

**INFLUENCE OF TOTAL QUALITY MANAGEMENT PRINCIPLES ON
ORGANIZATIONS' COMPETITIVENESS: A CASE OF SELECTED
CONSTRUCTION FIRMS IN MOMBASA COUNTY, KENYA**

BY

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DECLARATION

This research project report is my original work and has not been submitted for any award in any University.

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DEDICATION

This Research Project report is dedicated to my parents (Mr.& Mrs Francis Otsieno) who have been my constant source of inspiration, encouragement, motivation, support and zeal to successfully complete my study.

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I would like to take this opportunity to thank the Almighty God for this far that He has brought me. He has given me the gift of life and good health to complete the study.

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ABBREVIATIONS AND ACRONYMS

BORAQS	-	Board of Registration of Architects and Quantity Surveyors
EFQM	-	European Foundation for Quality Management
ERB	-	Engineers Registration Board
HPCE	-	Home and Personal Care-Europe
GDCF	-	Gross Domestic Capital Formation
GDP	-	Gross Domestic Product
NEMA	-	National Environment Management Authority
PDCA	-	Plan Do Check Act
TQM	-	Total Quality Management

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ABSTRACT

The globalization trend is influencing how organizations set plans and operate to achieve their objectives. One way of realizing these objectives is incorporating Total Quality Management (TQM) principles into the company's vision in order to continuously improve operations, customer relations, and the overall organization's competitiveness. The aim of this research was to establish the influence of Total Quality Management principles on Construction Firms in Mombasa County. The principles considered in the study were: Management Commitment, Customer Focus, Continuous Improvement, and Employee Empowerment. The objective of the study was to determine the influence of these principles on competitiveness of firms. The research adopted a descriptive research design. Data was collected using self-administered questionnaires that were distributed to 25 construction firms in the County. Out of the 25 firms sampled, 20 returned dully filled questionnaires. The data was analysed using mean and standard deviation and presented in form of tables. A regression equation was then formulated to show the relationship. The findings gave a positive relationship between TQM and organization's competitiveness. It was found that if TQM is implemented properly, it produces a variety of benefits such as meeting customer needs, improved internal communication, better problem solving capacity and improved competitiveness of the firm. This research recommends that in order to get the full potential of TQM, all the stakeholders involved must be trained on TQM to create awareness, interest, desire and action. Thus, top management attention might be fruitfully focused on the development of appropriate training programs on TQM adoption and implementation. Firms should also consider suppliers as business partners and for successful realization of TQM benefits; they need to be brought on board. One limitation of the study was that some of the respondents feared to provide information fearing that it could be used to their disadvantage.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Total Quality Management (TQM) is an organizational change intervention that is concerned with quality. TQM can be defined as an approach to doing business that attempts to maximize the competitiveness of an organization through the continual improvement of the quality of its products, services, people, processes and environment (Goetsch & Davi, 1995). Quality first became a concern in the 1960s when Japan began to introduce quality circles (McGraw & Dunford, 1986). Quality circles have been successful in Japan as a way of encouraging innovation from the workforce. The members of quality circles develop ideas that allow the organization to improve products, services and processes. This largely involves the simplification of processes and cycle-time analysis (Sohal, Terziovski & Beaumont, 1997). However, quality circles have not enjoyed the same success in Western countries, such as Britain, the United States and Australia as they have in Japan. This may be due to lack of management support, lack of training, inadequate resources (Field & Swift, 1996), or perception of inadequate empowerment. In Western countries, the members of quality circles were usually not empowered to act on their ideas and were required to report to management before making any changes. Naturally, if their ideas were rejected, morale would be reduced and they would be less motivated to generate ideas in the future (Field & Swift, 1996).

TQM has a customer focus and is based on the realization that if the customer is not satisfied they will buy elsewhere (Bank 1992; Sohal et al. 1997). Customers, in this context, may include personal customers or industrial customers (for example, retailers or distributors). Research by Sohal et al. (1997) indicates that an increasing number of organizations are recognizing both internal and external customers. An organization that implements TQM aims to meet or exceed customer expectations in order to gain a reputation for high quality (Goetsch & Davis 1995). However, quality is subjective and needs to be customer defined. Therefore, a system for discovering customers' perceptions and expectations of a product or service is a critical element of an effective TQM program. Nasierowski (1997) emphasizes that TQM is about taking action based on rigorous data analysis. There are three requirements for the

achievement of quality: timely delivery, appropriate cost, and quality as required by the customer (Field & Swift 1992). Cost is important, as there is little use in designing a product of high quality if it is not competitive in the marketplace. TQM is concerned with reducing costs by minimizing defects, rework, scrap, backlogs, late deliveries and surplus items (Bank 1992). It is based on the belief that defect-free work is possible most of the time and, therefore, the emphasis is on prevention, rather than inspection (Field & Swift 1992). TQM overcomes many of the problems associated with quality circles because it involves restructuring the workforce into autonomous teams that are responsible for work methods and processes (Field & Swift 1996). TQM usually encompasses employee involvement, teamwork, innovation, review of work processes and an avenue for customer feedback (Goetsch & Davis 1995). Furthermore, many of the issues that were previously dealt with by management are passed down to employees. However, while the increased responsibilities that staff experience are usually welcomed, they should be supported with an appropriate system of recognition and rewards (Bank 1992). To enable employees to take on their new roles they will also require leadership, commitment from management, education and training, access to information and resources, and a unity of purpose (Goetsch & Davis 1995).

In order to enhance the competitive position and improve business, construction firms like any other sector have to apply principles of Total Quality Management. Quality starts with market research to establish the true requirements for the product or service and the true needs of the customers. Apparently, for an organization to be really effective, quality must span all functions, all people, all departments and all activities and be a common language for improvement. The cooperation of everyone at every interface is necessary to achieve a total quality organization. Therefore, TQM is an organization-wide movement. All members of an organization participate in improving processes, products, services and the culture in which they work. Quality is inbuilt to the system so that products are assured to be in good quality. TQM is a quality improvement body of methodologies that are customer based and service oriented. TQM was first developed in Japan, and then spread in popularity.

1.1.1 Total Quality Management

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

TQM is a management philosophy that seeks to integrate all organizational functions that include among others marketing, finance, design, engineering, and production, customer service, to focus on meeting customer needs and organization's objectives (Adam, Flores & Macias, 2001). It views an organization as a collection of processes and maintains that an organization must strive to continuously improve these processes by incorporating the knowledge and experience of workers. TQM aims to achieve continuous improvement of products, services and processes through the involvement of people at the workplace (Nasierowski 1997). The TQM approach, therefore, views organizations as interactive communication networks. In terms of hierarchical level, communication is vertical as well as horizontal. Furthermore, the communication process includes not only members of the organization, but the organization's customers, in such a way that the organization interacts with suppliers and consumers to ensure that quality goals are met (Flood, 1993).

TQM is an approach to improve competitiveness, effectiveness, and flexibility of an organization for the benefit of all stakeholders. According to Dale (1994), TQM is a way of planning, organizing each activity which is made up of a number of practices like customer focus, top management commitment, employee training, employees involvement, process management, supplier teaming, benchmarking, continuous improvement, quality measurement, quality audit, quality planning and leadership.

1.1.2 Firm's Competitiveness

Competitiveness refers to keenness or urge to compete. It indicates the capabilities of a firm or a sector or a nation to compete successfully (Djankov and Hoekman, 2011). Competitiveness is sustained through constant improvement and upgrading. It allows the maintenance and improvement of the enterprise's competitive position in the market that enables business to survive against its competitors over a long period of time. Competitiveness has become a prominent business and government concern in the era of globalization. Competitiveness is a multi-dimensional concept in the sense that being competitive requires superiority in several aspects. Mahmood and Harrison (2001) emphasize that competitiveness depends on the capacity of domestic industries to innovate and upgrade. Porter (1990) posits that competitiveness depends on strong domestic rivals, aggressive home based suppliers and demanding home markets.

It calls for firms to adopt highly efficient and productive methodologies such as faster innovations, effective marketing strategies and most appropriate labour-capital resource combinations in production activities. Competitiveness is evidently a decisive factor for survival in the business world. To achieve it requires setting priorities, which can be defined as a set of options of varying importance that a firm needs to have to compete in the market over a determined time frame (Santos et al., 2009). According to Davis (2001), besides costs, quality and flexibility, fast delivery and good service are competitive priorities. Delivery is related to the speed factor, because it entails supplying products quickly, while service involves the way products are delivered and accompanied after sales. He also points to another priority, consisting of offering products that do not harm the environment and that are produced by processes with the same characteristic. A combined analysis of various authors in the business administration area shows an emphasis on the following factors that determine competitiveness: quality, cost, flexibility and reliability or dependability (Kaynak, 2003).

Machadoda, Silva and Barbosa (2002) believe that implementing successful knowledge management creates a flexible competitiveness that is hard to imitate, because it goes beyond the limits of physical resources, which are rigid and easy to imitate, and extends to an exclusive aspect of the organization that it difficult for others to appropriate. Therefore, the firm acquires competitiveness by means of the

relationship of knowledge with the ability to innovate and to configure a flexible structure capable of reacting favourably to the frequent changes in its environment. The study of competitiveness factors is important to achieve the most suitable method for developing products and processes, with the use of the best practices and at the lowest possible costs, to make high quality products and get them to market quickly so as to satisfy consumers' needs. Mastery of the critical factors is indispensable for an organization to perform better and thus meet its goals. Assessments and accreditations may not be the sole solution to such challenges as these mainly focuses on inputs and outputs of the system in contrast to TQM principles which are based on a holistic approach. It is believed by many that the application of TQM may help overcome such challenges by improving staff morale, increasing efficiency and meeting the expectations of all stakeholders in a society.

1.1.3 TQM and Firm's Competitiveness

After considering the relationship between TQM and firm competitiveness in a sample of U.S firms, Powell (2005) concluded that the empirical results suggested that TQM can result to competitiveness. Given that TQM is a strategy, it has been providing a unifying framework that brings a range of "good management practices" to bear simultaneously. There is agreement among Crosby, Deming, Feigenbaum, Ishikawa and Juran that the purpose of quality management is to reduce costs and improve customer satisfaction. These ideas fit closely with the market based view of competitive advantage arising from a superior cost structure or being able to differentiate products in a way that adds value for customers through reduced rework/scrap and savings that emerge from improving product quality and by producing products that better satisfy the requirements of customers.

Rose and Ito (2006) points out that the creation of knowledge through TQM linked activities helps in the deployment of distinctive competencies that is at the heart of the organization. TQM allows for both the company's adaptation to its environment and the deployment of leadership abilities through the articulation and communication of a shared vision (Webley & Cartwright, 2006). TQM contributes to the enhancement of know how through human resources policies that encourage employee creativity and breaks down the organization's frontiers and favours the setting up of associate relationships with both clients and suppliers. Youssef et al (2006) in addition points

out that TQM favours a reduction in the variability of processes and in lead times, and also promotes the decentralization of the decision making process, and the use of techniques such as quality function deployment, which allow for customer needs to be incorporated into design specifications. In addition, TQM contributes to the improvement of the company's reputation, through the good relationships maintained with clients, suppliers and amongst the employees themselves, and through the generation of high expectations in the attainment of good performance.

While financial performance is the ultimate aim of any business organization, other indicators such as innovation performance, market share and other non-financial performance indicators may be equally important in implementing TQM principles. Singh and Smith (2004) find that if one treats the TQM implementation as a change programme for a firm, the significance of such indicators will become more obvious. Further, implementation of TQM principles may not have direct but indirect impact on financial performance on such performance measures as increasing innovation, changing organizational culture, market competitiveness, market share and growth of market share (Kaynak, 2003).

1.1.4 Construction Industry in Kenya

The industry has varied stakeholders that can be divided into 4 broad categories: Developers, Contractors, Suppliers/Manufacturers and Consultants (designers and supervisors). Developers vary from individuals to large corporations to governments and local authorities. Contractors range from one man concerns to large multinational corporations (Hassin & Abdelnasor, 2006). With the establishment of the new National Construction Authority, for the regulation of the construction industry, it is expected that the delivery of building works will be improved as professionals will be involved in the direct management of the construction firms. The building and construction industry in Kenya is generally regulated by among others Engineers Registration Board (ERB) established by Cap 530 of the Laws of Kenya, the Board of Registration of Architects and Quantity Surveyors (BORAQS) established by Cap 525, the Physical Planners Act Cap 286, the Public Procurement and Disposal Act 2005, the Public Health Act Cap 242 and the National Environmental Management Authority. Each of the Boards or Authorities describes the roles and responsibilities of

the respective professionals it governs or regulates. Some of them specify necessary trainings and qualifications required of the professionals who are registered under the respective Act. The supervisory and quality control level of the building construction industry involves Engineers, (under ERB), Architects and Quantity Surveyors (under BORAQS), Environmental audit experts (under NEMA) among others.

The construction industry accounts for 5% of Kenya's GDP and employs about one million people with an estimated annual wage bill of Sh3.2 billion (Thuita,2011).This shows that any effort made to further increase the productivity of the construction industry will lead to an increased growth of the national economy. According to industry analysts (Ndaiga, 2011), the residential construction sector will continue to grow as both the government and private developers try to keep up with the rising demand for housing which is occasioned by the rise in population.

Bearing in mind that the construction industry is commonly seen as a barometer of the economy, construction output may then be set to rise at the same rate. Construction is likely, therefore, to impose increasing adverse impacts on the environment and wellbeing of people around the world (Ofori, 1998). This underpins the need for building professionals to develop a better understanding, not only of the environmental effects of construction, but it's social and economic effects too. The construction industry in Kenya is witnessing a boom in view of the significant economic activity in all sectors of the economy. The sector plays a very major role in the country's economic development through its contribution to gross domestic product (GDP), gross domestic capital formation (GDGF), creation of employment and production of capital facilities and assets required for production in other sectors, as creating demand for their products (UNCHS,1996).This contribution by the construction industry is more in cities and town, as urban areas are known to have prospered or declined depending on their environmental effects, economic activities, social prosperity, and natural resources around them (Olima, 2001).

There exists a delay among construction projects in Kenya and improving the quality of the construction project management process has been identified as one way to minimize delays and poor planning among clients, contractors and consultants (Kimani, 2004). Recent trends have seen firms especially in Mombasa employing

Total Quality Management principles for planning, administering and executing of projects to assist them in maintaining market leadership.

1.2 Statement of the Problem

Total quality management (TQM) as a management approach is centered on quality, based on the participation of all its members and aiming at long term success. This is achieved through customer satisfaction and benefits to all members of the organization and to society. In other words, TQM is a philosophy for managing an organization in a way, which enables it to meet stakeholders' needs and expectations efficiently and effectively without compromising ethical values (ISO 8402, 1994). TQM has been widely implemented throughout the world. Many firms have arrived at the conclusion that effective TQM implementation can improve their competitive abilities and provide strategic advantages in the marketplace (Anderson, Fornell, & Lehmann, 1994).

Total Quality Management (TQM) is considered as a philosophy that is basically about continuous organizational success through the employment of customer satisfaction and by basing it on the contribution of all the employees constantly working to enhance processes, services and products (Al-Asiri, 2004). In other words, it is an all-encompassing effort expended to bring about customer satisfaction through continuous improvement (Torbica, 1997). TQM is a systematic quality improvement approach for firm wide management for the purpose of improving competitiveness in terms of quality, productivity, customer satisfaction, and profitability. Since TQM practices have been embraced by many firms around the world for decades, they have earned the attention of many researchers from diverse areas. In order to be competitive in a changing marketplace, firms must improve both quality and innovativeness (Feng et al., 2006). Continuous (incremental) improvement and breakthrough innovation both have their places in a firm (Irani et al., 2004).

There has been various studies on the relationship between total quality management (TQM) and organizational competitiveness, with most pointing to positive relationships. Danny Samson, (1999) in their study on Australian and New Zealand manufacturing firms concluded that there was significant relationship between TQM and organizational competitiveness across industry sectors and different size companies. Masood (2012), in his study on manufacturing firms in Pakistan reported

that successful adoption and implementation of TQM practices results in improving the competitiveness of an organization. TQM can be defined as a holistic management philosophy aiming at continuous improvement in all functions of an organization to produce and deliver commodities or services in line with customers' needs or requirements by better, cheaper, faster, safer, easier processing than competitors with the participation of all employees under the leadership of top management. Wamweya (2013) studied TQM in the Lift industry and the aim of this research was to explore the factors that affect the adoption of TQM practices and their perceived performance in the lift companies in Kenya. The study concluded that total quality management has a positive effect on customer's re-patronage intentions showing that both TQM and customer satisfaction have a crucial role to play in the competitiveness and survival of any Lift Industry in the competitive market. Mwaura (2012) researched on the management of organizations in Africa in the changing business environment and concluded that the African public sector is dominated by bureaucracy that is either absolute or totally inept and for it to compete effectively with the other players in the international market, there is need to adopt modern operations management strategies such as total quality management that will enhance the quality services and performance of the public organizations. Given the large body of evidence on TQM, there is also need to investigate Total Quality Management principles employed by construction firms in Mombasa County. Motivated by this gap in literature, the study sought to answer the question: What is the influence of Total Quality Management principles on organization's competitiveness? A case of selected construction firms in Mombasa County, Kenya.

1.3 Purpose of the study

The purpose of the study was to investigate the influence of TQM principles on competitiveness of construction firms in Mombasa County.

1.4 Objectives of the Study

This study was guided by the following objectives

- i. To determine the influence of management support and commitment on competitiveness of the construction firms in Mombasa County.
- ii. To assess the influence of customer focus on competitiveness of the construction firms in Mombasa County.

- iii. To determine the influence of continuous improvement on competitiveness of the construction firms in Mombasa County.
- iv. To deduce the influence of employee empowerment on competitiveness of the construction firms in Mombasa County.

1.5 Research Questions

The study answered the following research questions:

- i. To what extent does management support and commitment influence competitiveness of the construction firms in Mombasa County?
- ii. To what extent does customer focus influence competitiveness of the construction firms in Mombasa County?
- iii. To what extent does continuous improvement influence competitiveness of construction firms in Mombasa County?
- iv. To what extent does employee empowerment influence competitiveness of the construction firms in Mombasa County?

1.6 Research Hypothesis

The study tested the following hypothesis:

- i. Ho: There is no relationship between Top Management commitment and competitiveness of construction firms in Mombasa County.
Ha: There is a relationship between Top Management commitment and competitiveness of Construction firms in Mombasa County.
- ii. Ho: There is no relationship between Customer Focus and competitiveness of construction firms in Mombasa County.
Ha: There is a relationship between Customer Focus and competitiveness of construction firms in Mombasa County.
- iii. Ho: There is no relationship between Continuous Improvement and competitiveness of construction firms in Mombasa County.
Ha: There is a relationship between Continuous Improvement and competitiveness of construction firms in Mombasa County.
- iv. Ho: There is no relationship between Employee Empowerment and competitiveness of construction firms in Mombasa County.
Ha: There is a relationship between Employee Empowerment and competitiveness of construction firms in Mombasa County.

1.7 Significance of the study

The findings of this study are significant to the Management of Construction firms because they will be able to understand and appreciate the importance of TQM on the competitiveness of the organization. The study provides the background information to research organizations and scholars who would want to carry out further research in this area. The study will also facilitate individual researchers to identify gaps in the current research in the area. Last but not least, the study will benefit the Government through the Ministry of housing and construction in making policy decisions whose overall objectives are to accelerate the rate of growth in the construction industry through TQM practices.

1.8 Basic assumptions of the Study

To undertake this study, the researcher made the following assumptions:

- i. The study assumed that construction firms in Mombasa County practice Total Quality Management.
- ii. The study also assumed that the selected construction firms would be willing to respond and provide data that the research requires to complete the study.
- iii. The study also assumed that the firms employed skilled and competent management from the top to the bottom who were able to fill the questionnaires appropriately.

1.9 Delimitation of the Study

When recognizing the critical role that TQM principles play in determining a firm's competitiveness, it is imperative that the construction firms in Mombasa adopt best practices with respect to quality management. Earlier studies established that firms have weaknesses which hinder them from implementing TQM principles. This study particularly focused on Total Quality Management principles employed by construction firms to enhance market competitiveness (performance). The study was conducted in Mombasa County.

1.10 Limitations of the Study

The following were the limitations of the study:

The study faced a number of limitations. First, some of the respondents feared to provide information fearing that such information would be used to their disadvantage

or to paint a negative image about their organization. To overcome this challenge, the researcher carried along an introduction letter from the university and assured the respondents that the information provided will only be used for academic purposes.

The researcher also encountered cases where some of the respondents were not fully truthful, and provided what they thought the researcher wanted to hear as opposed to what was the exact situation. To counter the limitation of respondent's truthfulness, the researcher sought to assure the respondents' anonymity and confidentiality, and re-assure them that the feedback would only be used for the purpose of the study.

Some respondents were adamant and unwilling to spend their limited time on presenting unpaid for information. Some of the respondents were not enthusiastic in filling of questionnaires due to their low education background. The researcher found it difficult to receive back all questionnaires in time while other responds did not return them at all.

1.11 Definitions and Significant Terms

Quality:

Is a measure of excellence or a state of being free from defects, deficiencies and significant variations. It is brought about by strict and consistent commitment to certain standards that achieve uniformity of a product in order to satisfy specific customer or user requirements. It is the totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs." If an automobile company finds a defect in one of their cars and makes a product recall, customer reliability and therefore production will decrease because trust will be lost in the car's quality.

Competitiveness:

Is the ability of a firm or a nation to offer products and services that meet the quality standards of the local and world markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them. Competitiveness pertains to the ability and performance of a firm, sub-sector or

country to sell and supply goods and services in a given market, in relation to the ability and performance of other firms, sub-sectors or countries in the same market.

Construction firms:

Sector of national economy engaged in preparation of land and construction, alteration, and repair of buildings, structures, and other real property. Construction is the process of creating and building infrastructure or a facility. It differs from manufacturing in that manufacturing typically involves mass production of similar items without a designated purchaser, while construction is typically done on location for a known client. Construction starts with planning, design, and financing and continues until the project is built and ready for use.

Top Management Commitment:

Top-level managers include boards of directors, presidents, vice-presidents, CEOs, general managers, and senior managers, etc. Top-level managers are responsible for controlling and overseeing the entire organization. This is the degree of support that management takes in the implementation a total quality environment. It is very critical to the success of TQM implementation and TQM cannot be fully implemented if there is lack of commitment from top management. Commitment of top managers in TQM implementation enables the employees to follow their direction and way of working.

Customer Focus:

It means meeting and exceeding customer expectations by involving everyone in the organization through an integrated effort. Similarly it means placing the customer at the centre of everything you do. It requires the company to check customers' attitudes regularly. Customer focus also implies putting customer needs first. It also requires a firm to use customer complaints as a method to initiate improvement in the current process.

Continuous Improvement:

A continual improvement process is an on-going effort to improve products, services, or processes. Continuous improvement is a necessary part of management's obligation to properly run its company. Gone are the boom days when quality did not matter due to the volume of work available and the ease of obtaining work. It is a

long-term approach to work that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality. Working to constantly improve is the number one way in which many businesses reduce operating overhead. Continuous improvement helps to streamline workflows. Efficient workflows save time and money, allowing you to reduce wasted time and effort.

Employee Empowerment:

It implies strengthening the effort-to-performance expectancy or increasing employee feeling of self-efficacy. Is a process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness, and through their removal by both formal organizational practices and informal techniques of proving efficacy information. It is a management practice of sharing information, rewards, and power with employees so that they can take initiative and make decisions to solve problems and improve service and competitiveness. Employee empowerment is giving employees a certain degree of autonomy and responsibility for decision-making regarding their specific organizational tasks. It allows decisions to be made at the lower levels of an organization where employees have a unique view of the issues and problems facing the organization at a certain level.

Empowerment is based on the idea that giving employees skills, resources, authority, opportunity, motivation, as well holding them responsible and accountable for outcomes of their actions, will contribute to their competence and satisfaction.

1.1.2 Organization of the Study

This study is organized in five chapters excluding the preliminary pages: declaration, dedication, acknowledgement, table of content, list of tables, list of figures, abbreviations & acronyms and abstract.

Chapter one provides background information on influence of TQM principles on the performance of the construction firms in Mombasa County, statement of the problem, purpose of the study, research objectives, research questions and hypothesis that the study looked forward to answer, significance of the study, assumptions of the study, delimitations and limitations of the study. It also provides definitions of significant terms used in the study.

Chapter two is a review of Literature of the previous studies and theories on TQM in relation to the research objectives of the study.

Chapter three outlines the Research Methodology used for purposes of completing the study. It describes research design, population of the study, sample size and sampling procedure, data collection instrument, ethical considerations and operational definition of variables.

Chapter four is about presentation and interpretation of the data from the study. It includes the demographic profile of the respondents and analysis of the objectives presented in frequencies, percentages and mean with a concluding regression analysis showing the relationship under study.

Chapter Five summarizes the findings, then gives the conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents literature information on the study topic in line with research objectives. A theoretical review is provided focusing on theories that explain the establishment and implementation of TQM principles and how quality is a major factor in establishing and obtaining market competitiveness.

2.2 Theoretical Framework

Existing literature points out various theories that explain the impact of TQM on firms. The main theories considered in this section includes: PDCA (Plan–Do–Check–Act) and Right The First Time theory.

2.2.1 Total Quality Management theory

TQM theory holds that “quality can only be defined by those who receive the product or service, including stakeholders”. Accordingly, public managers should engage their staff in identifying the organization’s internal and external stakeholders and determine the criteria that each use to judge the organization’s successfulness. This process suggests that the effective organization is one that satisfies the expectations of the customers’ at large (Oakland, 2003). Service organizations and manufacturing companies both convert inputs into output products or services through a productive process. Both manufacturing and service industries use the same kinds of input resources such as physical facilities, capital, materials, equipment, and people. In some instances, the processes and products are similar (Yang, 2006). Quality service can be defined as how well the service does what the customer thinks it is supposed to do. However, the differences between providing services and manufacturing products make the management of service quality a challenging process. TQM theory therefore, may be seen to refer to creating a set of customer-based practices intending to improve quality, reduce costs and enhance process improvement with an ultimate goal of achieving customer satisfaction and loyalty. Satisfying the customer creates ambassadors that recruit more clients hence increase in client base, market share and eventually profitability and overall organizational competitiveness.

2.2.2 Deming Circle theory

Also known as PDCA (Plan–Do–Check–Act) is an iterative four-step management method used in business for the control and continuous improvement of processes and products. The PDCA cycle has its origin with Dr.W. Edwards Deming's lecturer in Japan in 1950. Deming takes a system's and a leadership approach to quality. Deming is best known as a pioneer of the quality management approach and for introducing statistical process control techniques for manufacturing to the Japanese, who used them with great success. He believed that a key source of quality production lay in having clearly defined, repeatable processes. And so the PDCA Cycle as an approach to change and problem solving was very much at the heart of Deming's quality. In his theory, Deming argued that where the consequences of getting things wrong are significant, it often makes sense to run a well-crafted pilot project. That way, if the pilot doesn't deliver the results you expected, you get the chance to fix and improve things before you fully commit your reputation and resources. The four-phase process include the following; Plan: Identifying and analyzing the problem, Do: Developing and testing a potential solution, Check:Measuring how effective the test solution was, while analyzing whether it could be improved in any way, and finally Act: Implementing the improved solution fully.

2.2.3 Do It Right The First Time theory

Crosby's approach focuses on doing things right the first time and every time. There is no place in his philosophy for differing levels of quality or categories of quality (e.g. high/low, good/poor).He stresses that the way to manage quality is by prevention, not detection and testing. To Crosby, any product that falls within its design specifications is a quality product (Garvin & March,1986).Crosby addresses the need to change management's perception and attitudes about quality. He has found out that it is a common attitude among managers to believe that error is inevitable, it is a normal part of business life, and one needs to cope with it. He believes that management creates most of its problem through its attitude and practices in terms of what is rewarded and supported in an organization. For example, if adherence to schedule will reinforce quality, then the schedule will become the focus of the work. The ultimate goal of his quality improvement process is zero defect or defect free products and services. Zero defects does not mean that the products has to be perfect, it does mean that every

individual in the organization is committed to meet the requirement the first time, every time and not meeting the requirement is not acceptable.

2.3 Total Quality Management practices

TQM is the culture of an organization committed to customer satisfaction through continuous improvement. This culture varies from one country to another and between different industries, but has certain essential principles, which can be implemented to secure greater market share, increased profits, and reduced costs (Kanji & Wallace, 2000). A review of extant literature on TQM and continuous improvement programs identifies twelve (12) common aspects: Committed leadership, adoption and communication of TQM, closer customer relationships, technical system, benchmarking, increased training, open organization, employee empowerment, zero defects mentality, flexible manufacturing, process improvement, and measurement.

Anthony et al, (1989) described eleven (11) TQM practices: management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, product/service design, quality policies, quality data and reporting, communication to improve quality, and customer satisfaction orientation. Suresh Chandar et al, (2002) expanded the practices even further and came up with twelve (12) major practices comprising of: top management commitment and visionary leadership, human resource management, technical system, information and analysis system, benchmarking, continuous improvement, customer focus, employee satisfaction, union intervention, social responsibility, service scopes and service culture.

Based on the above literature, the research selected on the following four main practices of TQM for the study; Top Management Commitment, Customer Focus, Continuous Improvement and Employee Empowerment. A quality framework can provide a high-level guideline to assist a company to manage quality. It works as a road-map to guide the employees (Oakland 2003). Oakland suggested a TQM framework with four Ps (Planning, People, Process and Performance) and 3Cs (Culture, Communication and Commitment).He suggested that planning, people and process are the key factors in the quality framework to deliver competitiveness (4 Ps) while culture, communication and commitment (3Cs) support and link the 4Ps to

produce the result. Therefore, competent people, clear processes, comprehensive plans, and effective tools are essential for managing quality.

European Foundation for Quality Management (EFQM) is a popular quality framework for business excellence in Europe. It guides organizations to self-assess nine key areas of the business. The first five aspects are called Enablers. They are; leadership, people, policy and strategy, partnership and resources, and result. Another four areas are referred as Results. They are; people results, customer results, society results, and key performance results. The main advantage of the framework is that it drives for the continuous improvement.

Home and Personal Care-Europe (HPCE) has adopted EFQM quality framework for quality improvement. The successful deployment of the framework changed the culture of the company, improved the efficiency of the workforce and increased the business revenue and profit by 20% (Oakland, 2003). Service quality, which always involves the customer as part of a transaction, will therefore always be a balance between the expectations that the customer had and their perceptions of the service received. A high quality service is one where the customer's perceptions meet or exceed their expectations. The components of perceived service quality have been identified by Parasuraman et al. (1988) as reliability, assurance, tangibility, responsiveness, and empathy.

These are external measures which can be obtained only after the service is delivered. They thus suffer from the problems noted above for service quality measures where a failure can be detected only when it is too late to respond. Such measures have great value, but not in the ongoing business of monitoring and improving quality. Rather they can indicate the targets that must be aimed for and they define what the customer is expecting and so what we must aim to deliver.

In order to deliver these expectations, we need internal measures that will tell us how we can deliver what the customer expects. More importantly, how we can know before delivery that the service will exceed the customer's expectations. Zimmerman & Enell (1988) advised that careful consultation with the customer and an appraisal of the performance of competitors is needed in order to create any scales or measurements of quality which they place in a narrowed down framework of four quality standards. The four service quality categories are; timeliness, integrity,

predictability and customer satisfaction. Timeliness of service has been referred to by a number of authors as an important component in the quality of a service. It is a reasonable feature of service to be given high priority because the service has to be produced on demand and the interval in provision is an element of the actual product. Timeliness may be separated into three types; access time (the time taken to gain attention from the company), queuing time (this can be influenced by the length of the queue, or its integrity), and action time (the time taken to provide the required service). Integrity deals with the completeness of service and must set out what elements are to be included in the service in order for the customer to regard it as a satisfactory product. This standard will set out precisely what features are essential to the service. Predictability refers to the consistency of the service and also the persistence, or the frequency of the demand. Standards for predictability identify the proper processes and procedures that need to be followed and may include standards for availability of people, materials and equipment, and schedules of operation (Zimmerman & Enell, 1988). Customer satisfaction is designed to provide the targets of success, which may be based on relative market position for the provision of a specific service. Once these service standards have been determined the next step is to develop measurement techniques to monitor how well the standards are being achieved.

2.3.1 Management Commitment on organisation Competitiveness

Top management leadership is the degree of which top management sets up TQM objectives and strategies, provides and allocates necessary resources, contributes in quality improvement efforts, and assesses TQM implementation and performance (Saraph et al, 1989). Many TQM gurus such as Deming (1986), Crosby (1980), Oakland (1993), Kanji and Baker (1990) and Feigenbaum (1986) pointed the vitality role of top management commitment and leadership in TQM implementation. The commitment of top management is generally a preliminary point for implementing and practicing TQM to enhancing competitiveness of an organization (Ahire & Ravichandran, 2001). It is impracticable to adopt TQM and improve competitiveness without strong top management support (Flynn, 1995). Top management carries the primary responsibility for commitment to quality and support efforts necessary to successful TQM implementation (Crosby, 1979), hence, the most critical factor that contributes to successful TQM program is top management (Ramirez, 1993).

Dale (1999) states that it is the responsibility of the senior management team to create the organizational environment, atmosphere, values and behaviour in which TQM can achieve its potential. In addition, Oakland (1993) stresses the importance of top management commitment for success in promoting business efficiency and effectiveness. Moreover, Oakland (1993) states that TQM must be truly organization wide, and it must start at the top with the Chief Executive. The role of top management in achieving competitiveness is that management sets the goals and vision with the right leadership strategy to ensure that total quality is achieved in the organisation.

2.3.2 Customer Focus on Organisation Competitiveness

TQM is an ideology which is focused on the satisfaction of customer's need. Thus, most organisations try as much as possible to meet or exceed customer's expectation in their daily activity and also their long term plan (Andrle, 1994). TQM require organisations to develop a customer focused operational processes and at the same time committing the resources that position customers and meeting their expectation as an asset to the financial wellbeing of the organisation. Achieving customer focus involves ensuring that the whole organization, and not just frontline service staff, puts its customers first. All activities, from the planning of a new product to its production, marketing, and after-sales care, should be built around the customer. Every department and every employee should share the same customer focused vision. This can be aided by practicing good customer relationship management and maintaining a customer relations program (LeBoeuf, 2000).

TQM recognizes that a perfectly produced product has little value if it is not what the customer wants. Therefore, quality is customer driven. However, it is not always easy to determine what the customer wants, because tastes and preferences change. Also, customer expectations often vary from one customer to the next. Companies need to continually gather information by means of focus groups, market surveys, and customer interviews in order to stay in tune with what customers want. They must always remember that they would not be in business if it were not for their customers (Ferris, 2010).

Quality is defined as meeting or exceeding customer expectations. The goal is to first identify and then meet customer needs. TQM recognizes that a perfectly produced

product has little value if it is not what the customer wants. Therefore, we can say that quality is customer driven. However, it is not always easy to determine what the customer wants, because tastes and preferences change. Also, customer expectations often vary from one customer to the next. For example, in the auto industry trends change relatively quickly, from small cars to sports utility vehicles and back to small cars. The same is true in the retail industry, where styles and fashion are short lived. Companies need to continually gather information by means of focus groups, market surveys, and customer interviews in order to stay in tune with what customers want. They must always remember that they would not be in business if it were not for their customers. Focusing on customers is stressed by most authors of TQM literature to be an important part of TQM. Shiba et al. (1993) define a customer as the person or group who receives the work that one carries out, and asserts that a business function without a customer should not be performed. On ensuring customers needs and requirements are achieved the organisation becomes competitive in the industry hence continually improving on achieving higher quality standards to the customer.

2.3.3 Continuous Improvement on Organisation Competitiveness

Continuous improvement is a philosophy that Deming described as consisting of improvement initiatives that increase the success and reduce failures as well as company wide process of focused and continuous incremental innovation. According to Kossof (1993) total quality can be achieved by constantly pursuing CI through the involvement of people from all organisational levels. Traditional systems operated on the assumption that once a company achieved a certain level of quality, it was successful and needed no further improvements, this was their main drawback. However, the way companies implement continuous improvement is by studying business practices of companies considered “best in class.” This is called benchmarking. The ability to learn and study how others do things is an important part of continuous improvement. The benchmark company does not have to be in the same business, as long as it excels at something that the company doing the study wishes to emulate.

When an organization implements a program to repeatedly improve processes, it's called Continuous Process Improvement, or CPI. CPI programs such as Lean, Six Sigma, is famous for setting in motion a combination of philosophy, management

framework, and supporting tools to evaluate and improve operational processes in an on-going manner. Continuous improvement will ensure that the firm improves total quality leading to competitiveness in the market.

2.3.4 Employee Empowerment on Organisation Competitiveness

In the motivational approach pioneered by Conger and Kanungo (1988), empowerment was conceptualised as psychological enabling. These authors defined empowerment as a process of enhancing feelings of self-efficacy among organisational members through the identification of conditions that foster powerlessness and through their removal by both formal organisational practices and informal techniques of providing efficacy information. This definition implies strengthening the effort to performance expectancy or increasing employee feeling of self efficacy. According to Conger and Kanungo, the effect of empowerment is initiation and persistence of behaviour by empowered employees to accomplish task objectives. These definitions are derived from the management theory of power and authority delegation that gives an employee the right to control and use organisational resources to bring desired organisational outcomes.

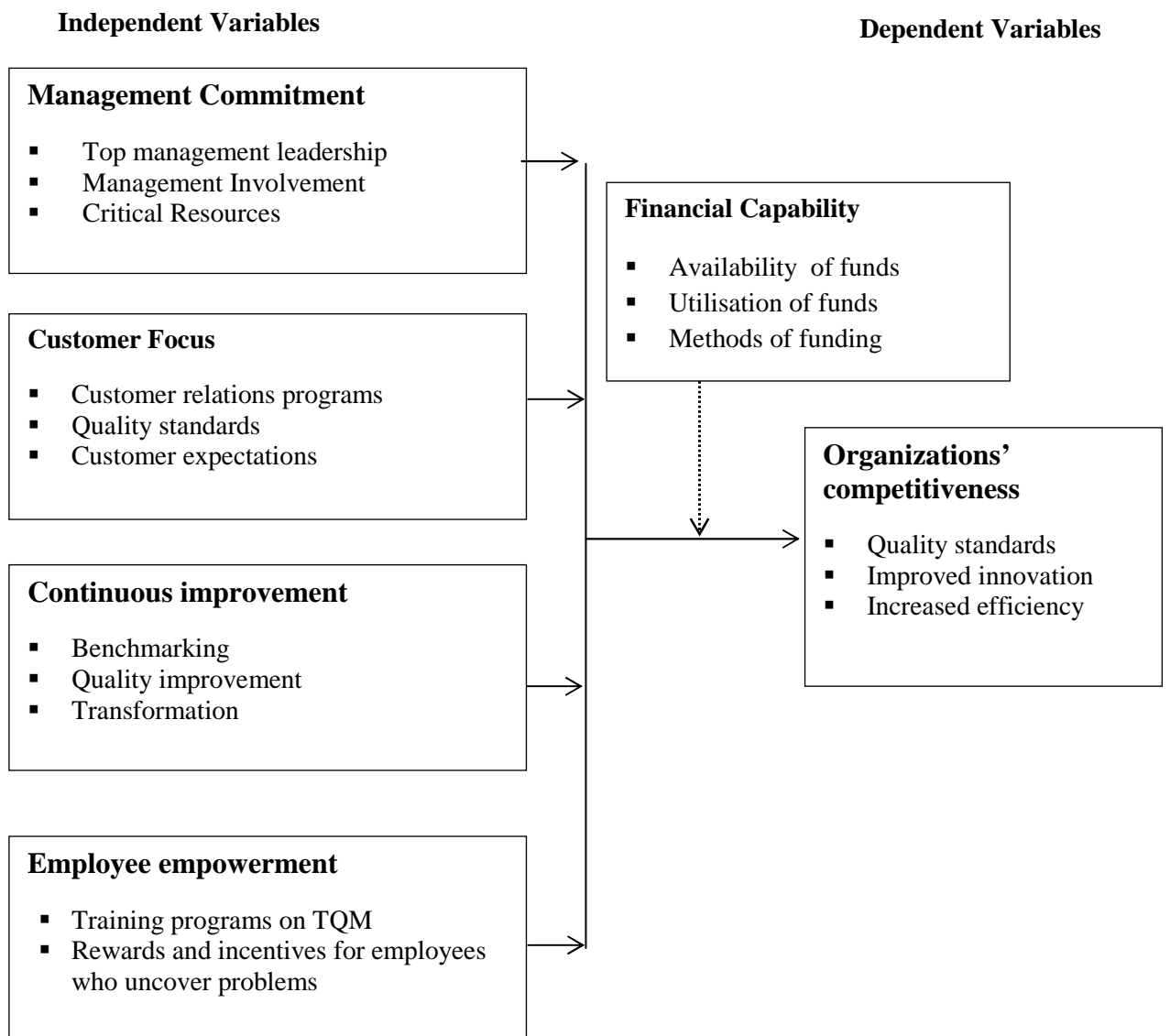
Thomas and Velthouse (1990) extended this approach by viewing power as energy: to empower is to energise. According to these authors empowerment is associated with changes in cognitive variables (called task assessments), which determine motivation in workers. Spreitzer's (1995) model, based on the Thomas and Velthouse (1990) approach, defines empowerment as increased intrinsic motivation manifested in four cognitions: meaning (value of work goal or purpose), competence (self-efficacy), self determination (autonomy in initiation and continuation of work behaviours), and impact (influence on work outcomes).

Part of the TQM philosophy is to empower all employees to seek out quality problems and correct them. With the old concept of quality, employees were afraid to identify problems for fear that they would be reprimanded. Often poor quality was passed onto someone else, in order to make it "someone else's problem". The new concept of quality, TQM, provides incentives for employees to identify quality problems. Employees are rewarded for uncovering quality problems, not punished. In TQM, the role of employees is very different from what it was in traditional systems. Workers are empowered to make decisions relative to quality in the production process. It is prudent when employees are empowered and trained continuously in the organisation they will perform accordingly hence the firm will achieve overall competitiveness.

2.4 Conceptual framework

Based on the literature review, a research framework has been developed in order to study the linkages between TQM practices and market competitiveness

Figure 1: The conceptual framework showing the relationship between TQM principles and Organization's competitiveness.



2.5 Summary of Literature Review

The researcher highlighted two main theories of TQM: PDCA (Plan–Do–Check–Act) and Do It Right The First Time theory. The researcher selected the following four TQM practices for the study: management support and commitment, customer focus, continuous improvement and employee empowerment. These practices were selected due to their usefulness and relevance to the construction industry.

However, most of what has been written on TQM is usually related to manufacturing related organizations even though it is widely believed that the concepts and principles under TQM are equally relevant to construction industry. Generally, there is still a shortage of TQM studies in the construction sector. Also, as mentioned in a study done by Yasin et al. (2004), Construction firms are still lagging behind their manufacturing counterparts in terms of their strategic commitment to TQM. Motivated by this gap in literature, the research sought to establish the influence of TQM principles on competitiveness of construction firms in Mombasa County.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used in conducting the study. The section explains the research design chosen for the study, target population, sampling techniques, data research instruments, validity and reliability of research instruments, data collection procedure and data analysis techniques.

3.2 Research Design

A cross sectional survey was adopted in carrying out the study. Descriptive survey was used focusing on finding out what, when and how much of these principles applied. Descriptive survey design involves collection of data from a sample of a population in order to determine the current status of that population with respect to one or more variables Mugenda (1999). This method was appropriate in attempting to determine influence of Total Quality Management principles on competitiveness of construction firms in Mombasa County.

3.3 Target Population

A population can be defined as the complete set of subjects that can be studied, people, objects, plants, animals, organizations from which a sample may be obtained; Shao,(1999). The target population for the study was Construction firms in Mombasa County. The population had information related to influence of Total Quality Management principles on construction firms in the region. This population was targeted because it represents the actual area of interest in this study. The population for the study was 25 construction firms in the County.

3.4 Sample Size and Sampling Techniques

Sampling technique is the process of selecting a specific number of objects to form respondents for study: Ngulube, (2003). The study used random sampling. This sampling technique is one where the items for the sample are selected without any preferred order by the researcher and the researcher's choice concerning the items remains supreme (Kothari, 2004). The main rationale behind using samples is so that the findings represent the entire population. The main advantage of using sampling is

that it saves a lot of time and effort and yet able to meet the objectives of the research (Kothari, 2007).

According to Borg and Gall, (2003) at least 30% of the total population is representative of the study population. Mugenda and Mugenda, (2003) explains that the target population should have some observable characteristics to which the researcher intends to generalize the results of the study. A sample of 25 respondents was identified to fill the questionnaires. They were selected using simple random sampling technique.

3.5 Data Collection Instruments

Questionnaires were used because the population is literate and able to comprehend the questions. This technique proved appropriate since respondents could respond comprehensibly. The information collected using questionnaires was as recommended by Mugenda and Mugenda (1999). The questionnaires were administered through a drop and pick technique in order to improve the response rate and quality of data gathered. The questionnaires were administered to the construction firms Project Managers, Engineers, and supervisors.

3.6 Validity and Reliability of Instruments

The researcher instrument was tested for validity and reliability to ascertain its credibility in collecting primary data.

3.6.1 Validity of Instruments

Instrument validity refers to accuracy, meaningfulness and technical soundness of the research instrument; Mugenda and Mugenda (1999). The questionnaire guides are said to be valid when they actually measure the intended parameters; Borg and Gall, (1989). In this study, the researcher sought to ensure that content-related validity was guaranteed. Research instruments were reviewed to ensure that they adequately addressed the research objectives. Expert opinion from the supervisor was sought and literature search was done in order to establish validity. Validity was enhanced through the collection of data from appropriate respondents. Language used on the questionnaire was kept simple to avoid any ambiguity and misunderstanding

3.6.2 Reliability of Instruments

Reliability is the extent to which the results are consistent over time and are accurate representation of the total population of the study. The data was collected using well tested and accepted procedures to yield consistent data. Instrument reliability is the dependability and trustworthiness of the test. This was measured through a test-retest technique where the questionnaire was administered to a group of individuals with similar characteristics as the actual sample. The test was then repeated after one week. The scores obtained from both tests were correlated to get the coefficient of reliability. The Spearman's rank correlation coefficient of 0.7 was obtained, and it implied that the instrument was 70% reliable. This meant that the research instrument was reliable and consistent to answer the research questions of the study

3.7 Data Collection Procedures

The researcher obtained permission to collect data from the university. She also requested for permission from the Management of the firms to collect data from them. She then recruited two research assistants to assist in data collection. The research assistants were trained on the research objectives and guided on techniques of administering the questionnaires. Introduction letters introducing the assistants on behalf of the researcher were issued. Questionnaires were administered to the Project Managers, Engineers and Supervisors of the sample construction firms in Mombasa County.

3.8 Ethical Considerations

The researcher adhered to ethical standards by protecting the sources of information. The information obtained was used for academic purposes and for mutual benefit of stakeholders. The respondents made informed consent to voluntarily take part in the study.

3.9 Data Analysis Methods

Data analysis is the process of obtaining raw data and converting it into information useful for decision making by users. Data is analyzed to answer questions, test hypotheses or disapprove theories. The nature of data collected was quantitative and qualitative. It was analyzed using descriptive statistics as well as inferential statistics. According to DeCaro, (2003), descriptive statistics describes a big hunk of data with summary, charts and tables but do not attempt to draw conclusions about the

population. Inferential statistics tests hypothesis to draw conclusions about the population under study. This study used both descriptive and inferential statistics by way of frequency diagrams, tables and percentages to summarize data. The study used regression analysis to show the relationship between TQM principles and competitiveness of Construction firms in Mombasa County.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \epsilon; \text{ Where:}$$

Y = Firm's competitiveness

a = Constant

b_1, b_2, b_3, b_4 = Coefficients of Total Quality Management Practices

X_1, X_2, X_3, X_4 = Total Quality Management Practices (Independent variables).

X_1 = Top Management Support and Commitment

X_2 = Customer focus

X_3 = Continuous Improvement

X_4 = Employee Empowerment and Training

ϵ = Error term.

3.10 Operational Definition of Variables

Table 3.3: Operational Definition of Variables

Research Question	Type of Variable	Indicator	Measurement scale	Data analysis tool
To determine the influence of management support and commitment on competitiveness of the construction firms in Mombasa County	Independent	TQM objectives and strategies, resources, TQM implementation	Ordinal Nominal	SPSS
To assess the influence of customer focus on competitiveness of the construction firms in Mombasa County.	Independent	Customer relations programs,	Ordinal Nominal	SPSS
To determine the influence of continuous improvement on competitiveness of the construction firms in Mombasa County.	Independent	Benchmarking, Continuous Process improvement Programs	Ordinal Nominal	SPSS
To deduce the influence of employee empowerment on competitiveness of the construction firms in Mombasa County.	Independent	Rewards and incentives for employees who uncover problem, Training programs on TQM	Ordinal Nominal	SPSS

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter focused on data analysis, interpretation and presentation. The study made use of frequency tables and percentages to present data. The main objective of the study was to determine the influence of Total Quality Management principles on competitiveness of construction firms in Mombasa County.

4.1.1 Response Rate

The study targeted a sample size of 25 Construction firms in Mombasa County. However, only 20 firms filled and returned the questionnaires giving a response rate of 80%. This response rate was excellent and representative and conforms to Mugenda and Mugenda (1999) stipulation that a response rate of 50% is adequate for analysis and reporting, a rate of 60% is good and a response rate of 70% and over is excellent.

Table 4.1 Response Rate

Respondents	Frequency	%
Supervisors	5	25
Engineers	5	25
Project Managers	10	50
Total	20	100

From the findings illustrated above, 25% of respondents were Supervisors, 25% were Engineers while 50% were Project Managers. The number of Project Manager Respondents was an indication that decision making process was highly influenced by managers at the top of the management hierarchy.

4.2 Total Quality Management Principles

This section of the questionnaire sought to establish the influence of Total Quality Management principles on competitiveness of Construction firms in Mombasa

County. The principles were categorized as under: Top Management Commitment, Customer Focus, Continuous Improvement and Employee Empowerment.

Table 4.2 Total Quality Management Principles employed

	Mean	Standard Deviation
Top Management Commitment		
Management understands TQM principles	4.00	1.16775
Departmental heads accept responsibility	3.91	1.16436
Quality management incorporated in vision	4.26	0.8618
Data analysed using computer for managers	3.61	1.03305
The company's plan incorporates stakeholders	4.04	1.065008
Total	3.97	1.05841
Customer Focus		
Responds quickly to customers complaint	3.98	1.241570
Effective resolving of customer complaints	4.12	1.373000
Company undertakes customer orientation	3.90	1.373069
Total	3.9	1.330690
Continuous Improvement		
Company undertakes quality audits	4.3	1.18455
Use customer complaints to initiate improvement	3.2	1.25109
Company evaluates the performance of suppliers	3.87	1.17954
Use trainings to improves employee competencies	3.83	1.23038
Carries regular departmental employee appraisals	4.09	0.79275
Total	3.87	1.12766

Employee empowerment

Employees provided with feedback	3.87	0.91970
Employees believe quality their responsibility	3.39	1.19617
Workforce is well motivated	3.87	1.24157
Regular trainings are undertaken	3.43	1.53226
Employees are well rewarded	3.65	1.15242
Total	3.51	1.20842

On Top Management Commitment, by a mean of 4.26, being the highest, indicated that the construction firms sampled had quality management programs incorporated in the company vision. A mean of 4.04 suggested that the companies incorporated stakeholders in their corporate plan. The findings also indicated that most of the firms attained competitiveness through customer focus and general involvement of the whole organisation and not just the front line service staff. The top management clearly understood the fundamental values and principles of quality management. Some of the departmental heads accepted responsibility for quality as shown by a mean of 3.91. The results show that to a lesser extent managers analysed data using computers. The total mean of top management commitment to firm's competitiveness was 3.97. The standard deviation was 1.05841 meaning that there was less uniformity on the responses provided.

On Customer focus, the findings show that construction firms in Mombasa have an effective mechanism for resolving customer complaints. This had a mean total of 4.12. Employees were also quick to respond to customers complaints as indicated by a mean of 3.98. This inferred that most firms put stringent emphasis on resolving customer complaints in order to achieve competitiveness. However, a mean of 3.9 show that some respondents were indifferent on whether the firms undertake customer orientation. The standard deviation of all the components was greater than one (>1).

Regarding Continuous improvement, the findings show by a mean of 4.3 that firms undertook quality audits and evaluation. It inferred that the construction firms strived to improve the quality of products being marketed. The management also conducted regular departmental and employee appraisals to evaluate how the continuous

improvements plans were doing. This variable had a mean of 4.09. The firms also evaluated their suppliers in order to achieve competitiveness as shown by a mean of 3.87, and empowered their employees with the aim of improving quality. Customer complaints were also recorded and used by the firms to initiate improvement. This was pointed out by a mean of 3.26. Variation of opinions of respondents is evident as the standard deviation is greater than one (>1) except on the regular departmental and employee appraisal that all seem to agree on. The total mean for continuous improvement was 3.87.

Finally, Employee Empowerment had an overall mean of 3.51. Two variables tallied with a mean score of 3.87 where respondents agreed that employee empowerment in firm's effort to attain competitiveness was achieved by providing employees with feedback on their quality performance as well as motivating workforce to undertake quality management projects. Employees are motivated by rewards, incentives and by compensating them well for work well done. The respondents agreed that quality was their responsibility with a mean of 3.39. The findings also suggest that the firms undertook regular and continuous trainings aiming at improving the quality of the firm's products. The variation on responses is high with a standard deviation of greater than one (>1) except for providing feedback to employees where Standard deviation was 0.91970.

4.3 Organizations Market Competitiveness

This section of the questionnaire sought to establish the extent to which various market competitiveness measures in the construction firms in Mombasa County had changed over the last five years. The results were presented in the Table 4.3.

Table 4.3 Extent of change on Market competitiveness

Variables	Mean	Standard Deviation
Cost reduction	2.6522	1.46501
Increase in profitability	3.1739	1.15413
Increase in market share	2.9565	1.10693
Increased order placement	3.043	1.10514
Improved order processing	3.3478	1.26522
Improved product functionality	3.5217	1.12288
Improved product reliability	3.9522	1.26522
Improved Quality	3.6522	1.2652
Total	3.320	11.21872

The table above shows how most of the construction firms' competitiveness indicators had changed with time. The highest number of respondents, mean of 3.95 agrees that product reliability had improved due to application of TQM principles. This improvement was the highest by a margin of about 31–40% while the product/service quality had also registered a positive result of a mean of 3.65 which translated to 21 -30%. The respondents also stated that improved product functionality had changed market competitiveness by a mean of 3.52. Other measures such as order placement, processing, market share and cost reduction had also improved as shown in Table 4.3. The overall market competitiveness was highly indicated by the

metric of improved product reliability and product service quality. This indicated that construction firms were focused on achieving competitiveness through continuous improvement and customer focus.

4.4 Relationship between TQM Adoption and Market competitiveness

The study used regression analysis to establish the relationship between the adoption of TQM principles and the effect it had on the competitiveness of the construction firms in Mombasa County. To determine the same, the relationship between the overall mean of each of the TQM principle covered under section 4.2 was regressed with the resultant mean from the competitiveness measure in section 4.3. The overall mean of each TQM practice with corresponding mean of competitiveness from each respondent was tabulated as shown in Table 4.4 and the resultant mean was used in regression analysis. The results were used in determination of explanatory power, significance of the overall model and the significance of coefficients.

Table 4.4: Data for Regression Analysis

Respondent	Y	X1	X2	X3	X4
1	4.4	4.4	4	4	4
2	3.1	4.8	5	4.4	4.4
3	4	4.6	3.7	3.8	3.8
4	3	3.2	2	3.6	3.6
5	3.4	3.8	3.3	3.2	3.2
6	2.75	4.4	4.3	3.4	3.4
7	4.25	4.8	5	4.8	4.8
8	4.25	4.6	4.3	4.4	4.4
9	3.5	3.2	2.3	2.8	2.8
10	2.63	3.2	2.8	2.8	2.8
11	1.13	3.8	3.3	3.8	3.8
12	1.5	2	1.6	2.8	2.8
14	2.6	3.8	3.3	3.8	3.8
15	3.75	4.8	4.3	3.6	3.6
16	4.4	4.6	4.6	5	5
17	4.13	4.6	4.6	4.8	4.8
18	2.5	4.8	3.3	3.2	3.2
19	2.6	3.8	4.3	2.8	3.8
20	3.75	2	3.3	3.4	2.8

The explanatory power showing the variability is highlighted in Table 4.5

Table 4.5: Explanatory Power of the Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712a	0.5069	0.462471	0.067811
a. Predictors: (Constant), X1 – X6				

The value of R² is 0.507, revealing 50.7% of variability in Mombasa construction firms' competitiveness is accounted for by the prudent management of TQM principles. The adjusted R² is an improved estimation of R² in the population. The value of adjusted R² is 0.4625. This adjusted measure provides a revised estimate,

i.e. 46.3% of the variability in the competitiveness of Mombasa County construction firms are due to the fitted model.

Results of the test of significance of the regression coefficients are shown in Table 4.6.

Table 4.6: Estimation of Regression Coefficient

Model	Un-standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
(Constant)	520.977	155.402		3.349	0.001
X1	3.02	0.046	0.022	0.437	0.663
X2	1.001	0.007	0.004	0.073	0.942
X3	0.059	0.045	0.072	1.333	0.186
X4	1.685	0.149	0.804	11.319	.000

Note: Dependent variable is; Organization’s Market Competitiveness, while independent variables are; X1 = Top Management Support, X2 = Customer Focus, X3 =Continuous Improvement, X4 = Employee Empowerment. The resultant regression model is as follows:

$$Y = 520.977 + 3.020 X1 + 1.001 X2 + 0.059 X3 + 1.685 X4$$

The coefficient of each of the independent variables (X1 – X4) is significant at 5% significance level because the p-value is less than the critical value of 2.093. The coefficient of top management support is the highest of the independent variables and this means that a unit increases in the top management support will increase the organizational competitiveness by 3.02 units. Whereas a unit increase in Customer Focus, Continuous Improvement, Employee Empowerment, will increase the organizational competitiveness by 1.001, 0.059 and 1.685 respectively.

4.5 Discussion of Results

The results of this study have yielded a positive relationship between TQM and market competitiveness of Construction firms in Mombasa County. From the results in section 4.2, the findings are consistent to the earlier view that in the present day business environment, firms would seek to adopt and implement a set of operations management principles that have been successful elsewhere and that will help them to identify changes in their environment and to respond proactively through continuous improvement (Fassoula, 2006).

On Top Management Commitment, the finding was consistent with that of Terziovski (1999) who observed that there is increased tendency of managers to continue with an internal focus for TQM, and this could explain why there is a shift in popularity from TQM to ISO9000, which is perhaps symptomatic of managers' pre-occupation with achieving short-term results. TQM requires complete support of top management, who realize that it is not a temporary cost reduction project but rather a long term venture. As Ishikawa (1985) pointed out, top management commitment should be shown by adopting the lead role in implementation. The results also support the findings made by Brah and Lim (2006) that a firm's operational competitiveness has a positive correlation with overall organizational competitiveness.

From the findings on Continuous Improvement, there seems to be an agreement with Deming, Feigenbaum, Ishikawa, and Juran that the objective of quality management is to reduce costs and improve customer satisfaction.

The finding on employee empowerment suggests that the companies undertake regular and continuous training aimed at improving the quality of the firm's products. This finding support Birdi et al. (1997) who noted that a variety of organizational and environmental factors influence training activity and therefore management support contribute to the development activity. They also pointed to the complexity of the relationship among organizational environmental factors as elements of the "continuous learning culture" in organizations.

The result on section 4.3 reinforces the view that adoption of TQM has positive impact in the firm's competitiveness. The performance improvement has been

registered across firms' production to customer support. This is in line with the views of Kaynak, (2003) that TQM can be viewed as a company-wide, holistic management philosophy that covers all the business operations and seeks to continuously improve them from resource procurement and acquisition all the way up to the provision of customer support and after sale service. Salaheldin (2009) further found that TQM has a positive and significant effect on operational and organizational competitiveness.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter presents the summary of the study findings, discussions, recommendations and conclusion of the research. The chapter also contains suggestions of related studies that may be carried out in the future.

5.2 Summary of Findings

The purpose of this study was to establish the influence of total quality management principles on Organisations competitiveness: a case of selected Construction firms in Mombasa County.

From the analysis and review of the data obtained, TQM is a major source of competitive advantage and just like any important and major endeavours in the organization, its success depends on the capacity of the managers and employees involved. From the data collected, the management comprised of: 25% supervisors 25% engineers and 50% Project Managers.

The findings show that top management commitment determine organizations market competitiveness as illustrated by a mean of 3.97. This shows that it is impracticable to adopt TQM and improve competitiveness without strong top management support. Top management carries the primary responsibility for commitment to quality and support efforts necessary for successful TQM implementation.

The findings also show that focusing on customers determines organisation's market competitiveness as illustrated by a mean of 3.9. Customer focus involves ensuring that the whole organization, and not just frontline service staff, puts its customers first. All activities, from the planning of a new product to its production, marketing, and after-sales care, should be built around the customer. Organizations depend on customers and should understand their current and future needs and strive to meet and exceed them. Every department and every employee should share the same customer focused vision. This can be aided by

practicing good customer relationship management and maintaining a customer relations program (LeBoeuf, 2000).

The findings also show that continuous improvement determines organisation's market competitiveness as illustrated by a mean of 3.87. This implies that it is impossible for organizations to survive without changing or improving. The organization's ability to survive in a highly competitive business world depends on how the organization manages and adapts to demands of a changing environment.

The findings also show that employee empowerment determines organisations market competitiveness as illustrated by a mean of 3.51. Part of the TQM philosophy is to empower all employees to identify quality problems and correct them. TQM provides incentives for employees for uncovering quality problems. The finding on employee empowerment and training suggests that the companies undertake regular and continuous trainings aimed at improving the quality of the firm's products.

5.3 Discussion of Findings

The study examined the influence of total quality management on competitiveness of construction firms in Mombasa County.

5.3.1 Top Management Commitment

The findings, by a mean of 3.97 indicate that top Management of the organisations were committed to implementation of TQM. From the findings, the top management accepted responsibility for quality and incorporated TQM into the vision of the organisations. The management created environment, atmosphere, values and behaviour in which TQM achieved its potential. Oakland (1993) stresses the importance of top management commitment for success in promoting business efficiency and effectiveness. Moreover, Oakland (1993) states that TQM must be truly organization-wide, and must start at the top with the Chief Executive. Ishikawa (1985) pointed out that top management commitment should be shown by adopting the lead role in implementation of the technique.

5.3.2 Customer Focus

The analysis indicated by a mean of 3.9 that the firms under the study focus on their customers. This is in line with the views of Kaynak, (2003) that TQM can be viewed as a companywide, holistic management philosophy that covers all the business

operations and seeks to continuously improve them from resource procurement and acquisition all the way up to the provision of customer support and after sale service. Competitiveness has been registered across firms' production to customer support.

5.3.3 Continuous Improvement

The analysis indicated by a mean of 3.87 that construction firms in Mombasa county embraced continuous improvement of their products and services. Today, irrespective of the business domain, companies must focus on speed, efficiency, and customer value to be globally competitive. Hence, long-term health of any organization depends on their commitment to continuous improvement. This type of vision helps companies remain competitive in the face of customers' constantly changing and evolving expectations. The principles, practices, and techniques embodied within continuous improvement form a comprehensive organizational philosophy that strives to effectively fulfill customers' needs (Dean and Bowen, 1994), and organizations implement such programs in order to create the knowledge necessary to improve performance (Choo et al, 2007; Lapré et al., 2000; Mukherjee et al., 1998). Continuous improvement typically involves generating ideas for improvement, testing these ideas, and implementing them.

5.3.4 Employee empowerment

The findings indicated by a mean of 3.51 that construction firms in Mombasa County empower their employees to achieve competitiveness. Innovation can thrive when collaboration takes place. Collaboration can occur best when teams are empowered. Empowerment is a concept that links individual strengths and competencies, natural helping systems and proactive behaviour to social policy and social change. In other words, empowerment links individual and his or her wellbeing to wider social and political environment in which he or she functions. Successful implementation of total quality management depends heavily on changes in employee attitude and activities in the organisation.

5.4 Conclusion

The research concluded that the Construction firms in Mombasa County recognized and implemented TQM principles as a catalyst for improving competitiveness. It also indicated that the four principles of TQM under study influenced organisational competitiveness as show by a mean of 3.97 for Top Management Commitment, 3.9

for Customer Focus, 3.87 for Continuous Improvement and 3.51 for Employee Empowerment.

It was found that if implemented properly, TQM produces a variety of benefits such as meeting customer needs, improved internal communication and better problem solving capacity of the firm. It was also found that the success of a TQM program increases when its implementation is cascaded down the entire employees cadre since it requires the reformation of the corporate culture and the permeation of the new business philosophy in the organization.

The first objective was to determine the influence of Top Management Commitment on organizations competitiveness in Construction Companies in Mombasa County. The study concluded that top management commitment is a critical factor in achieving competitiveness in the firm. It was concluded that top management commitment has a positive influence on competitiveness of a firm. The findings indicated that a unit's increase in Top Management's commitment will increase organization's competitiveness by 3.02 as shown by the regression coefficient in the analysis.

The second objective of the study was to investigate the influence of customer focus on competitiveness of Construction firms in Mombasa County. The findings indicated that a unit's increase in customer focus will increase organization's competitiveness by 1.001 as shown by the regression coefficient in the analysis.

The third objective of the study was to assess the influence of continuous improvement on competitiveness of construction firms in Mombasa County. The study concluded that continuous improvement is a critical factor in achieving competitiveness and hence successful implementation of TQM directly influences the position of a firm in the market. The findings indicated that a unit's increase in continuous improvement will increase organization's competitiveness by 0.059 as shown by the regression coefficient in the analysis.

Finally, the fourth objective of the study was to assess the influence of employee empowerment on competitiveness of construction firms in Mombasa County. The

study concluded that employee empowerment is crucial for enhancing competitiveness of firms.

5.5 Recommendations

Based on the findings of the study, the researcher recommends that:

Top managements should commit themselves in providing leadership and key resources needed in quality management since this is a major determinant in ensuring firm competitiveness is achieved.

Customer focus is critical factor in implementing total quality management hence the organisations customer focus and management should be developed with all the staff and management in the organisation to ensure quality is achieved leading to competitiveness in the firm.

The firms should ensure continuous improvement is achieved as this makes the firms to be innovative and quality managers and management develop appropriate, effective continuous improvement programs that allow quality at all levels in the organisation

Employees' empowerment and training is a critical factor in achieving total quality management hence the firms should empower and train employees on quality management initiatives. It also recommends that these trainings are conducted frequently at all levels in the organisation.

5.6 Suggestions for Further Research

This study only examined influence of four (4) TQM principles on competitiveness of construction firms in Mombasa. However there are other TQM principles which contribute to competitiveness of construction firms hence it is recommended that further research on TQM practices be done to identify and examine additional variables affecting the firms' competitiveness.

Additionally, a study should be carried out to establish critical success factors that influence the competitiveness of the firms. This should be exploited in-depth to understand and highlight the hindrances and stumbling blocks that are disturbing the effectiveness of TQM implementation. Another useful avenue for future research is to carry out a comparative study with companies in other service sector to provide good insights on the effectiveness of TQM implementation.

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APPENDICES

APPENDIX I: RESEARCH QUESTIONNAIRE

Please give answers in the spaces provided and tick (√) in the box that matches your Response to the questions where applicable:

Part A: Total Quality Management

1. Has your company adopted total quality management? Yes () No ()
2. Please indicate the extent to which the following total quality management practices has influenced the competitiveness of your company? Where **1 - Strongly disagree; 2 -Disagree; 3 - Neutral; 4 - Agree; 5 - Strongly Agree**

	TQM Practices					
	Top management commitment	1	2	3	4	5
1.	Top management clearly understands the fundamental spirits and principles of quality management					
2.	The departmental heads accept responsibility for quality of goods					
3.	Quality management is incorporated in the company's vision					
4.	The company's plan always incorporate external customers, suppliers and suppliers					
5.	Data is analyzed using computer for managers to make decisions					
	Customer Focus					
1.	The company responds quickly to customers complaints					
2.	The company has effective process for resolving customer complaints					
3.	The company undertakes customer orientation					
	Continuous improvement					
1.	The company undertakes quality audits and evaluation regularly					
2.	The company use customer complaints as a method to initiate improvements in current processes					

3.	The company evaluate the performance of suppliers					
4.	The company improves employees competencies through trainings					
5.	Regular departmental and employee appraisals carried out					
	Employee empowerment					
1.	The employees are provided with feedback on their quality performance					
2.	All employees believe that quality is their responsibility					
3.	Is the workforce well motivated to undertake quality improvement					

Part B: Organizational Competitiveness

Indicate in terms of average percentage the extent to which the following competitiveness measures have improved positively in your organization over the last five years. Where, **1 = (0% – 10%); 2 = (11% – 20%); 3 = (21% – 30%); 4 = (31% - 40%); 5 = (Over41%)**

Organizational competitiveness	1	2	3	4	5
Cost reduction					
Increase in profitability					
Increase in market share					
Increased order placement					
Improved order processing					
Improved product functionality					
Improved product reliability					
Improved product/service quality					

APPENDIX II: LIST OF CONSTRUCTION FIRMS IN MOMBASA**List of Construction Companies in Mombasa County**

	Name	Postal Address	Trade
1.	Al-wex Electrical Services(K) Ltd	16794-80100	Electrical Engineering Services(Electrical Installation),Power Generating Plants & Controls Panels
2.	Associated Electrical & Hardware Suppliers Ltd	81347-80100	Building Works (General Building), Civil Engineering (Road Works)
3.	Comarco Construction Company Ltd	94081-80107	General Building Contractors, Civil, Engineering Services (Road works)
4.	Continental Homes	82594-80100	General Building Contractors
5.	Dantax Enterprises	34214 - 80100	General Building Contractors
6.	Heavy and Light Current Engineering Services	81213-80100	Electrical Engineering Services (Electrical Installation)
7.	Island Homes Developers Ltd	2930 - 80100	General Building Contractor , Civil Engineering Services (Road works)
8.	Joycing Enterprises & General Suppliers	93272-50100	General Building Contractors
9.	Kiziwi General ServicesLimit	41114-80100	General Building Contractor
10.	Makini Construction &Engineering Limited	713-80100	General Building Contractor
11.	Melex International Ltd	99195-80107	General Building Contractor
12.	MistryJadva Parbat &Company Ltd	90643 - 80100	General Building Contractor
13.	MistryShamjiLalji&Company	82857 - 80100	Mombasa Building Works (General Building)
14.	MuljiDevraj& Brothers	82261-80100	Building Works (General

			Building) Civil Engineering(Road Works
15.	Nyali Air Conditioning &Refrigeration ServicesLimited	83458-80100	Mechanical Engineering Services(Air Conditioning, Refrigeration)
16.	Prime Hope Agencies	82816 - 80100	General Building Contractors
17.	Premier Colts Services	87786-80100	General Building Contractor
18.	Ryanja Enterprises Limited	41337-80100	General Building Contractors
19.	Saffron Agencies Limited	1042-80100	General Building Contractors
20.	Sagoo Interior Decorators	83287-80100	General Building Contractors
21.	Skynet Properties & GeneralContractors	85869-80100	General Building
22.	Span Consult Limited	3745-80100	General Building Contractors
23.	Stepgate Contractors Limited	98996-80100	Building Works(General Building), Civil Engineering (Structural Steel Works, Road works)
24.	Superior Industrial Engineering Services Limited	92128 - 80100	General Building Contractor, Civil Engineering Services (Road Works)
25.	Westcon Contractor Limited	87556-00800	General Building Contractor

Source: National Construction Authority