This has been done through setting up systems of quality assurance across various departments and divisions (Omware, 2013). In 1949, they introduced statistical quality control (SQC) followed by various initiatives on TQM without changing the principles of total participation and customer first. This quality initiatives enabled them to win the Deming Application Prize in 1965 and the Japan Quality Medal Award in 1970. Sony Company is determined to respect the viewpoints of their customers and remain committed to delivering quality products and services beyond the expectations of their customers and implementation of continuous and decisive efforts so as to enhance quality of its products and to continuously improve its quality management system (Sony Company, 2012).

Majority of the organizations in Kenya especially those in the service industry have in the recent past adopted quality programmes. Most public companies have for instance adopted the International Organization for Standardization (ISO) standards. For example Agricultural Development Corporation, Coffee Research Foundation, University of Nairobi Enterprises

and Services Ltd and Commission for Higher Education. The TQM concept pursues to safeguard the efforts to meet the required quality for product is organized and planned well. From construction company's standpoint, TQM in the construction of project means keeping the quality of construction work at certain standards which leads to long term competitiveness and customer satisfaction thus the business companies can survive for long (Rahman-Abdul, 2005). Olatunji et al., (2012) argued that TQM is used in the construction industry to mean phenomenon such as quality improvement, quality standards and quality assurance. They further state that the formal TQM model construction practices originated from Rome and Greece. McCaffer & Harris, (2001) further state that TQM practices are methods used by the managers in the implementation of quality policies which comprise planning, quality control, assurance and improvement.

The Kenyan pension scheme sector approximately amounts to KShs 200 billion which equates to 23% of the total GDP, retirement savings currently operated by National Social Security Fund (NSSF), Individual Retirement Benefit Schemes and sponsor –led schemes in Kenya. The formal retirement benefit sectors approximately covers 11% of labour force. The benefits of the retirement funds industry in the economy is the acceleration of domestic savings and boosting economic growth which stands currently at 13% has highly been recognized by the Government of Kenya.(Kenya Power Pension Fund, 2012).

The Kenya Power Pension Fund has significantly benefited from strong Kenyan real estate market over the past years. The Fund developed Runda and Loresho housing projects to unlock the value of the asset class and also to achieve its key objective of optimizing returns for its members. It is in this regards that Sakile Properties, a property development brand under the Kenya Power Pension Fund was established. It is the vehicle through which the Kenya Power Pension Fund invests member's contributions in the real estate sector. Through deliberate efforts of the Board of Trustees and Kenya Power, a restructuring program was considered and executed. The restructuring included the injection of additional funds to the Pension Fund by the Sponsor, adoption of prudent investment strategies and enhancement of TQM practices by the Trustees (KPPF, 2010). The Board of Trustees in their strategic plans for the periods 2006 to 2010 and 2011 to

2015 had identified an establishment of best practice governance structures as among the key strategic objectives for the Pension Fund.

The Kenya Power & Lighting Company Limited (KPLC) as a Sponsor established a Staff Retirement Benefits Scheme (Pension Fund) by a Trust Deed dated 1 January 1971. The Pension Fund was formed for the employees of Kenya Power then known East Africa Power & Lighting (EAPLC) Company Limited (Kenya Power Pension Fund, 2012). Following an actuarial valuation undertaken at the end of the year 2002, the Pension Fund was determined to be financially unviable and the Sponsor gave notice to the Trustees of its intention to discontinue making contribution to the Pension Fund. The Pension Fund which had accumulated an actuarial deficit of Kshs. 5.2 billion and required major restructuring to enable it meet its obligation of paying retirement benefits to its members (Kenya Power Pension Fund (KPPF, 2010).

## **1.2. Statement of the Problem**

The whole cycle in a construction project commences with project identification which is destined to meet an organization need. This is followed by project planning, project design, implementation, project closure and project handover. When the investor plans to develop, he engages consultants to support in the design of the project. These consultants include Architects, Quantity Surveyors, Engineers, sociological and environmental experts. The list may change depending on the project to be undertaken. Bennett and Gordon (1990) state that the design should ensure that design features factor in site constraints, construction speed, labour availability and competitive prices. When the design is put out it largely defines the project scope. Project implementation varies among various options. A project could be implemented as a public private partnership (PPP), Design Built Finance Operate (DBFO), Built Operate Transfer (BOT) or leasing type projects. With nonexistent or inefficient procedures in Quality Management, huge expenditures on money, resources and time go to waste in project constructions (Chi and Rounds, 1985) .

TQM adoption by most organizations has not been successful due to failure to comply with TQM implementation procedures and principles. While some organizations, control TQM like a programme and expect it to magically execute events, others have a halfhearted -approach to it by using some of its principles' bits and pieces. This has led to

the failure of most organization to meet their targets in ideology implementation (Soltani, 2005). It is however been advised that Pension schemes to embrace quality management principles and implement them successfully in their projects to be able to delight their customers through efficient quality services. As opposed to the manufacturing companies, the service sector has lagged behind not only in terms of implementing the standard, but also in embracing the associated concepts of total quality management and continuous improvement (Choi and Eboch, 1998).

Oriare (2011) examined the application of TQM and recognized that even though the quality management has been adopted within an organization, TQM and its fundamental assumptions could also be appropriate in strategy management. Mwangi, (2013) in his study on the Analysis of the impacts of total quality management strategies adopted by Kenya's educational institutions on the quality of education in Kenya established that participants including non -governmental organizations (NGOs) continue to focus on TQM practices. Omagwa (2011) studied TQM in secondary schools in Kenya and found out that Board of Managements and chairpersons in secondary schools were not providing leadership that would promote TQM practices necessary for schools' continual improvement.

Although a number of studies had been done on the concept and context of quality management, none had been done within the context of pension schemes in Kenya in particular, Kenya Power Pension Fund. This creates a knowledge gap with regard to the study and thus more studies need to be conducted to fill the gap. Thus the current study sought to fill the gap by finding out how TQM influences implementation of construction projects in Kenya: A case of Kenya Power Pension Fund in Nairobi County.

### **1.3 Purpose of the Study**

The purpose of the study was to examine the influence of TQM on the implementation of construction projects in Kenya: A case of Kenya Power Pension Fund in Nairobi County.



#### **1.4 Objectives of the Study**

The following were the objectives of the study;

- i. To determine the influence of management skills in TQM on the implementation of construction projects for Kenya Power Pension Fund in Nairobi County.
- ii. To establish the influence of employee participation in TQM on the implementation of construction projects for Kenya Power Pension Fund in Nairobi County.
- iii. To examine the influence of customer focus in TQM on the implementation of construction projects for Kenya Power Pension Fund in Nairobi County.
- iv. To assess the influence of continual improvement in TQM in the implementation of construction projects for Kenya Power Pension Fund.

#### **1.5 Research Questions of the Study**

The research questions for the study were:

- i. How do management skills in TQM influence the implementation of construction projects in Kenya for Kenya Power Pension Fund in Nairobi County?
- ii. How does employee participation in TQM influence the implementation of construction projects for Kenya Power Pension Fund in Nairobi County?
- iii. How does customer focus in TQM influence the implementation of construction projects for Kenya Power Pension Fund in Nairobi County?
- iv. How does continual improvement in TQM influence the implementation of construction projects for Kenya Power Pension Fund in Nairobi County?

#### **1.6 Significance of the Study**

The research findings and recommendations are useful in literature enrichment and identification of areas of further research in TQM. The study may be of significance to a number of stakeholders. It will yield to data and information useful to pension schemes

management in assisting them in implementing quality management in pension schemes in the country. The top management of pension schemes may be able to demystify implementation of quality management in all levels and activities of the institution and to institute a quality department if it is non-existence or improve towards ISO 9001 certification. Government policy makers especially those in charge of pension schemes may be able to get insights on areas that need more attention in terms of quality management implementation practices in the institutions for enhancement of better service delivery in various Funds in Kenya. Findings of the study recommendations are an addition to the field of knowledge.

### **1.7 Delimitations of the Study**

The study concentrated on the influence of total quality management in the implementation of construction projects for Kenya Power Pension Fund in Nairobi County. This study used a sample size of 93 respondents out of a population of 613. The key respondents were the Trustees, employees and in service members of the Kenya Power Pension Fund based in Nairobi office.

### **1.8 Limitations of the Study**

The major limitations of this study were the unavailability of the respondents and especially the trustees to fill the questionnaires due to their busy schedule. The researcher solved this problem by having an appointment with the trustees in advance for them to fill the questionnaire. Another limitation was getting permission from the management to carry out a research focusing on the Pension Fund. The researcher sought prior permission from the management before the actual data collection period. Collection and data analysis was difficult due to lack of time as the researcher is an employee with targets to meet. The researcher however took leave to allow him adequate time to complete the research. Working shifts by the members of the Fund particularly those in the customer service department were likely to affect the administration of the questionnaires. Purposive sampling method was adopted to address the challenge. Some respondents provided general information instead of authentic information making it difficult to obtain the required information. To curb this, the researcher used both open and closed ended questions to obtain direct answers.

## 1.9 Assumptions of the study

The following assumptions were made. The first it assumed that the sample closely represented the population. The second was that the data collection instruments were valid and reliable. The third assumption was that there was a certain level of adoption terms of ICT in the sample and hence in the population.

## 1.10 Definition of Significant Terms as Used in the Study

**Continual Improvement:** The progressive improvement in organizational effectiveness and efficiency of the projects implemented by the Fund.

**Customer focus:** Understanding of current and future needs of the customer and the aim to exceed the expectations of the customer.

**Employee Participation:** This is the process of engaging the employees in the decision making process as opposed to responding to instructions. Participation of the employees involves empowerment in the workplace.

### Implementation of

**Construction Projects:** Means construction projects are being implemented by all the players, like government agency, consulting company, contractor and local community members. All the players are getting involved in all kinds of construction activities.

**In-service Members:** These are persons who are employed by Kenya Power (the sponsor) on permanent and pensionable terms and are currently based in head office Nairobi.

**Total Quality Management:** This is a philosophy, a way of thinking and working which is concerned with meeting customer requirements and expectations and applies to all departments and sections in an institution.

### **1.11 Organization of the Study**

This research project is consolidated in five chapters. Chapter One consists of the background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, delimitations, limitations and basic assumptions of the study as well as definition of major terms as used in the study. Chapter Two covers literature review which encompasses; the concept of total quality management, Management Skills, Employee Participation, Customer Focus, Continual Improvement, theoretical framework and the conceptual framework linking the dependent and independent study variables and a summary of the entire chapter. Chapter Three constitutes the research methodologies, which include, target population, research design sampling procedure and sample size, data collection procedures, research instruments and data analyses techniques. Chapter Four presents and provides an analysis of the data collected while Chapter Five provides a summary of findings, discussions, conclusions and recommendations and suggestion for further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents a literature review. Relevant literature on the concept of total quality management, basing on objective, theoretical framework and the conceptual framework are explored and a summary of the entire chapter.

#### **2.2 The Concept of Total Quality Management in Project Implementation**

Quality constitutes the main aim of standardization. A product's quality and its other constructions is sum of the attributes it entails which enable it to carry out specific duties or to fulfill some needs in a manner that is satisfactory within specified time spans. Satisfactory products are essential on themselves but not necessarily sufficient in building and construction. Thus quality needs to be included in the design appropriately. Failures and defects in buildings occur due to shortcomings in how products are treated during designing and construction rather than shortcomings in the products themselves (Atkinson, 2005). Quality Management has continuously evolved from reacting to the output of the activities in the production site to being a whole rounded strategic function of a business contributing to the group of construction companies referred to as *raison d'être*. A construction company cannot compete effectively in the modern construction model unless it guarantees its clients of a quality product (Harris et al 2006)

The meaning of the concept of quality has evolved over time despite it having been in existence for many years. Quality management then meant inspection of products to ascertain that they met some specifications before early twentieth century (Sanders & Raids, 2007 cited in Sabah, 2011). This evidence of measurement was shown in the Egyptian wall painting circa of 1450BC. The stones which were used in the construction of the pyramids were properly cut sight that a knife wouldn't penetrate through it (Lindsay and Evans 2008 cited in Sabah 2011). Quality became more statistical in nature during World War II (Reid and Sanders (2007). During this period, Statistical sampling techniques were used in quality evaluation, and production process was monitored using

quality control charts. The concept took a wider dimension in the 1960s through the help of “quality gurus,” Quality began to be seen as an element not only affecting the production process but the whole organization. Thus all functions were accountable for quality of the product and carried the burden for low quality. Between the 1970s and 1980s most industries in the U.S. however amended the quality policies that were in place after losing market share as a result of foreign competition. As a result they formed programs and engaged consultants to train members on quality (Sanders & Reid 2007 cited in Sabah 2011).

Hoonaker, (2006) found out that most construction organizations faced a lot of challenges due to lack of management practices. The clients in the industry were progressing and demanded faster buildings, technological innovations and improved service quality. Wiltshko & Khaufmann, (2006) maintained that Quality Management idea was perceived to be generally organized in conformance to the “International Organization for Standardization, Plan, Do, Check, Act (PDCA) cycle. They further defined Quality management as coordinated activities to direct and control an organization with regard to quality according to EN ISO 9000. Control and direction in conjunction to quality involves coming up with quality, objectives, policy, control, assurance, improvement and planning: Quality planning seeks to set quality objectives and specify necessary operational processes and the resources required to fulfill the quality objectives. Quality control aims to fulfill quality requirements whereas quality assurance seeks to provide confidence that quality requirements will be fulfilled and finally quality improvement seeks to increase the ability to fulfil the quality requirements.

Formal quality management systems provide a tool for quality achievement if effectively implemented .ANSI defines a quality system as the organizational structure, responsibilities, procedures, processes, and resources for implementing quality management (Arnold, 1994). Quality management systems basically refer to the combination of activities involved in production, processes, or services, and involves appraisal and prevention (Burati, 1992). This is a management discipline concerned with preventing problems from occurring by creating the attitudes and controls that make prevention possible (Crosby, 1979). Determining quality policy and objectives and

implementing them through quality; planning, control, improvement and assurance within the quality system are all quality activities (ASQC, 1997, Battikha 2002). All these activities must function together to make the system complete and isolation or study of each of them separately won't lead to proper understanding of the system.

QMS targets to produce quality goods as opposed to defecting products or services after being already produced. It further states that proper documentation of QMS ensures that the following vital requisites are achieved: Customer requirements – which is the confidence in the organization's ability to consistently give its customers the desired products and services to meet the needs of their customers. The requirements of the organization – which must optimize the use of available resources both internally and externally—human, technology, information and materials.

In construction, quality control process verifies that projects are built on plan, against set standards to achieve a complete product in line with the quality standards of the engineer, architects, general contractor and owner. There are many subcontractors in construction projects who have specific responsibilities. Project managers cannot be everywhere at once in the bid to maintain quality standards thus the need for inspections by relevant authorities and counties which helps to make sure that code and safety issues are taken into consideration. A good general contractor or developer will engage someone who will be responsible for monitoring the construction to ensure that compliance, and maintenance of continuing list of corrective items has been concluded before the completion certificate is granted to the contractor.

Quality Control (QC) technicians generally maintain a very detailed binder, separated by rooms, phases and the areas of the project with notes of items which must be either verified or corrected with sign-off as each is accomplished. This binder is part of the project record and is an essential element to project completion on time and maintenance of the expected quality. The most vital ingredient in successful and sustainable improvement is the criteria of introducing and implementing change. According to ISO 9000:2000 quality improvements is part of quality management focusing on enhancing the ability to achieve quality requirements.

### **2.3 The Management Skills in Project Implementation**

Hoonakker, P, Carayon, P, Loushine, T. (2010) stipulated that projects management support or any implementation, has been considered for long as being an important factor in the distinguishing between their failure and final success. Beck (1983) perceives project management as the conduit for implementing top management decisions and do not only depend on top management for authority, support and direction. According to Manley (2005) the top management's level for a project significantly leads to variations in the acceptance level of the stakeholder to the product or project. For classifications purposes, the level of support of the top management refer to the nature of support the project manager expects from the management .This applies to both the project and for him as a leader. The support of the management on the project may involve aspects such as sufficient resource allocation, which can be either man power, financial or time and the confidence of the project manager in their support just in case a crisis occurs. Top management support and leadership are the most critical success factors (Baseliner, 2001, Schmidt, 2001).

Poon (2001) suggests that leadership and top management support need to be treated as a meta-factor which involves various factors. Peppard and Ward (2002) exposition three computing eras suggest that top management support has evolved from just being a critical success factor to becoming the critical success factor (Lucas ,2005). The biggest IT projects risk is failure to deliver the benefit for every business. For any benefits to be realized, there is need for organizational changes which generally require the support of the top management (Markus, 2000; Cooke and Davies, 2002). The main responsibility of the upper management is the organizational leadership. Upon proposal of new projects, it is vital that the senior management of the organization show their full support, provided the new initiatives are in line with the strategies, goals and objectives of the company, at least one senior management personnel must be present to monitor the plan.

Kuen (2009) in his study on most important factors which influence success in projects amongst Malaysian companies, found out that the support of the top management positively relates to indirect success in many projects. Kerzner (1987) also found out that if top management offer visible support and commitment, a project is likely to be



successful. The usefulness of top management support as the clarity of goals throughout the stages of project implementation and as active stake holders are essential factors which need to be present so that the output of the project is successful (Kuen, 2009). Adequate communication channels are vital in creating a conducive project implementation atmosphere. Communication is essential both within the project team and the rest of the organization as well as the stakeholders. Communication that has been developed for the model not only refer to a feedback mechanisms, but also the tool for information exchange between stakeholders and entire organization concerning policy change and procedures, status reports and project goals (Bavelas, 1968). In their study, Kuen, (2009) established that effective communication alone was not related to project success. This could be due to the fact that this element is included in other success factors. The element of communication embedded in the stakeholder acceptance factor and other success factors such as the mission of the project, competency of the personnel and top management support which has led to success of projects in the manufacturing sector.

Esteves and Pastor (2011); Bhatti (2015), on the other hand, consider communication as an important success factor for the implementation of the information systems. Another essential role of a senior manager is to ensure that projects fit within vision of the company. According to Hoonakker, P, Carayon, P, Loushine, T. (2010), the most important contribution that can be made by any project manager or an organization is to create and clearly communicate a shared vision. They continue to say that senior managers should be willing to make them available so as to discuss the project's objective and vision and how they are related to the goals and objectives of the organization. The most challenging task in any project is communication and it is considered as a critical factor of success for project implementation by most authors. It is important for creation of understanding and approval of the implementation and information sharing between the project team and communicating to the entire organization the results and the goals during each stage. In addition to gaining approval and user acceptance, communication will allow the implementation to initiate the necessary final acceptance. From a budgeting perspective, Souder (2012) emphasizes the need for continuous monitoring and adjustment of the implementation process. The

model considers monitoring and feedback to pertain both the project budget and schedule and monitoring performance of project team members.

#### **2.4 The Employee Participation in Project Implementation**

Cooke-Davies (2012) in a study of the real success factors in projects found that it is crucial to note that the personnel aspect of the project implementation had been ignored. The fact that neither of the 12 important factors of success studied is concerned directly with human factors, though the people are beginning to realize that it is them who delivers projects and not the systems or processes. Lechler (2012) in agreement, titled his paper, it's the people that count when it comes to project management. Organizations undertaking projects comprise different departments of the organization and this is no different in Pension Fund. The project team should be whole rounded, balanced and consist of a mix of external staff and consultants to enable the organization to develop the required technical skills for designing and implementing projects. According to a survey by Stratum and Roth (2012), having members who are competent in the project team is the fourth most vital factor of success in project implementation.

The findings of a study by Kuen, (2009) on essential factors affecting the success of projects amongst Malaysian manufacturing companies, revealed that the competence of project personnel directly affect the success of a project. A complete and appropriate project team comprises of a project leader and members who are categorically chosen and trained and possess the relevant skills, experience and knowledge to handle the project demands. Upon the completion of the project and its introduction to the consumers, the team members' ability to convince and sell its benefits is vital as it ensures that the project is openly accepted by the stakeholders.

Cooke-Davies (2012) while looking at the real success factors in projects established that people's involvement in every process cannot be under estimated as they are engaged in almost all the important factors pertaining the project's success including their role in determining that all processes have been adequately carried out. Thus, project personnel competence significantly contribute to success of the project in manufacturing. This is backed by the outcome of an empirical research conducted by Tukel and Belassi (2011)

where the skills of the project manager were found to be the most critical factors in manufacturing projects.

Moreover, implementation effectiveness is affected by the traits of the individuals in the project team and how they relate to quality and how they understand the needs, priorities and requests of the stakeholders (Clements and Gido, 2010). Self-managed working teams are special in that the team is fully responsible for its work. It is described as a technique that gives workers the responsibility to organize, regulate and control the various conditions and aspects of their jobs so as to have effect on the outcome (Roper and Phillips, 2007). Everyone in the team is expected to vest interest in the overall success of the project and does whatever is expected of them during their tenure at the project. However, these teams require a lot of time to be formed and become effective and efficient channels through which project success rates can be increased.

Roper and Phillips (2007) state that members who are not experts in the autonomous environments need to be supported through team building and training to enable them to function well on their project teams. Possession of strong interpersonal skills is an important part of a well manned team work environment. Team members should be objective, engage in active listening and support even varying viewpoints and appreciate individual team members' success within an organization. Roper and Phillips (2004) continue to say that, despite the fact that they should efficiently function as a team, they should consider outward forces since they need the support of those who are not part of their project work team.

## **2.5 The Customer Focus and Total Quality Management**

A fundamental principle in TQM is that all processes and products must exhibit a customer focus. Customers should always value quality in accordance to their expectations and needs (Oakland, 2009; DeToro and Tenner, 2012, Dahlgard, 2014). This implies that the level of market competition relatively determines quality level .Each organization needs to dedicate its energies to satisfying its customers' needs. This should be a continuous long-term effort since each products' quality is easily weakened if a better and more competing product is introduced in the market.

To focus on the customer means, therefore, that individual attempts to discover the customers' requirements and standards by conducting market research and then trying to accomplish the expectations of the market while steadily manufacturing and developing the product. Customer focus is not only applicable to the external customers but also internal customers within the organization. In order to satisfy external customers, the internal customers also need to be satisfied (Oakland, 2009; Tenner & DeToro, 2012; 2014; Bergman & Klefsjö, 2003).

A vital element of TQM is to make decisions on the basis of available facts and prevent minor factors from affecting decision making. This calls for knowledge regarding ability to control and handle variation (Deming, 2004). The Six Sigma improvement program, which originated from Motorola in the 1980s, is an approach for considering variations within an organization (Harry, 2004). Most new products are not successful in the market (Kotler, 2006). This further illustrates the importance of the production and production processes in development of processes based on facts related to the experiences of the customer and the current and future needs of the customer (Klefsjö and Bergman, 2003).

The numerous measurements needed to acquire these facts are classified as the customer satisfaction surveys and this includes measurements of market position, employee satisfaction, operating measurements and product development (Klefsjö & Bergman, 2014) and Dahlgaard et al. (2014). Then organization can then be able to measure its performance based on the described information and compare its performance to those of its competitors and choose the most convenient action.

## **2.6 The influence of Continual Improvement**

It is not just sufficient for an organization to perform better than it did previously. A firm faces external demands which are continuously increasing. Thus an organization must continuously aim at improving the quality processes and products (Imai, 2007; Klefsjö & Bergman, 2003). This continuous improvement of the processes results in the achievement of customer satisfaction, which in turn leads to improvement of external quality. This process' continuous improvement leads to few defects and whose outcome

is the improvement of internal quality (Dahlgaard et al., 2014). The Deming cycle is a process improvement model which serves as a symbol of continuous improvement. The PDSA cycle entails the following four phases- plan, do, study and act (Deming, 2004).

Most of the activities within organizations can be viewed as processes which implies to a recurring sequence of activities (Klefsjö and Bergman, 2003). This process' aim is to produce services which effectively meet the requirements of the customer. The importance of focusing on processes is because it directly affects results thus the result is a dependent variable. The results depend on the followed process thus we can say that results are determined by processes (Shiba et al., 2013). The data generated by the process indicate how well the process is satisfactory to its customers. Thus we should not ignore any information for example customer complaints but treat it as statistics which could provide information on how the process is functioning and how it can be improved (Klefsjö & Bergman, 2003). The process of orientation and focus has dwelled a lot in the improvement of Six Sigma model.

## **2.7 Theoretical Framework**

This is the structure that holds or supports the theory of a research study. This is through introducing and describing the theory that explains why the research problem under study exists. This study was guided by Goal Setting Theory and Project Management Competency Theory (Eisenhardt, 1985).

### **2.7.1. Goal - Setting Theory**

People are motivated to work harder when they have a target (Baron and Greenberg, 2000). Goals guide employees on what needs to be done and the effort it involves. This widely used in the construction industry since the work output is used to measure productivity per day. Block layers for instance have to lay a specified number of blocks to claim pay for work done. This related directly to the goal setting theory concept which assumes that individuals are committed to attaining their goals and neither to lower nor abandon it. Locke, (2010) observes that goal setting motivates employees and focuses behavior. This occurs when goals are made public, this phenomenon is experienced mostly in construction industry. Resistance is note-worthy when goals are challenging to

achieve. This theory is relevant to the current study in that it will help the researcher to analyze how team motivation through piece work targeting the influence of project implementation. This theory's assumption is that perception of the construction worker of the value of the incentives that come together with them is vital in improvement the job performance in effect determines implementation of the project .

### **2.7.2. Project Management Competency Theory**

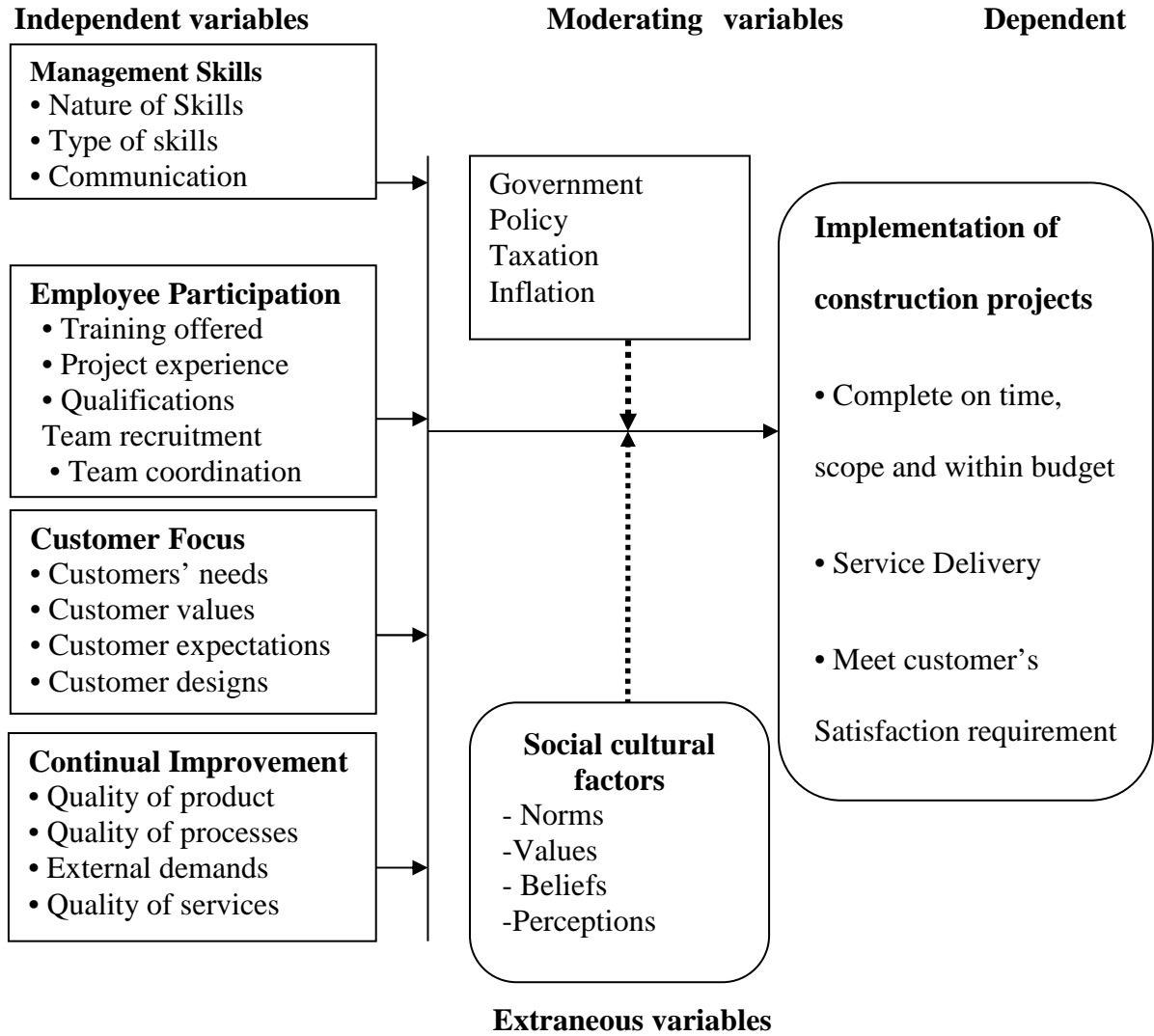
The competence theory was established in the 1980s by McClelland & McBer. The two authors described competence as the main factor determining the effectiveness of the performance of an individual when performing a task. Many competence frameworks have been formed since then by different project management institutes Crawford (Boyatzis, 1982 & Spencer, 1993), formulates a competence model which combines skills, knowledge, personality characteristics, core personality characteristics, assessing and training. She argues that most influential standards of project management, the PMBOK, only address the knowledge aspect of competence while the third, National Competency Standards of Australia, draws from knowledge but focuses on performance that can be demonstrated.

This theory was useful to the current study in that it helped the researcher to determine how the human resource in the project construction are competent enough to handle the ongoing process of construction projects. The theory also helped the researcher to identify how team building helps achieve the objective of a project.

### **2.8 Conceptual Framework**

Conceptual framework is defined as the result of when a researcher conceptualizes the relationship between variables in the study and shows the relationship graphically or diagrammatically (Mugenda and Mugenda, 2003). In the study, the dependent variable is implementation of the construction project whereas the independent variables are the factors influencing the adoption of TQM including: management skills, Employees satisfaction, customer focus and continual improvement. The connection between the depended variables and independent is moderated by government policy and tax inflation while the extraneous variables was socio cultural factors. Based on the discussion of the

aforementioned variables, the study was guided by the following conceptual framework stipulated in figure 1.



**Figure 1: Conceptual Framework**

## 2.9 Knowledge Gap

**Table 2.1: Summary of Knowledge Gaps**

<b>Author</b>	<b>Findings of the study</b>	<b>Knowledge Gaps</b>	<b>Focus</b>
Zakuan et al (2012)	Positive relationship between top management commitment and TQM implementation	The study was not specific to any organization.	Critical factors of success in TQM implementation
Moono and Kasongo (2010)	Positive relationship between top management commitment and TQM implementation	Further studies are recommended on how quality standards on the organizational level are affected by marketing systems	Factors which led to successful TQM implementation
Hassan, Mukhtar, Qureshi and Sharif (2012)	Successful adoption and implementation of quality management systems practices lead to improvement of the organizational performance.	The study does not indicate the specific quality management practices that enhance performance	The association between quality management performance and practices i.e. organizational performance
Mwaniki, & Bichanga (2014)	The findings of the study indicated a positive relationship between top management involvement, process and supplier relationship and financial performance.	This study was limited to establishing how the pillars of TQM, namely supplier relationship, customer relationship, processes and top management involvement relate to financial performance.	Effects of total quality management on banking sector's financial performance: a case study of national bank of Kenya.



<b>Author</b>	<b>Findings of the study</b>	<b>Knowledge Gaps</b>	<b>Focus</b>
Otieno (2015)	The study established that adoption of ISO 9001:2008 QMS in roads Authorities requires Adequate Resources, Relevant, Timely and all-inclusive Training of the Staff, Top Management Commitment and a need to identify the Perceived Benefits an organization expects to enjoy on successful certification.	The study has subsequently suggested that more factors influencing adoption of QMS should also be considered for study apart from those that have been explored in this research.	Factors influencing the adoption of ISO 9001:2008 Quality Management System, (QMS) adoption in Kenyan Roads Authorities, KeNHA, KURA and KeRRA

## **2.10 Summary of Literature Review**

The chapter has looked at the relationship between organization performance and TQM practices as presented by previous literature in service organizational setups and found that TQM practices such as the commitment of the top management; training, employee involvement, quality costs, supplier quality, quality techniques, quality techniques, customer satisfaction and benchmarking lead to higher quality performance and productivity. There are several theories that have been used to explain the rationale for TQM and organization performance. Finally the Project Management Competency Theory defines competence as the main qualities of an individual who is causally related to criterion referenced effective or superior performance in a job. The chapter formed a basis for the comparison between the findings of this study and past literature to discover any similarity or differences in findings.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter stipulates the methods and tools that were used in collecting the available data. It included the target population, sample size, research design and sampling design, Research Instruments, Data Collection Procedure, and Data Analysis Techniques.

#### **3.2 Research Design**

Kombo and Orodho (2015) suggests that a research design is a tool used in ensuring that all the vital parts of the research project function together to address a central research questions. The research adopted descriptive survey design method to collect the data. This method implied an in-depth investigation of an individual, institution or phenomenon. The design attempted to describe the subject under study through creation of profiles of a group of problems, people or events, data collection and tabulation of research variable frequencies and their interaction. Descriptive survey design was thus suitable as the study sorted to determine the influence of total quality management on the implementation of the construction projects, a case of Kenya Power pension Fund without altering the environment or variables, and as postulated by Zikmund (2003), survey provided a fast, inexpensive, efficient and accurate way of investigating the population as it is convenient and allowed faster collection of data through questionnaires on information that could not observed easily.

#### **3.3 Target Population**

Studies done by Mugenda and Mugenda (2003) define population as the entire group of individuals or items being studied in any field and have a common attribute. This study's population was the Trustees, employees and active members of the Kenya Power Pension Fund based in head office Nairobi County whose total number is estimated at 616 as shown in Table 3.1.

**Table 3.1: Target Population**

<b>No.</b>	<b>Distribution</b>	<b>Frequency</b>
1	Trustees	11
2	Employees	22
3	In service members based in headquarter offices	583
<b>Total</b>		<b>616</b>

**Source: Kenya Power Pension Fund (KPPF) Fund Master System, 2015**

### **3.4 Sample Size and Sampling Procedures**

#### **3.4.1. Sample Size**

A sample size is the number of elements in a study, (Malhotra, 2004). This study's target population was 616. Mugenda and Mugenda (2003) describes a sample size of between 10 and 30 % as a true representation of the total target population and thus a 15% of the target population was adequate for analysis. This study therefore used a sample size of 93 respondents out of a population of 616. The sample elements consisted of 82 in-service members of the pension fund based in headquarter office, 4 Trustees and 7 members of staff of the Pension Fund. The study sample size was sufficient as categorical variables such as gender, level of education, socio economic backgrounds and cultural beliefs and norms of the respondents were taken into consideration meaning that the sample size despite being small was deemed representative of the population.

**Table 3.2: Sample Size**

<b>No.</b>	<b>Distribution</b>	<b>Frequency</b>
1	Trustees	4
2	Employees	7
3	In service members based in headquarter offices	82
<b>Total</b>		<b>93</b>

**Source: Kenya Power Pension Fund (KPPF) Fund Master System 2015**

### **3.4.2. Sampling Procedures**

Burns and Grove (2003) refers to sampling as the selection of part of the population as a representation of the entire population and the findings represent the total population. In this study both probability and non-probability sampling techniques were used. Probability sampling is based on the random selection concept which is a controlled procedure which ensures that all population elements are given a chance of selection while non-probability sampling is a selection of participants based on the researcher's judgment based on the participant's knowledge of the phenomenon (Cooper and Schindler, 2003). Members of the pension fund were sampled by the use of probability sampling criteria while the Trustees and employees were selected by the use of non-probability sampling. Members of the Pension Fund were sampled using simple random sampling to increase the sample's statistical efficiency. Simple random sample is a subset of a statistical population in which each member of the subset has the same chance of being chosen (Burns and Grove 2003). Simple random sampling was used to avoid biasness and every individual to have equal chances of participating. Cluster sampling was also used where entire population was divided into discrete groups and a random sampling selected. This ensured that special groups were considered and they had an equal chance of being utilized in this study.

### **3.5 Research Instruments**

In this study primary data was used. Primary data was collected using questionnaires. Questionnaires are more uniform and standardized than interviews, and are less susceptible to biases due to deviations from instructions and method of administration (Cooper and Schindler, 2003). The questionnaire consisted of two parts: Part A focused on the respondent's demographics and Part B comprised of four sub-sections covering the research objectives.

#### **3.5.1 Pilot study**

Pilot study is the trial of the data collection instruments using a small population to establish whether the instrument captures and clarifies well the desired information (Beck and Polit, 2006). So as to ensure that the research instrument was reliable and valid, a pre-test on 1 Trustee, 1 employee and 3 member of the Pension Fund was undertaken to check

the clarity of questions and identify the questions that were not acceptable. Adjustments were made as per the outcome of the pre-test results. Data obtained during the pre-test was not included in the analysis of the study. After the pilot test, the instruments were fine-tuned and redesigned on the basis of the feedback that the researcher received. In terms of validity, both content and criterion-related forms of validity were undertaken. On the other hand, stable reliability was considered before actual research was undertaken.

### **3.5.2 Validity of the Research Instruments**

Validity is the degree to which data analysis results truly represents the phenomena being studied (Mugenda and Mugenda 2003). Validity of the tools used in data collection ensures that the items being measured are a representation of the study area while content validity ensures that the tool measures what needs to be measured (Wallen and Fraenkel, 2000). The pilot study made it possible to pre-test the research instrument. The validity and reliability of the instruments items was enhanced through clarity of the instrument items. The pilot study also enabled this study to familiarize with research and its administration procedures through identification of items which needed to be modified. The results enabled the study to rectify inconsistencies resulting from the instruments, which ensured that intended measurements were captured.

### **3.5.3 Reliability of the research Instruments**

A reliable instrument produces the same output when repeatedly used in collection of the same data from a similar sample chosen from the population (Orodho, 2005). Reliability analysis aims at finding out how far a measurement procedure will produce the same result if the process is repeated over and over again under the same conditions (Toke et al., 2012). An instrument is said to be reliable when it accurately and consistently measures a variable which is repeatedly used under same conditions. A questionnaire's reliability is concerned with the consistence of responses to the questions of the researcher (Mitchell, 1996). The study used Test retest method where the questionnaires were presented to the respondents twice. In the first instance the researcher presented the questionnaire to the respondent to fill. After several days the researcher presented the same questionnaires to the respondents and the results of the two outcomes were compared to determine the reliability of the questions.

The research instrument's reliability was evaluated using administration of the mentioned instrument to the pilot group. The most common measure of internal consistency known as Cronbach's alpha ( $\alpha$ ) was used by the researcher. This measure indicates the level to which the items to be tested are treated as measurements of single latent variables (Cronbach, 2002).

Cronbach's  $\alpha$  is defined as

$$\alpha = \frac{N}{N - 1} \left( 1 - \frac{\sum_{i=1}^N \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

Where;

$N$  is the number of components (items or testlets),  $\sigma_X^2$  is the variance of the observed total test scores, and  $\sigma_{Y_i}^2$  is the variance of component  $i$ .

Alternatively, the standardized Cronbach's  $\alpha$  can also be defined as

$$\alpha = \frac{N \cdot \bar{c}}{(\bar{v} + (N - 1) \cdot \bar{c})}$$

Where  $\bar{v}$  equals the average variance and  $\bar{c}$  is the average of all covariances between the components.

A reliability coefficient of 0.75 will indicate the items' internal consistency which measure the concept of interest (Frankell and Wallen, 2000; Mugenda and Mugenda, 2008). The suggestions made by the respondents on words and phrases that were not clear were incorporated in the final instrument.

### 3.6 Data Collection Procedures

This is a systematic process through which the researcher gathers relevant information so as to realize the objectives of the research (Burns & Grove, 2001). The data collection exercise was scheduled for one month. Prior to field activities, the researcher obtained an introduction letter from The University of Nairobi and sought permission from National Commission for Science, Technology and Innovation to carry out the research at Kenya Power Pension Fund. The research questionnaires had the option of indicating or not indicating the identity of the respondents. The researcher further explained the intention of

carrying out the research and was given an authorization letter from the organization under study before beginning the process of data collection and thus the participation in the study was through voluntary informed consent.

### **3.7 Data Analysis Techniques**

An in-depth quantitative analysis of the content of the responses was carried out. Thereafter, the data was cleaned to ensure completeness of the information obtained. The structured data was analysed using SPSS software and presented in figures and tables to give a clear picture of the findings at glance. The qualitative data obtained was analyzed by using the constant comparative method which comprises of transcribing, coding and categorizing the data into different sets and then comparing them. The similarities and differences of the formed categories were critically analyzed with the aim of finding out the actual meaning of the data. Upon compiling the two sets of data, the researcher merged the results by directly comparing the separate results and interpret the extent to which the two sets of results relate so as to create a broader understanding in response to the overall purpose of the study of showing the influence of total quality management in the improvement of construction projects in Kenya.

#### **3.7.1 Analytical Model**

The Multiple regression analysis was used in this study as stated below;

$$(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon):$$

Whereby Y = Implementation of construction projects in Kenya

X<sub>1</sub> = Management skills

X<sub>2</sub> = Employee Involvement

X<sub>3</sub> = Customer Focus

X<sub>4</sub> = Continuous Improvement and  $\beta_0$   $\beta_1$   $\beta_2$   $\beta_3$  and  $\beta_4$  are the regression equation coefficients for each of the variables discussed.



### 3.8 Operational Definition of Variables

Objectives	Variables	Measurement scale	Indicators	Data collection	Method of Analysis	Tool of Analysis
To determine the influence of management Skills in TQM on the implementation of construction projects for Kenya Power Pension Fund.	<b><u>Independent</u></b> Management skills	Nominal Ordinal	-Nature of Skills  - Type of skills  -Communication	Questionnaire	Descriptive Statistic	Frequency, mean and standard deviation
To establish the influence of employee Participation in TQM on the implementation of construction projects for Kenya Power Pension Fund.	<b><u>Independent:</u></b> Employee participation	Nominal Ordinal	-Training offered - Project experience -Qualifications -Team recruitment - Team coordination	Questionnaire	Descriptive Statistic	Frequency, mean and standard deviation
To examine the influence of customer focus in TQM on the implementation of construction projects for Kenya Power Pension Fund.	<b><u>Independent:</u></b> Customer Focus	Nominal Ordinal	-Customers' needs - Customer values - Customer expectations - Customer designs	Questionnaire	Descriptive Statistic	Frequency, mean and standard deviation
To assess the influence of continual improvement in TQM on implementation of construction projects for Kenya Power Pension Fund.	<b><u>Independent:</u></b> Continual Improvement  <b><u>Dependent:</u></b> Implementation of construction	Nominal Ordinal	-Quality of product -Quality of processes - External demands - Quality of services	Questionnaire	Descriptive Statistic	Frequency, mean and standard deviation

### **3.9 Ethical Considerations**

Research ethics involves following professional codes of conduct and moral rules in the research process (Fraenkel and Wallen, 2000). The researcher ensured there were high ethical standards by maintaining the integrity and dignity of the respondents. All the respondents were treated with great respect and courtesy and where slight resistance was noticed, the researcher issued the letter from the Kenya Power Pension Fund authorizing the study. The researcher informed the respondents that no compensation accrued from participating in the study and that the study would be used for academic purposes and the results of the study would be shared upon completion of the whole process.

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND INTERPRETATION

#### 4.1 Introduction

The chapter presents the analysis of the findings of the study, presentation and interpretation that was to examine the influence of TQM on implementation of Kenyan construction projects: A case of Kenya Power Pension Fund in Nairobi County. It analyses the sum of variables used in conducting the study and performs a model estimate in the above chapter. The analysis commences by describing the demographic profile of the respondents followed by analysis of data relating to each of the four research objectives.

#### 4.2 Questionnaires Return Rate

The study targeted 93 in service members of the scheme, trustees and employees of Kenya Power Pension Fund who were thought to be more experienced and was most appropriate for the study. 81 questionnaires out of the issued 93 were fully completed and returned representing 87.1% response rate. Thus the response rate was good according to Mugenda and Mugenda (2003) who describes a 70% as excellent as it gives a true representation of the population.

#### 4.3 Demographic Information

This part of the research describes the demographic features of respondents who participated in the study.

##### 4.3.1 Gender of the Respondents

The respondents indicated their gender as portrayed in Table 4.1.

**Table 4.1: Gender of the Respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	57	70
Female	24	30
<b>Total</b>	<b>81</b>	<b>100</b>

From the findings, 57 (70%) of the respondents were male while 24 (30%) were female. This implies that there was dominance of men compared to women in some sections at Kenya Power.

#### 4.3.2 Age Bracket of the Respondents

The study sought to establish the age brackets of the respondents. The information is presented in Table 4.2.

**Table 4.2: Age Bracket of the Respondents**

<b>Respondents Age Bracket</b>	<b>Frequency</b>	<b>Percentage (%)</b>
29-35 years	13	16
36-43 years	23	28
44-51 years	26	32
Above 51 years	19	24
<b>Total</b>	<b>81</b>	<b>100</b>

From the findings, there were 13 (16%) respondents between 29-35 years, 23 (28%) respondents were between 36-43 years, 26 (32%) of the respondents were between 44-51 years and 19 (24%) respondents were above 51 years. This means that the target population earmarked for the study was mature and with experience.

#### 4.3.3 Highest Level of Education of the Respondents

The respondents were requested to indicate the level of education they have ever achieved and the findings is presented in Table 4.3 below.

**Table 4.3: Highest Level of Education of the Respondents**

<b>Respondents Highest Level of Education</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Diploma level	8	10
Bachelors level	41	50
Post graduate level	32	40
<b>Total</b>	<b>81</b>	<b>100</b>

From the findings received 8 (10%) of the respondents had attained diploma level, 41 (50%) had attained bachelors level and 32 (40%) had attained post graduate level. This implies that respondents have adequate skills in their areas of specialization.

#### 4.3.4 Period Respondents have Worked as Trustees of the Organization

The respondents were required to indicate how long they have been as Trustee within the organization. The results are shown in Table 4.4 below.

**Table 4.4: Period one has been a Trustees of the Organization**

<b>Period as Trustees of the Organization</b>	<b>Frequency</b>	<b>Percentage</b>
Less than five years (5)	1	25
Less than ten years (10)	2	50
Less than fifteen years (15)	1	25
<b>Total</b>	<b>4</b>	<b>100</b>

1(25%) of Trustees had worked for the organization for less than 5 year similar to those who have been in the organization for less than 15 years. 2 (50%) had been Trustees for 10 years. The Trustees earmarked for the study were well conversant with the operations of Kenya Power Pension Fund and the implementation of Total Quality Management.

#### 4.3.5 Position in the Board of Trustees

The trustees were further required to indicate their position in the Board of Trustees.

**Table 4.5: Position in the Board of Trustees**

<b>Position in the Board of Trustees</b>	<b>Frequency</b>	<b>Percentage</b>
Board members	4	50
Project implementation committee member	3	38
Governance and audit committee members	1	12
<b>Total</b>	<b>8</b>	<b>100</b>

4 (50%) of the respondents revealed they were board members, 3 (38%) were project implementation committee member and 1 (12%) were governance and audit committee members. The trustees who participated in the study played key roles at the Kenya Power Pension Fund as they have adequate experience in their position. The study only considered 4 trustees and all of them are members of the board.

#### **4.3.6 Period Employees have Worked in the Organization**

Employees of the Kenya Power Pension Fund were requested to state how long they have worked with this organization. Table 4.6 presents the findings.

**Table 4.6: Period Employees have worked in the Organization**

<b>Period Employees have Worked in the Organization</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 5 years	1	14
Less than 10 years	2	29
Less than 15 years	3	43
Less than 20 years	1	14
More than 20 years	0	0
<b>Total</b>	<b>7</b>	<b>100</b>

The results show that 1 (14%) of the respondents had worked with this organization for less than 5 years, 2 (29%) of the respondents had worked with this organization for less than 10 years, 3 (43%) of the respondents had worked with this organization for less than 15 years, 1 (14%) of the respondents had worked with this organization for less than 20 years and none of the respondents had worked with Kenya Power pension Fund for more than 20 years. The employees have enough work experience in their various assignments.

#### **4.3.7 Position of the Employees in the Organization**

The employees of the Kenya Power Pension Fund were asked to state their position in the organization and the findings illustrated below.

**Table 4.7: Position of the Employees in the Organization**

<b>Position of the Employees in the Organization</b>	<b>Frequency</b>	<b>Percentage</b>
Customer service officers	1	14
Quality Management Representative	1	14
Project Manager	2	29
Human and Administration Manager	1	14
Finance Manager	2	29
Logistic Manager, Clerk of Works and Maintenance Manger	0	0
<b>Total</b>	<b>7</b>	<b>100</b>

From the findings 1 (14%) of the respondents worked as customer service officers and Quality Management Representative and Human and Administration Manager respectively while 2 (29%) each worked as Project Manager and Finance Manager, and none of the respondents worked as Logistic Manger, Clerk of Works and maintenance manager. This portrays that the research findings incorporated views from various departments in the organization eliminating bias and duplication of information.

#### **4.3.8 Number of Years Respondents Have been Members of the Pension Fund**

The study further sought to find the years the respondents had been Members of the Pension Fund. The findings are presented in Table 4.8.

**Table 4.8: Number of Years Respondents Have worked for Kenya Power**

<b>Number of Years Respondents Have been Members of the Pension Fund</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 15 years	26	37
More than 20 years	44	63
<b>Total</b>	<b>70</b>	<b>100</b>

The findings indicate that 26 (37%) of the respondents had been employees of Kenya Power for less than 15 years and 44 (63%) for more than 20 years. This implies most of employees have been members of the Pension Fund for adequate time thus have capacity to understand the operations of the Fund.

#### 4.3.9 Motive for the Company to Adopt TQM Practices

The study aimed at establishing the motives they find important for the company to adopt TQM practices. The scale that was used was Likert scale of 1-5, 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

**Table 4.9: Motive for the Company to Adopt TQM Practices**

	Mean	Std Dev.
It is a requirement of the Ministry of Public Works	3.69	.421
To enter the international construction market	3.71	.459
To fulfill the requests of the client as part of the bidding process	3.88	.191
To effectively and efficiently control project activities	3.94	.221
To improve the prestige of the company (e.g. reputation, image)	3.99	.712
To minimize poor quality of construction processes and products	4.02	.341
For the betterment of the overall management system of the company	4.04	.101
To improve business performance	4.31	.265

According to the study, the motives found important for the company to adopt TQM practices were; to improve business performance 4.31 M and 0.265 S.D which define the element as being key in adoption of TQM, followed by betterment of the overall management system of the company with 4.04 M and 0.101 S.D. To minimize poor quality of construction processes and products with 4.02 M and 0.341 SD. To improve the prestige



of the company (e.g. reputation, image) with 4.02 M and 0.341 S.D. To effectively and efficiently control project activities with 3.99 M and 0.712 S.D. To fulfill the requests of the client as part of the bidding process with 3.88 M and 0.191 S.D. To enter the international construction market with 3.71 M and 0.459 S.D. As a requirement of the Ministry of Public Works with 3.69 M and 0.421 S.D respectively as indicated on Table 4.9.

This implies that TQM was adopted due to the expected benefits that would be derived from it which would in the long run ensure improved business performance .Quality Management has transformed from reacting to activities in the production site outcome to being a function of strategic business leading to the raison d'être of construction companies. Companies involved in construction may only compete effectively if it can guarantee its clients a quality product in the modern construction market Harris et al (2006).

#### **4.4 Influence of Management Skills in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

The study also sought to determine the influence of management skills in TQM in the improvement of construction projects in Kenya with regard to how they apply at the Kenya Power Pension Fund. The scale that was used was Likert scale of 1-5, 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

**Table 4.10: Influence of Management Skills in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

	Mean	Std Dev.
The support of the top management is positively related to success in indirect project implementation.	3.41	.198
When new projects are proposed the organizations senior management team demonstrate their full support	3.78	.331
The senior management is always available to monitor the plan for projects being implemented	3.91	.402
Monitoring and feedback refers to both project schedule and budget and performance monitoring of the project team members.	3.97	.224
Communication allows the implementation of the required final acceptance	3.99	.196
The clarity of goals throughout the stage of project implementation is a strong factor which needs to be present to ensure that the outcome of the project is successful.	4.02	.117
Making provisions for adequate monitoring and feedback mechanisms enables the project manager to anticipate problems and oversee how to curb them to ensure all weaknesses are taken into consideration.	4.02	.194
The senior managers ensure that projects fit within the vision of their company.	4.05	.147
Communication is essential both within the project team and the rest of the organization as well as the stakeholders.	4.09	.511
The need for adequate communication channels is vital in creating a successful project implementation atmosphere.	4.11	.452
It is important to constantly monitor and "fine-tune" the process of implementation by the project leadership	4.16	.641

Based on the findings, it is important to constantly monitor and "fine-tune" the process of implementation by the project leadership 4.16 M and 0.641 S.D depicts the key influence of management skills in TQM in the improvement of construction projects in Kenya Power Pension Fund. Coming in next was, followed by the need for acceptable communication channels is vital for making a successful project implementation atmosphere with 4.11M and 0.452 S.D. Communication is essential both within the project team and the other organs of the organization as well as the stakeholder with 4.09M and 0.511S.D. The senior managers ensure that all projects fit within the vision of their company with 4.05M and 0.147S.D. The clarity of goals throughout the stage of project implementation is a strong factor that must be present to ensure that the outcome of the project is successful with 4.02M and 0.117S.D. Communication allows the implementation to initiate the necessary final acceptance with 3.99M and 0.196S.D. Monitoring and feedback not only refer to project schedule and budget, but also performance monitoring of the team members with 3.97M and 0.224 S.D. The senior management is always available to monitor the plan for projects being implemented with 3.91M and 0.402 S.D. When new projects are proposed the organizations senior management team demonstrate their full support with 3.78M and 0.331 S.D. The support of the top management is positively related to success in indirect project implementation with 3.41M and 0.198 S.D.

This depicts that the influence of management skills in TQM in the improvement of construction projects at the Kenya Power Pension Fund is significant. This especially so with regard to monitoring and fine tuning of the process as well as proper communication and communication channels during the implementation process. This study results indicate that quality management is extremely dependent on the commitment level by the top management. It is required that the top management commitment to quality must effectively pass the philosophy that quality will in the long run receive a higher priority over cost and achieve operational performance as well as reduced operational cost.

#### 4.5 The Influence of Employee Participation in TQM on the Implementation of Construction Projects

The study also examined the influence of employee involvement in TQM in the improvement of construction projects in Kenya with regard to how they apply at the Kenya Power Pension Fund. The scale that was used was Likert scale of 1-5, 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

**Table 4.11: The Influence of Employee Participation in TQM on the Implementation of Construction Projects**

	Mean	Std Dev.
The fourth most vital success factor for project implementation is having competent members in the project team.	3.51	0.121
Project implementation team members' ability to persuade and sell the project's benefits is vital to ensure smooth reception of the project by the stakeholders.	3.77	0.152
Those members who have little experience in autonomous environments are assisted through team building training and to enable them function well on their project teams	3.88	.434
Mutual support levels affect the team performance through since it influences the teams communication and influences.	3.89	.216
The competence of project personnel contributes significantly to project success	3.91	0.209
Moreover, implementation effectiveness is affected by the characteristics of the people in the project team	3.93	.417
Implementation effectiveness is influenced by the quality of project implementation team relations	3.96	.171
It is crucial to note that the personnel aspect of the project implementation is not ignored	3.98	0.158

Project team members need the assistance of those that are not part of their project work team thus outward-facing.	3.99	.226
A complete project team comprises of a project leader and specifically selected members, who are trained and possess the needed skills, experience and knowledge to handle the project's demands.	4.01	0.318
Implementation effectiveness is influenced by the ability to understand the needs, priorities and requests of the stakeholders	4.01	.289
The project team should be cross functional, balanced and consist of a mix of external staff and consultants to allow the organization to develop the required technical skills for designing and implementing projects.	4.03	0.795
Project team members are objective , good listeners , support varying perceptions and appreciate successful individual team members in an organization	4.03	.354
Competent project team greatly influence direct success in project implementation	4.08	0.964

The findings above reveal that employee participation highly influences TQM in the improvement of construction projects at Kenya Power Pension Fund since; competent project team greatly influence direct success in project implementation as depicted by 4.08M and 0.964S.D. Next was Project team members are objective, good listeners, support varying perceptions and appreciate successful individual team in an organization with 4.03M and 0.354S.D. Implementation effectiveness is influenced by the ability to understand the needs, priorities and requests of the stakeholders with 4.01M and 0.289S.D.

A complete project team comprises of a project leader and members who are categorically selected, trained and possess the relevant skills, experience and knowledge to handle projects' demands with 4.01M and 0.318S.D. Project team members need the support of

those who are not part of their project work team thus outward-facing with 3.99M and 0.226S.D. It is crucial to note that the personnel aspect of the project implementation is not ignored with 3.98M and 0.158S.D. Implementation effectiveness is influenced by how the project implementation team relates with 3.96M and 0.171S.D. Moreover, implementation effectiveness is affected by the traits of the project team members with 3.93M and 0.417S.D. The competence of project personnel contributes significantly to project success with 3.91M and 0.209 S.D. Mutual support levels affect the team performance through since it influences the teams communication and influences with 3.89M and 0.216S.D. Those members who have little experience in autonomous environments are assisted through team building training and to enable them function well on their project teams with 3.88M and 0.434 S.D. Project implementation team members' ability to persuade and sell the project's benefits is vital to ensure smooth reception of the project by the stakeholders with 3.77M and 0.152S.D. The fourth most vital success factor for project implementation is having competent members in the project team with 3.51M and 0.121S.D.

According to the results the respondents agree that establishment of an environment that encourages employee efforts, give the responsibility and authority, reward, train and develop them affects TQM implementation. The study agrees that total quality approach of management involves achievement of broad employee interest and participation and contribution in the quality management process. Training helps in preparation of employees in the management of the total quality management ideology in production and gives people the necessary techniques and skills of quality improvement.

#### **4.5 The Influence of Customer Focus in TQM on the Implementation of Construction Projects**

The study examined the influence of customer focus in TQM in the improvement of construction projects in Kenya with regard to how they apply at the Kenya Power Pension Fund. The scale that was used was Likert scale of 1-5, 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.

**Table 4.12: The Influence of Customer Focus in TQM on the Implementation of Construction Projects**

	<b>Mean</b>	<b>Std Dev.</b>
Quality should be valued by the customers	3.71	.223
To focus on the customer the organization tries to fulfill the market expectations in the development and manufacturing of the product.	3.89	.417
Focusing on the customer not only applies to the external customers	3.96	.171
The organizations is dedicated to satisfying customers	3.99	.217
The process of production and the processes of developing production are based on facts related to the experiences of the customer and present and future needs of the customer.	3.99	.434
The organization recognizes the need for knowledge regarding variation and ability in the handling and control of variation	4.07	.289
The organizations efforts are long term and continuous	4.09	.336
To focus on the customer the organization tries to find out the needs of the customers and values through conducting market analyses	4.11	.216
A products' quality can be perceived as strongly weakened if other competitive products with better characteristics enter the market	4.16	.011
Quality must always be put according their needs and expectations	4.19	.229
A fundamental principle in TQM is all processes and products must always be steered towards customer focus.	4.21	.098

As per the findings in Table 4.12, the key dimension of the influence of customer focus in TQM in the improvement of construction projects at the Kenya Power Pension Fund was; a fundamental value in TQM is all products and processes must be steered towards customer focus with 4.21M and .098S.D. Following this dimension was; Quality must always be put according to their needs and expectations with 4.19M and .229S.D. A products' quality is perceived to be strongly weakened if more competitive products enter the market with 4.16M and .011S.D. To focus on the customer, the organization seeks to find out the customer's needs and values through carrying out market analyses with 4.11M and .216S.D. The organizations efforts are long term and continuous with 4.09M and .336S.D. The organization recognizes the need for knowledge regarding ability and variation in the handling and control of variation 4.07M and .289 S. The process of production and the processes of developing production are based on facts relating to the experiences of the customer and present and future needs of the customer with 3.99M and .434 S.D. The organization is dedicated to satisfying customers with a 3.99M and .171S.D. To focus on the customer the organization tries to fulfill the market expectations in the development and manufacturing of the product with 3.89M and .417 S.D. Quality should be valued by the customers a 3.71 M and .223 S.D.

The findings imply that focusing on the needs of the customer is a major TQM implementation aspect. This can be achieved by establishing what customers expect and trying to meet such expectations in order to ensure their needs are satisfied. The finding agrees that all products and processes need to have a customer focus. Quality should always be valued by the customers and as per the needs and expectation.

#### **4.6 The Influence of Continual Improvement in TQM in the Implementation of Construction Projects**

The study analyzed the influence of continuous improvement in TQM in the improvement of construction projects in Kenya with regard to how they apply at the Kenya Power Pension Fund. The scale that was used was Likert scale of 1-5, 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree.



**Table 4.13: The Influence of Continual Improvement in TQM in the Implementation of Construction Projects**

	<b>Mean</b>	<b>Std Dev.</b>
Continuously making improvements on processes lead to customer satisfaction, which lead to external quality improvement	3.61	0.288
Continuous improvements processes lead to limited defects, which lead to improvement in the internal quality.	3.78	0.199
The organisation continually tries to improve the quality of its processes and product.	3.89	0.26
Process orientation and focus has become focused in the currently dominating improvement programme TQM.	3.96	0.195
An organization' external demands are continuously increasing.	4.01	0.12

The findings reveal that the influence of continuous improvement in TQM in the improvement of construction projects at the Kenya Power Pension Fund was highly signified by; The organization's external demands are continuously increasing 4.01M and 0.12S.D. Following this dimension was; Process orientation and focus has become critical in the currently dominating improvement programme TQM with 3.96M and 0.195 S.D. The organization continually tries to enhance quality of its processes and product 3.89M and 0.26 S.D. Continuous improvements on the processes lead to few defects, which lead to improvement in the internal quality with 3.78M and 0.199 S.D. Continuously making improvements on processes lead to customer satisfaction, which lead to external quality improvement with 3.61M and 0.288 S.D.

The findings depict that continuous improvement process at the Kenya Power Pension Fund is necessitated by the increasing external demands. This has ensured that the

organization checks on its products and processes in order to ensure quality in the changing needs.

#### **4.7 Challenges Experienced When Applying TQM in Implementation of Construction Projects at Kenya Power Pension Fund**

The challenges encountered when applying TQM during the implementation of construction projects had been assessed as presented in Table 4.14 below.

**Table 4.14: Challenges Experienced When Applying TQM in Implementation of Construction Projects**

<b>Type of Challenges</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Lack of communication during project cycle	13	16
Maintenance of quality assurance	23	28
Lack of effective supervision	26	32
Lack of Management's commitment	18	22
Lack of Quality Assurance Team to guide the process	19	23

The respondents highlighted the following as part of the challenges experienced with firms involved in construction; lack of effective communication 13 (16%), Maintenance of quality assurance 23 (28%), lack of effective supervision 26 (32%), lack of management's commitment to quality assurance 18 (22%), lack of proper equipment available for use and lack of a quality assurance team to lead the process 19 (23%) ranked. The findings depict that the challenges encountered when applying TQM during the implementation of construction projects at the Kenya Power Pension Fund varied in relation to quality, management and communication.

#### **4.8 Solutions to Challenges**

This part of the research discusses the desirable solutions to the challenges mentioned above as indicated by the respondents.

**Table 4.15: Solutions to Challenges Experienced When Applying TQM in Implementation of Construction Projects**

<b>Solutions to Challenges</b>	<b>Frequency</b>	<b>Percentage</b>
Management commitment	18	22
Communication between employees and managers	13	16
Involvement of Employees	25	31
Logical and detailed work program	42	52
General audit and inspection of quality report	51	63
Education and Training of team members	38	47
Analysis and review adopted to enhance performance	61	75
<b>Total</b>	<b>81</b>	<b>100</b>

The seven most ranked effective solutions measures to the challenges as given by the respondents surveyed were commitment of the management 18 (22%), communication between employees and managers 13 (16%), employee involvement 25 (31%), detailed and logical work program 42 (52%), regularly inspecting and auditing of quality report 51 (63%), and educating team members 38 (47%) and review/analysis adopted to improve performance 61 (75%).

#### **4.9 Regression Analysis**

Results in this section shows the correlations between Total Quality Management Practices and implementation of construction projects at the Kenya Power Pension Fund, holding correlation coefficient (r) value at (-1.00 and +1.0). A significance level of alpha = .05 (95%) was used in the study and a degrees of freedom (df) of 5, and two-tailed test.

### Model Summary

The results indicated on table 4.16 below sought to establish the degree to which total quality practices are related to implementation of construction projects at the Kenya Power Pension Fund, which is expressed in the positive correlation coefficient ( $r$ ) = 0.896 and coefficient of determination, ( $r^2$ ) =0.803. This implies that the four independent variables together predict about 80.3% of the implementation of construction projects at the Kenya Power Pension Fund.

**Table 4.16: Regression Model Fitness**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.896	0.803	0.614	18895

### ANOVA Results

Examination of variance was adopted to test the importance of the regression model in regards to differences in means of the independent and dependent variables as shown on table 4.17 below. The ANOVA test produced an F-value of 3.877 which is significant at  $p=0.004$ . This depicts that the regression model is significant at 95% confidence level. Thus the regression model is statistically significant in predicting how management skills, employee participation, customer focus and continual improvement affect implementation of construction projects at the Kenya Power Pension Fund.

**Table 4.17: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.86	5	0.772	4.215	0.00197
	Residual	13.734	75	0.18312		
	Total	17.594	80			

a. Predictors: management skills, employee participation, customer focus and continual improvement

b. Dependent Variable: implementation of construction projects at the Kenya Power Pension Fund.

**Regression Coefficients**

The findings on table 4.17 below are based on the following regression model:

$$(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon):$$

Whereby Y = Implementation of construction projects in Kenya

X<sub>1</sub> = Management Leadership

X<sub>2</sub> = Employee Involvement

X<sub>3</sub> = Customer Focus

X<sub>4</sub> = Continuous Improvement

The study sought to establish the extent to which management skills, employee participation, customer focus and continual improvement predict implementation of construction projects at the Kenya Power Pension Fund.

**Table 4.18: Regression Coefficients**

Model		Unstandardized		Standardized Coefficients		
		Coefficients		Beta	t	Sig.
		B	Std. Error			
1	(Constant)	3.77	0.451		8.359202	0024
	Management Skills	0.699	0.133	0.566	5.255639	0134
	Employee participation	0.701	0.189	0.512	3.708995	0397
	Customer focus	0.681	0.095	0.586	7.168421	0448
	Continual improvement	0.709	0.116	0.593	6.112069	0406

a. Dependent Variable: implementation of construction projects at the Kenya Power Pension Fund.

Therefore Table 4.18 above shows management skills, employee participation, customer focus and continual improvement have positive coefficients, implying that these independent variables positively predict implementation of construction projects at the Kenya Power Pension Fund. Therefore taking all independent variables (management skills, employee participation, customer focus and continual improvement) constant at zero (0); implementation of construction projects at the Kenya Power Pension Fund will be at 3.770.

Therefore a unit increase in management skills, employee participation, customer focus and continual improvement will lead to 0.699, 0.701, 0.681 and 0.709 unit increases in implementation of construction projects at the Kenya Power Pension Fund.

The results of the study further indicates that p-value of = (0.0134) for Management Skills, (0.0397) for Employee participation; (.0448) for Customer focus and (0.0406) for Continual improvement are smaller than 0.05 significance level. The implications of these results is that there is a significant connection between management skills, employee participation, customer focus and continual improvement and implementation of construction projects at the Kenya Power Pension Fund.

**CHAPTER FIVE**  
**SUMMARY OF THE FINDINGS, DISCUSSION, CONCLUSION AND**  
**RECOMMENDATIONS**

**5.1 Introduction**

This chapter presents a summary of the research findings, discussions, conclusion of the research findings and draws recommendations based on the research findings. The discussions, conclusions and recommendations are based on the four objectives of the study. These were to determine the influence of management skills in TQM; establish the influence of employee participation in TQM; examine the influence of customer focus in TQM and assess the influence of continual improvement in TQM in the implementation of construction projects for Kenya Power Pension Fund.

**5.2 Summary of the Findings**

This part of the study presents in brief the findings based on the objectives of the study

**5.2.1 Influence of Management Skills in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

According to the study it is important to constantly monitor and "fine-tune" the process of implementation by the project leadership shown by 4.16M and 0.641 S.D depicts the key influence of management leadership in TQM in the improvement of construction projects at Kenya Power Pension Fund. Coming in next was, the importance of effective communication channels which is critical for creating a successful project implementation atmosphere with 4.11M and 0.452 S.D. Communication is essential both within the project team and other members in the organization as well as the stakeholder with 4.09M and 0.511S.D. The senior managers ensure that all projects fit within the vision of their company with 4.05M and 0.147S.D. The clarity of goals throughout the stage of project implementation is a strong factor that must be present to ensure that the outcome of the project is successful with 4.02M and 0.117S.D. Communication allows the implementation to initiate the necessary final acceptance with 3.99M and 0.196S.D. Monitoring and feedback refers not only to project schedule and budget, but also performance monitoring

of the team members with 3.97M and 0.224 S.D. The senior management is always available to monitor the plan for projects being implemented with 3.91M and 0.402 S.D. When new projects are proposed the organizations senior management team demonstrate their full support with 3.78M and 0.331 S.D. The support of the top management support is positively related to success in indirect project implementation with 3.41M and 0.198 S.D.

### **5.2.2 The Influence of Employee Participation in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

The findings above reveal that employee participation highly influences TQM in the improvement of construction projects in Kenya at the Kenya Power Pension Fund since; competent project team greatly influence direct success in project implementation as depicted by 4.08M and 0.964S.D. Next was Project team members are objective, good listeners, support varying perceptions and appreciate successful individual team in an organization with 4.03M and 0.354S.D. Implementation effectiveness is influenced by the ability to understand the needs, priorities and requests of the stakeholders with 4.01M and 0.289SD. A complete project team comprises of a project leader and members who are categorically selected, trained and possess the relevant skills, experience and knowledge to handle projects' demands with 4.01M and 0.318S.D. Project team members require the support of members who are not directly involved in the project thus outward-facing with 3.99M and 0.226S.D. It is crucial to note that the personnel aspect of the project implementation is not ignored with 3.98M and 0.158S.D.

Implementation effectiveness is influenced by how the project implementation team relates with 3.96M and 0.171S.D. Moreover, implementation effectiveness is affected by the traits of the project team members with 3.93M and 0.417S.D. The competence of project personnel contributes significantly to project success with 3.91M and 0.209 S.D. Mutual support levels affect the team performance through since it influences the teams communication and influences with 3.89M and 0.216S.D. Those members who have little experience in autonomous environments are supported through team building and training to enable them function well on their project teams with 3.88M and 0.434 S.D. Project implementation team members' ability to persuade and sell the project's benefits is vital to



ensure smooth reception of the project by the stakeholders with 3.77M and 0.152S.D. The fourth most vital success factor for project implementation is having competent members in the project team.. with 3.51M and 0.121S.D.

### **5.2.3 The Influence of Customer Focus in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

As per the findings in Table 4.12, the key dimension of the influence of customer focus in TQM in the improvement of construction projects at the Kenya Power Pension Fund was; A fundamental value in TQM is all processes and products must always be directed towards customer focus with 4.21M and .098S.D. Following this dimension was; Quality must always be put according their needs and expectations with 4.19M and .229S.D. A products' quality can be perceived as strongly weakened if other competitive products with better characteristics enter the market with 4.16M and .011S.D. To focus on the customer the organization tries to find out the needs of the customers and values through conducting market analyses with 4.11M and .216S.D. The organizations efforts are long term and continuous with 4.09M and .336S.D. The organization recognizes the necessity for knowledge regarding the ability in the handling and controlling of variation 4.07M and .289 S. The process of production and the processes of developing production are based on facts related to the experiences of the customer and present and future needs of the customer with 3.99M and .434 S.D. The organization is dedicated to satisfying customers with a 3.99M and .171S.D. To focus on the customer the organization tries to fulfill the market expectations in the development and manufacturing of the product with 3.89M and .417 S.D. Quality should be valued by the customers a 3.71 M and .223 S.D

### **5.2.4 The Influence of Continual Improvement in TQM in the Implementation of Construction Projects at Kenya Power Pension Fund**

The findings reveal that the influence of continuous improvement in TQM in the improvement of construction projects at the Kenya Power Pension Fund was highly signified by; The organization' external demands are continuously increasing 4.01M and .12S.D. Following this dimension was; Process orientation and focus has become focused in the currently dominating improvement programme TQM with 3.96M and .195 S.D. The

organization continually tries to improve the quality of its processes and product 3.89M and .26 S.D. Continuous improvements on the processes lead to few defects, which lead to improvement in the internal quality with 3.78M and .199 S.D. Continuously making improvements on processes lead to customer satisfaction, which lead to external quality improvement with 3.61M and .288 S.D.

The four independent variables together predict about 80.3% of the implementation of construction projects at the Kenya Power Pension Fund. The ANOVA test produced an F-value of 3.877 which is significant at  $p=0.004$  depicting that the regression model is significant at 95% confidence level. Thus the regression model is statistically significant in predicting how management skills, employee participation, customer focus and continual improvement affect implementation of construction projects at the Kenya Power Pension Fund. Taking all independent variables (management skills, employee participation, customer focus and continual improvement) constant at zero (0); implementation of construction projects at the Kenya Power Pension Fund will be at 3.770. Additionally, a unit increase in management skills, employee participation, customer focus and continual improvement will lead to 0.699, 0.701, 0.681 and 0.709 unit increases in implementation of construction projects at the Kenya Power Pension Fund. The results of the study further indicated that p-value of = (0.0134) for Management Skills, (0.0397) for Employee participation; (.0448) for Customer focus and (0.0406) for Continual improvement are smaller than the significance level of 0.05.

### **5.3 Discussion of the Key Findings**

This section of the report discussed findings of the study and made a comparison to the reviewed literature in chapter two.

#### **5.3.1 Influence of Management Skills in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

The findings depicted that the influence of management leadership in TQM in the improvement of construction projects at the Kenya Power Pension Fund is significant. This especially so with regard to monitoring and fine tuning of the process as well as proper communication and communication channels during the implementation process. This

study results are in line with the findings of Juran (2003) who indicated that the level of commitment of the top management significantly determines the level of success in quality management. It is required that the commitment of the top management to quality must pass across the philosophy that quality will always receive a higher priority over cost and that in the long run, it will achieve operational performance as well as reduced operational cost.

### **5.3.2 The Influence of Employee Participation in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

According to the results the respondents agree that establishment of an environment that encourages employee efforts, give the responsibility and authority, reward, train and develop them affects TQM implementation. The study adds and enriches the study findings of Motwani et al., (1994) and Zhang, (2000) who established that total quality management approach involves achievement of broad employee interest, participation and contribution in the quality management control process. This training helps the in preparation of employees in managing total quality management ideology in the production process; equips people with the required skills and techniques in improvement of quality.

### **5.3.3 The Influence of Customer Focus in TQM on the Implementation of Construction Projects at Kenya Power Pension Fund**

The study determined that focusing on the needs of the customer is a major TQM implementation aspect. This can be achieved by establishing what customers expect and trying to meet such expectations in order to ensure their needs are satisfied. The finding agrees that all processes and products need to always have a customer focus. Quality should always be put in relation to the needs and expectations of the customers. Likewise, it has previously been established that the majority of new products are not successful in the market (Kotler, 2006). This shows the importance of the production developing processes and that this facts are related to the experiences of the customer and his needs for the present and the future (Klefsjö & Bergman, 2003).

### **5.3.4 The Influence of Continual Improvement in TQM in the Implementation of Construction Projects**

The findings portrayed that continuous improvement process at the Kenya Power Pension Fund is necessitated by the increasing external demands. This has ensured that the organizations checks on its products and processes in order to ensure quality in the changing needs. On the same note, Imai (2007) observes that it is not just enough for an organization to do better than it previously did. The faces of external demand are continuously increasing thus an organization should continually strive to improve the quality of its product and processes.

### **5.4 Conclusion of the Study**

The study concluded that TQM was adopted due to the expected benefits that would be derived from it which would in the long run ensure improved business performance. Moreover, the influence of management leadership in TQM in the improvement of construction projects at the Kenya Power Pension Fund is significant. This especially so with regard to monitoring and fine tuning of the process as well as proper communication and communication channels during the implementation process. According to the results, the establishment of an environment that encourages employee efforts, give the responsibility and authority, reward, train and develop them affects TQM implementation.

The study further concluded that; focusing on the needs of the customer is a major TQM implementation aspect. This can be achieved by establishing what customers expect and trying to meet such expectations in order to ensure their needs are satisfied. Continuous improvement process at the Kenya Power Pension Fund is necessitated by the increasing external demands. This has ensured that the organizations checks on its products and processes in order to ensure quality in the changing needs.

Lastly, there was a significant relationship between management skills, employee participation, customer focus and continual improvement and implementation of construction projects at the Kenya Power Pension Fund. The four independent variables

together predict about 80.3% of the implementation of construction projects at the Kenya Power Pension Fund.

### **5.5 Recommendations of the Study**

Based on the findings of this study, the following recommendations were made;

1. Construction firms ought to make adaptable and helpful organizational work environment which creates the advancement of quality management practices in all aspects of the construction business.
2. Managers of different construction firms ought to be urged to utilize quality management strategies in project execution.
3. Construction firms should conduct quality management trainings or refresher courses as part of their yearly education plan for their employees.
4. Built environment institutions such as the Institution of Surveyors of Kenya should organize for award schemes for the best firms which have adopted quality practices as a method for encouraging construction firms to utilize quality management strategies.

### **5.4 Suggestions for Further Research**

1. This study focused on the relationship between management skills, employee participation, customer focus and continual improvement and construction projects implementation relationship, other factors such as size, organizational culture, innovative capacities and market orientation of sample firms may also have some impact on construction projects implementation relationship should also be studied.
2. The study concentrated on construction companies which are in the service sector. So, the next research also could be carried out with a focus on product sector such as manufacturing companies in order to provide more comparative results.

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- Less than fifteen years ( )
- Less than twenty years ( )
- More than twenty years ( )

5. What is your position in the Board of Trustees?

- Project Implementation Committee member ( )
- Governance and Audit Committee member ( )
- Chairman of the Board ( )
- Board Member ( )
- Other (please specify).....

6. Please rank order, from 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree, the motives you find important for the company to adopt TQM practices.

	1	2	3	4	5
To effectively and efficiently control project activities					
To minimize poor quality of construction processes and products					
To enter the international construction market					
For the betterment of the company's overall management system					
As a requirement of the Ministry of Public Works					
To fulfil clients' requests as part of the bidding process					
To improve the company's prestige (e.g. image, reputation)					
To improve business performance					

**SECTION B: INFLUENCE OF MANAGEMENT SKILLS IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS IN KENYA POWER PENSION FUND**

7. On a scale of 1-5, rate the following statements on the influence of management leadership in TQM in the improvement of construction projects in Kenya with regard to how they



apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
When new projects are proposed the organizations senior management team demonstrate their full support					
The senior management is always available to oversee the plan for projects being implemented					
Top management support is positively related to indirect project implementation success					
The clarity of goals throughout the project implementation stage is a strong factor that must be present to ensure a successful project outcome					
The need for adequate communication channels is important in creating an atmosphere for successful project implementation					
Communication is not only essential within the project team itself, but between the team and the rest of the organization as well as with the stakeholder					
The senior managers ensure that all projects fit within their company's vision					
Communication allows the implementation to initiate the necessary final acceptance					
Making allowances for adequate monitoring and feedback mechanisms gives the project manager the ability to anticipate problems, to oversee corrective measures and to ensure that no deficiencies are overlooked					
It is important to constantly monitor and "fine-tune" the process of implementation by the project leadership					
Monitoring and feedback refers not only to project schedule and budget, but to monitoring performance of members of the project team					

**SECTION C: THE INFLUENCE OF EMPLOYEE PARTICIPATION IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

8. On a scale of 1-5, rate the following statements on the influence of employee involvement in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
It is crucial to note that the personnel aspect of the project implementation is not ignored					
The project team should be balanced, cross functional and comprise a mix of external consultants and staff so the organization can develop the necessary technical skills for design and implementation					
Having competent members in the project team is the fourth most important success factor for project implementation.					
Competent project personnel are significant to direct project implementation success					
A competent project team comprises of a project leader and members, who are specifically selected, trained and possess the required skills, knowledge and experience to handle the demands of the project.					
The ability of the project implementation team members to convince and sell the benefits of the project is important to ensure that the project is readily accepted by the stakeholders.					
The competence of project personnel contributes significantly to project success					
The level of mutual support impacts the team performance through its influence on communication and coordination within the teams.					
Moreover, implementation effectiveness is influenced by the characteristics of the people in the project team					
Implementation effectiveness is influenced by the quality of project implementation team relations					
Implementation effectiveness is influenced by the capacity to understand the needs, requests and priorities of the stakeholders					
Members with little experience in autonomous environments are assisted through team building training and other support activities so that they can function well on their project teams					
Project team members are objective, engage in active listening, support opposing viewpoints and value the successes of individual team members of an organization					
Project team members are outward-facing because they will need the assistance of those that are not part of their project work team.					

**SECTION D: THE INFLUENCE OF CUSTOMER FOCUS IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

9. On a scale of 1-5, rate the following statements on the influence of customer focus in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
A central core value in TQM is that all products and processes should always have a customer focus					
Quality should be valued by the customers					
Quality should always be put in relation to their needs and expectations					
The organisations is dedicated to satisfying customers					
The organisations efforts are long-term and continuous					
The quality of a product can be experienced as strongly weakened if a competitive product with better characteristics enters the market					
To focus on the customer the organization tries to find out the customers' needs and values by conducting market analyses					
To focus on the customer the organization tries to fulfil the market expectations while systematically developing and manufacturing the product.					
Focusing on the customer does not only apply to the external customers only					
The organization recognizes the importance of knowledge regarding variation and ability to handle and control variation					
Production processes and the production developing processes are based on facts related to the customer's experiences plus customer's present and future needs					

**SECTION E: THE INFLUENCE OF CONTINUAL IMPROVEMENT IN TQM IN THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

10. On a scale of 1-5, rate the following statements on the influence of continuous improvement in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
The external demands an organisation faces are continuously increasing.					
The organisation continually tries to improve the quality of its product and processes					
The continuous improvement of the process leads to customer satisfaction, which results in an external quality improvement					
The continuous improvement of the process also leads to fewer defects, which results in an internal quality improvement					
The process orientation and focus has become even more focused on in the currently dominating improvement programme TQM.					

**SECTION F: CHALLENGES EXPERIENCED WHEN APPLYING TQM IN IMPLEMENTATION OF CONSTRUCTION PROJECTS**

11. What challenges do you experience when applying TQM during the implementation of construction projects?

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.....  
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**SECTION G: SOLUTIONS TO CHALLENGES**

12. Suggest solutions to the challenges mentioned in NO.11 above?

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.....

**APPENDIX II: QUESTIONNAIRE FOR EMPLOYEES OF THE KENYA POWER  
PENSION FUND**

**Dear Respondent,**

I am **Joseph Ouma Mitito**, a postgraduate student at The University Of Nairobi carrying out a research on influence of total quality management on the implementation of construction projects in Kenya: a case of Kenya power pension fund in Nairobi county. The research is for academic purpose and all the information provided will be treated with utmost confidentiality.

**Instructions:** Place a tick (/) in the bracket in front of the most appropriate response. Where explanation is required, use the space provided. **DO NOT WRITE YOUR NAME ANYWHERE IN THIS DOCUMENT**

**SECTION A: DEMOGRAPHIC INFORMATION**

(Please complete this section by checking the correct answer)

1. Gender?  Male  Female

2. What is your age Bracket?

20-28  28-35  36-43  44-51  Above 51

3. What is your level of education?

Certificate

Diploma level

Bachelor level

Post graduate level

4. How long have you worked with this organization?

Less than five year ( )

Less than ten years ( )

- Less than fifteen years ( )
- Less than twenty years ( )
- More than twenty years ( )

5. What is your position in the organization?

- Quality Management Representative ( )
- Project Manager ( )
- Human and Administration Manager ( )
- Logistics Manager ( )
- Maintenance Manager ( )
- Finance Manager ( )
- Clark of Works ( )
- Customer service ( )
- Other (please specify).....

6. Please rank order, 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree the motives you find important for the company to adopt TQM practices.

	1	2	3	4	5
To effectively and efficiently control project activities					
To minimize poor quality of construction processes and products					
To enter the international construction market					
For the betterment of the company's overall management system					
As a requirement of the Ministry of Public Works					
To fulfil clients' requests as part of the bidding process					
To improve the company's prestige (e.g. image, reputation)					
To improve business performance					

**SECTION B : INFLUENCE OF MANAGEMENT SKILLS IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS IN KPPF**

7. On a scale of 1-5, rate the following statements on the influence of management leadership in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
When new projects are proposed the organizations senior management team demonstrate their full support					
The senior management is always available to oversee the plan for projects being implemented					
Top management support is positively related to indirect project implementation success					
The clarity of goals throughout the project implementation stage is a strong factor that must be present to ensure a successful project outcome					
The need for adequate communication channels is important in creating an atmosphere for successful project implementation					
Communication is not only essential within the project team itself, but between the team and the rest of the organization as well as with the stakeholder					
The senior managers ensure that all projects fit within their company's vision					
Communication allows the implementation to initiate the necessary final acceptance					
Making allowances for adequate monitoring and feedback mechanisms gives the project manager the ability to anticipate problems, to oversee corrective measures and to ensure that no deficiencies are overlooked					
It is important to constantly monitor and "fine-tune" the process of implementation by the project leadership					
Monitoring and feedback refers not only to project schedule and budget, but to monitoring performance of members of the project team					

**SECTION C: THE INFLUENCE OF EMPLOYEE PARTICIPATION IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

8. On a scale of 1-5, rate the following statements on the influence of employee involvement in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
It is crucial to note that the personnel aspect of the project implementation is not ignored					
The project team should be balanced, cross functional and comprise a mix of external consultants and staff so the organization can develop the necessary technical skills for design and implementation					
Having competent members in the project team is the fourth most important success factor for project implementation.					
Competent project personnel are significant to direct project implementation success					
A competent project team comprises of a project leader and members, who are specifically selected, trained and possess the required skills, knowledge and experience to handle the demands of the project.					
The ability of the project implementation team members to convince and sell the benefits of the project is important to ensure that the project is readily accepted by the stakeholders.					
The competence of project personnel contributes significantly to project success					
The level of mutual support impacts the team performance through its influence on communication and coordination within the teams.					
Moreover, implementation effectiveness is influenced by the characteristics of the people in the project team					
Implementation effectiveness is influenced by the quality of project implementation team relations					
Implementation effectiveness is influenced by the capacity to understand the needs, requests and priorities of the stakeholders					
Members with little experience in autonomous environments are assisted through team building training and other support activities so that they can function well on their project teams					
Project team members are objective, engage in active listening, support opposing viewpoints and value the successes of individual team members of an organization					
Project team members are outward-facing because they will need the assistance of those that are not part of their project work team.					

#### **SECTION D: THE INFLUENCE OF CUSTOMER FOCUS IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

9. On a scale of 1-5, rate the following statements on the influence of customer focus in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree



	1	2	3	4	5
A central core value in TQM is that all products and processes should always have a customer focus					
Quality should be valued by the customers					
Quality should always be put in relation to their needs and expectations					
The organisations is dedicated to satisfying customers					
The organisations efforts are long-term and continuous					
The quality of a product can be experienced as strongly weakened if a competitive product with better characteristics enters the market					
To focus on the customer the organization tries to find out the customers' needs and values by conducting market analyses					
To focus on the customer the organization tries to fulfil the market expectations while systematically developing and manufacturing the product.					
Focusing on the customer does not only apply to the external customers only					
The organization recognizes the importance of knowledge regarding variation and ability to handle and control variation					
Production processes and the production developing processes are based on facts related to the customer's experiences plus customer's present and future needs					

**SECTION E: THE INFLUENCE OF CONTINUAL IMPROVEMENT IN TQM IN THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

10. On a scale of 1-5, rate the following statements on the influence of continuous improvement in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
The external demands an organisation faces are continuously increasing.					
The organisation continually tries to improve the quality of its product and processes					
The continuous improvement of the process leads to customer satisfaction, which results in an external quality improvement					
The continuous improvement of the process also leads to fewer defects, which results in an internal quality improvement					
The process orientation and focus has become even more focused on in the currently dominating improvement programm TQM.					

**SECTION F: CHALLENGES EXPERIENCED WHEN APPLYING TQM IN IMPLEMENTATION OF CONSTRUCTION PROJECTS**

11. What challenges do you experience when applying TQM during the implementation of construction projects?

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**SECTION G: SOLUTIONS TO CHALLENGES**

12. Suggest solutions to the challenges mentioned in NO.11 above?

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.....  
.....

**APPENDIX III: QUESTIONNAIRE FOR MEMBERS OF THE KENYA POWER  
PENSION FUND**

**Dear Respondent,**

I am **Joseph Ouma Mitito**, a postgraduate student at The University Of Nairobi carrying out a research on influence of total quality management on the implementation of construction projects in Kenya: a case of Kenya power pension fund in Nairobi county. The research is for academic purpose and all the information provided will be treated with utmost confidentiality.

**Instructions:** Place a tick (/) in the bracket in front of the most appropriate response. Where explanation is required, use the space provided. **DO NOT WRITE YOUR NAME ANYWHERE IN THIS DOCUMENT**

**SECTION A: DEMOGRAPHIC INFORMATION**

(Please complete this section by checking the correct answer)

1. Gender?       Male      Female

2. What is your age Bracket?

20-28            28-35            36-43            44-51            Above 51     

3. What is your level of education?

Certificate     

Diploma level     

Bachelor level     

Post Graduate level     

4. How long have you been a member of the Pension Fund?

Less than five year      (   )

- Less than ten years ( )
- Less than fifteen years ( )
- Less than twenty years ( )
- More than twenty years ( )

5. What is your position in Kenya Power?

.....

6. Please rank order, from 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree the motives you find important for the Pension Fund to adopt TQM practices.

	1	2	3	4	5
To effectively and efficiently control project activities					
To minimize poor quality of construction processes and products					
To enter the international construction market					
For the betterment of the company's overall management system					
As a requirement of the Ministry of Public Works					
To fulfil clients' requests as part of the bidding process					
To improve the company's prestige (e.g. image, reputation)					
To improve business performance					

**SECTION B : INFLUENCE OF MANAGEMENT SKILLS IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS IN KPPF**

7. On a scale of 1-5, rate the following statements on the influence of management leadership in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
When new projects are proposed the organizations senior management team demonstrate their full support					
The senior management is always available to oversee the plan for projects being implemented					
Top management support is positively related to indirect project implementation success					
The clarity of goals throughout the project implementation stage is a strong factor that must be present to ensure a successful project outcome					
The need for adequate communication channels is important in creating an atmosphere for successful project implementation					
Communication is not only essential within the project team itself, but between the team and the rest of the organization as well as with the stakeholder					
The senior managers ensure that all projects fit within their company's vision					
Communication allows the implementation to initiate the necessary final acceptance					
Making allowances for adequate monitoring and feedback mechanisms gives the project manager the ability to anticipate problems, to oversee corrective measures and to ensure that no deficiencies are overlooked					
It is important to constantly monitor and "fine-tune" the process of implementation by the project leadership					
Monitoring and feedback refers not only to project schedule and budget, but to monitoring performance of members of the project team					

**SECTION C: THE INFLUENCE OF EMPLOYEE PARTICIPATION IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

8. On a scale of 1-5, rate the following statements on the influence of employee involvement in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
It is crucial to note that the personnel aspect of the project implementation is not ignored					
The project team should be balanced, cross functional and comprise a mix of external consultants and staff so the organization can develop the necessary technical skills for design and implementation					
Having competent members in the project team is the fourth most important success factor for project implementation.					
Competent project personnel are significant to direct project implementation success					
A competent project team comprises of a project leader and members, who are specifically selected, trained and possess the required skills, knowledge and experience to handle the demands of the project.					
The ability of the project implementation team members to convince and sell the benefits of the project is important to ensure that the project is readily accepted by the stakeholders.					
The competence of project personnel contributes significantly to project success					
The level of mutual support impacts the team performance through its influence on communication and coordination within the teams.					
Moreover, implementation effectiveness is influenced by the characteristics of the people in the project team					
Implementation effectiveness is influenced by the quality of project implementation team relations					
Implementation effectiveness is influenced by the capacity to understand the needs, requests and priorities of the stakeholders					
Members with little experience in autonomous environments are assisted through team building training and other support activities so that they can function well on their project teams					
Project team members are objective, engage in active listening, support opposing viewpoints and value the successes of individual team members of an organization					
Project team members are outward-facing because they will need the assistance of those that are not part of their project work team.					

**SECTION D: THE INFLUENCE OF CUSTOMER FOCUS IN TQM ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

9. On a scale of 1-5, rate the following statements on the influence of customer focus in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
A central core value in TQM is that all products and processes should always have a customer focus					
Quality should be valued by the customers					
Quality should always be put in relation to their needs and expectations					
The organisations is dedicated to satisfying customers					
The organisations efforts are long-term and continuous					
The quality of a product can be experienced as strongly weakened if a competitive product with better characteristics enters the market					
To focus on the customer the organization tries to find out the customers' needs and values by conducting market analyses					
To focus on the customer the organization tries to fulfil the market expectations while systematically developing and manufacturing the product.					
Focusing on the customer does not only apply to the external customers only					
The organization recognizes the importance of knowledge regarding variation and ability to handle and control variation					
Production processes and the production developing processes are based on facts related to the customer's experiences plus customer's present and future needs					

**SECTION E: THE INFLUENCE OF CONTINUAL IMPROVEMENT IN TQM IN THE IMPLEMENTATION OF CONSTRUCTION PROJECTS**

10. On a scale of 1-5, rate the following statements on the influence of continuous improvement in TQM in the improvement of construction projects in Kenya with regard to how they apply in your organization where; 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree and 5 strongly agree

	1	2	3	4	5
The external demands an organisation faces are continuously increasing.					
The organisation continually tries to improve the quality of its product and processes					
The continuous improvement of the process leads to customer satisfaction, which results in an external quality improvement					
The continuous improvement of the process also leads to fewer defects, which results in an internal quality improvement					
The process orientation and focus has become even more focused on in the currently dominating improvement programme TQM.					

**SECTION F: CHALLENGES EXPERIENCED WHEN APPLYING TQM IN IMPLEMENTATION OF CONSTRUCTION PROJECTS**

11. What challenges do you think is likely to be experienced when applying TQM during the implementation of construction projects?

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**SECTION G: SOLUTIONS TO CHALLENGES**

12. Suggest solutions to the challenges mentioned in NO.11 above?

.....  
.....  
.....  
.....



**APPENDIX IV: LETTER FROM THE UNIVERSITY**



**UNIVERSITY OF NAIROBI**  
COLLEGE OF EDUCATION AND EXTERNAL STUDIES  
SCHOOL OF CONTINUING AND DISTANCE EDUCATION  
DEPARTMENT OF EXTRA-MURAL STUDIES  
NAIROBI EXTRA-MURAL CENTRE

Your Ref:

Our Ref:

Telephone: 318262 Ext. 120

Main Campus  
Gandhi Wing, Ground Floor  
P.O. Box 30197  
N A I R O B I

3<sup>rd</sup> November, 2016

REF: UON/CEES/NEMC/24/360

**TO WHOM IT MAY CONCERN**

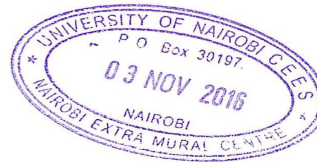
**RE: JOSEPH OUMA MITITO - REG NO L50 /76012/2014**

This is to confirm that the above named is a student at the University of Nairobi, College of Education and External Studies, School of Continuing and Distance Education, Department of Extra- Mural Studies pursuing Master of Arts in Project Planning and Management.

He is proceeding for research entitled "influence of total quality management on the implementation of construction projects in Kenya." A case of Kenya power pension fund, in Nairobi, County, Kenya.

Any assistance given to him will be appreciated.

  
**CAREN AWILLY**  
CENTRE ORGANIZER  
NAIROBI EXTRA MURAL CENTRE



APPENDIX V: RESEARCH PERMIT FROM NACOSTI

THIS IS TO CERTIFY THAT: MR. JOSEPH OUMA MITTO of UNIVERSITY OF NAIROBI, 1548-600 Nairobi, has been permitted to conduct research in Nairobi County

Permit No : NACOSTI/P/16/70981/14819 Date Of Issue : 8th December, 2016 Fee Received : Ksh 1000

on the topic: INFLUENCE OF TOTAL QUALITY MANAGEMENT ON THE IMPLEMENTATION OF CONSTRUCTION PROJECTS IN KENYA: A CASE OF KENYA POWER PENSION FUND, IN NAIROBI COUNTY



for the period ending: 7th December, 2017

Applicant's Signature

Director General National Commission for Science, Technology & Innovation

CONDITIONS

- 1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice



REPUBLIC OF KENYA



National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

12255 Serial No.A

CONDITIONS: see back page

## APPENDIX VI: RESEARCH APPROVAL BY KENYA POWER PENSION FUND



Our Ref: KPPF/HRA-A/5/01/16/HKK/ms(1)

28<sup>th</sup> October, 2016

Joseph Mitito  
P.O Box 127  
**Homa Bay**

Dear Sir,

### **RESEARCH APPROVAL**

Reference is made to your letter dated 27<sup>th</sup> October, 2016 on the above subject.

Kindly note approval is hereby granted to proceed and carry out a research project in the Pension Fund to determine influence of total quality management on the implementation of construction projects in Kenya.

Attached hereto, please find a consent letter to assist you approach members of the Pension Fund, Trustees and Employees of the Fund.

Upon completion you will be required to provide a bound copy of the full research report to be used as reference in future.

Yours faithfully,  
For: **THE TRUSTEES**

**M.S. SIMIYU**  
**HR & ADMINISTRATION OFFICER**

Stima Plaza-Kolobot Road - P.O. Box 1548 00600 Nairobi, Kenya

Tel +254 20 3201020 - Mobile: +254 711 031 020 - Email: info@kplcpensionfund.co.ke - Website: www.kplcpensionfund.co.ke



Our Ref: KPPF/HRA-A/5/01/16/HKK/ms(2)

28<sup>th</sup> October, 2016

**TO WHOM IT MAY CONCERN**

**RESEARCH APPROVAL**

Reference is made to the subject matter mentioned above.

Kindly allow Joseph Mitito a postgraduate student at University of Nairobi to carry out a research project in the Pension Fund to determine influence of total quality management on the implementation of construction projects in Kenya.

This authority notwithstanding, discretion must be exercised in the use of Fund information including business strategies and policy documents.

The Research Project should also not disrupt normal working hours and flow of work of the Sponsor and of the Pension Fund.

Yours faithfully,  
For: **THE TRUSTEES**



**M.S. SIMIYU**  
**HR & ADMINISTRATION OFFICER**