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THE INFLUENCE OF ORGANISATIONAL CULTURE ON THE PROCESS OF
IMPLEMENTING A QUALITY MANAGEMENT SYSTEM IN SMALL AND
MEDIUM CLOUD COMPANIES IN NAIROBI

The crest of Strathmore University is a shield-shaped emblem. At the top, there are three hearts. Below them, the shield is divided into two sections: the left section contains a rose, and the right section contains a lion. A banner at the bottom of the shield contains the Latin motto 'VT OMNES VNVM SINT'.

GRACE NYAMBURA NDUNG'U

Submitted in partial fulfilment of the requirements for the Master of Business
Administration at Strathmore University

Strathmore Business School, Strathmore University Nairobi, Kenya

May, 2018

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Name: Grace Nyambura Ndung'u.....

Signature:

Date: 04/06/2018

Approval

The thesis of Grace Nyambura Ndung'u was reviewed and approved by the following:

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Name:

Signature

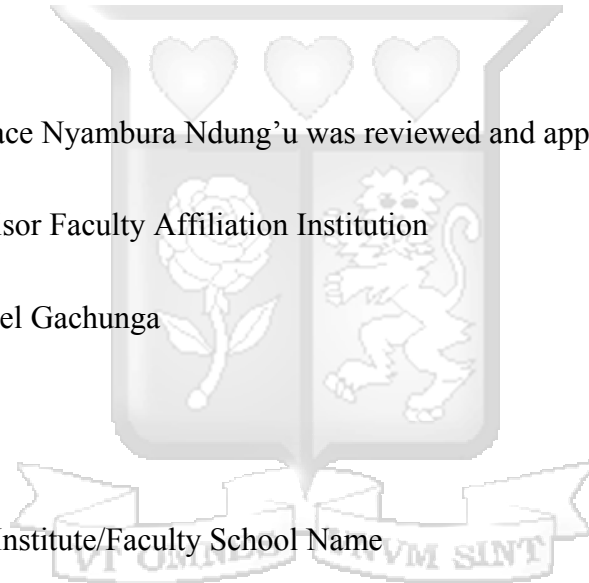
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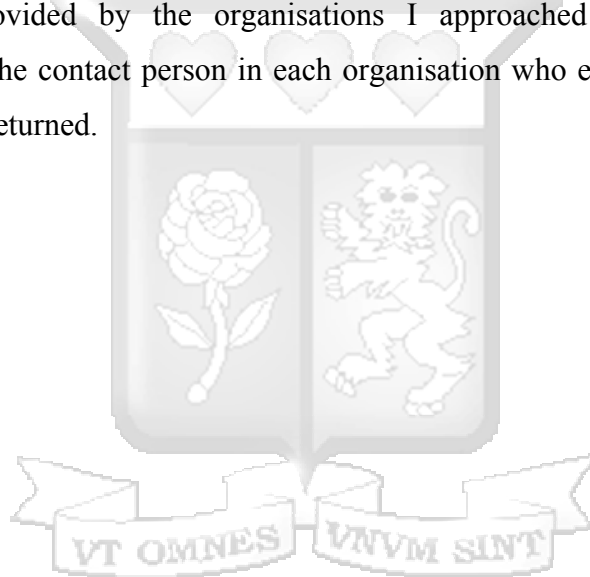
DEDICATION

This dissertation is dedicated to my Family, for their inspiration, love and endless support provided towards in my research journey. Secondly, to my good friends who pushed me to ensure I made it to the very end. All in all, to God, the Author and Finisher of my Faith. For the grace and sanity, He provided to bring the study to completion.



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ABSTRACT

This research is about the influence of organisational culture on the process of implementation of quality management system. More specifically, ISO 9001:2008/2015. This dissertation attempted to dissect the dimensions of organizational culture on the process of implementation of quality management systems with a focus on ISO 9000:2008/2015. The study adopted a mixed research design to investigate the influence of organisational culture, used explanatory and descriptive methods. The study examined 4 technology companies that offer cloud based solution services in Nairobi County which comprised of a population of 4 companies with a sample size of 73 respondents. By use of semi-structured questionnaires, the questions were in the form of Likert Scale which were used to collect data from the general staff. The findings used Spearman's correlation to determine the relationship between the independent variables (leadership, management of employees, organisation glue, strategic emphases) and the dependent variables (motivation for certification, quality awareness and costs). The study found that there is a moderate positive relationship between the dimensions of organisational culture and the process of implementation of quality management systems.

Keywords: Organisational culture, Competing Values Framework, OCAI, Quality Management Systems, ISO 9001:2008/2015.

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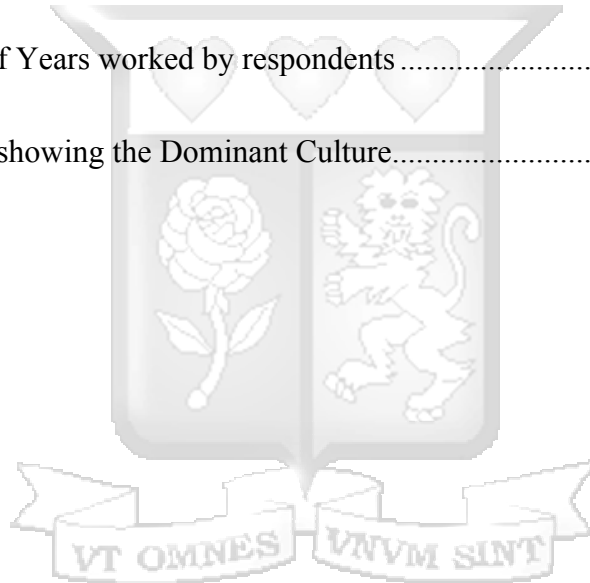
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List of Abbreviations

ASQ- American Society of Quality

ISO- International Organization for Standardization

IT-Information Technology

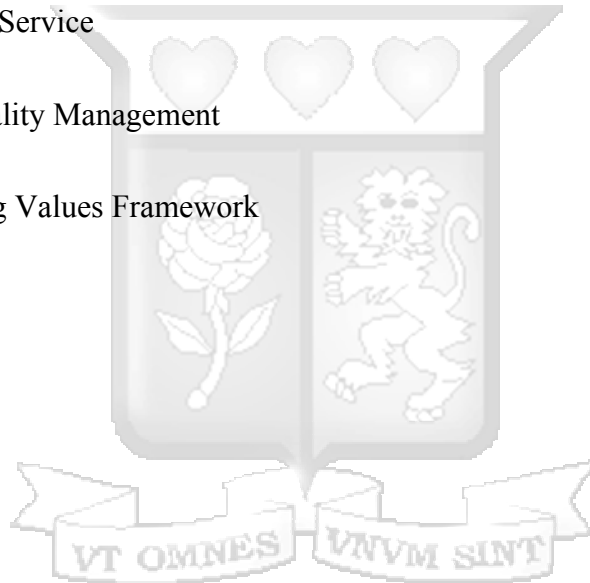
OCAI- Organizational Culture Assessment Instrument

QMS- Quality Management System

QoS- Quality of Service

TQM- Total Quality Management

CVF- Competing Values Framework



CHAPTER ONE:

INTRODUCTION

This chapter explains the back ground of the study, the problem and reasons to carry out the study.

1.1 Background to the Study

In modern technology arena, cloud computing has cut a great and specific niche in businesses. The use of information and communication technologies can improve business competitiveness and has provided genuine advantages for small and medium sized enterprises. In Kenya, SMEs forms the largest block of employers. They provide the necessary and critical base for economic development. Competition for market share and great profit margins is cut throat. The growth of SMEs is compounded by their agility and adaptability to changing business models. The SME sector in Kenya has to position itself and align their objectives towards adoption of cloud computing as a new technology entrant in the market. The adoption of computing services on demand through a pay per use model will provide the SMEs sector with a wide pool of resources that befits their business model at a lower cost (Makena, 2013).

Companies are performing their activities in continually more changing, interrelated and uncertain environments. In this situation, entrepreneurial survival not only depends on a high degree of continuous competitiveness in order to remain in the market, but also on the possession of the necessary instruments and measures to achieve it. One of the conditions for assuring company survival and reaching a superior competitive position is constituted by quality, its improvement and of course, its proof. In this sense, the high quality of the products no longer represents an exceptional stroke of fortune, but is to an increasingly greater extent the result of quality programmes founded on very clear principles, such as those established by the ISO 9000 (Escanciano et al., 2002).

Service sectors are of great importance to the world economy (J. Y. Lee, et al., 2009). Competing in the global economy and the current markets demands that the service

companies establish well-designed and implemented internal management systems according to internationally accepted management standards such as ISO 9001. While manufacturing organizations were early adopters of ISO 9001, lately, many service sector organizations have also pursued its adoption (Calisir, 2007).

The main competitive edge nowadays shifts from simply applying the ISO 9001 standard to successfully implementing an effective quality management system (QMS) after obtaining the certification (J. Y. Lee et al., 2009; Ab Wahid & Corner, 2009). If service companies want to achieve business benefits and superior results, the attainment of a quality certificate to ISO 9001 should not be the end, but the starting point for deploying an effective QMS in the quest for quality improvement (Dick et al., 2002).

Within the literature of quality management, Singh et al., (2006) argued that the generalizability of the knowledge of ISO 9000 in the literature is impeded partly by the fact that most of the extant studies were based in manufacturing sector and that the proposed theories or models were generally investigated through the lens of the manufacturing sector. Hence, it can be inferred from such information that researchers of ISO 9000 may not be paying sufficient attention to the adoption of the standard in service organizations.

However, more recently, the success of total quality management (TQM) in manufacturing industries has encouraged service companies to adopt the principles and tools of quality management. As a consequence, the take-up of ISO 9001 certification has begun to increase rapidly in the services sector (Calisir, 2007; Dick et al., 2002).

A study by Wanjau et al., (2013) on the the role of quality adoption in growth and management of small and medium enterprises in Kenya cites that in today's business environment, small and medium enterprises (SMEs) cannot afford to ignore the strategic implications of quality for its competitive position. Research shows that most SMEs lose between 5%-15% of sales revenue as a result of the lack of attention to quality. Of the limited research available, it appears that SMEs has been very slow to implement formal quality models, and where they have, the outcomes are inconclusive.

Not all TQM implementation yields the satisfactory results promoted by its advocates. Literature has noted numerous stories on the problematic issues relating to the implementation process and how they affect its outcomes. Among several factors, which have been attributed as key determinants of its success, organizational culture is often among those listed at the top (Prajogo & McDermott, 2005; Rad, 2006; Psomas, et al., 2010; Ab Wahid & Corner, 2009).

Wahid (2012) investigated critical success factors and problems in the maintenance of ISO 9000 quality management systems in service organizations. The results showed that an organization's culture is expected to influence its ability to not just achieve ISO 9000 certification but also obtain desired quality and market benefits.

1.2 Statement of the problem

For QMS implementation to take root effectively, the critical role of organizational culture is widely recognized. Several studies, such as those by Prajogo & McDermott, (2005) and Nezhad, et al. (2012) have researched on the relationship between the various types of culture and the implementation of Quality Management Systems. These studies typically conclude that there are different relationships between components of quality management and types of organizational culture.

Organizational culture offers a theoretical perspective on the people-centered management of an organization. It focuses on the intangible nature of an organization, encompassing organizational behaviour and the formal structures and practices in an organization (Oliver & Oliver, 2011).

The studies done have focussed primarily on the general types of organisational culture and their impact on the implementation of quality management systems in small and medium organisations where they recommend the preferred type of culture- clan, market, hierarchical and adhocracy on the implementation of a quality management system. However, there were limited studies that reviewed how each of the individual dimensions that make up an organizational culture using the competing values framework affected the implementation of the quality management system with a focus on cloud based technology

companies. This theoretical lapse of a deeper review of organisational culture literature necessitated an investigation of the significance of what makes up culture and the relationship to quality management which can help in devising more informed QMS implementation models.

The study reviewed the organisation through the various dimensions that make up organizational culture in the context of Cameron and Quinn's Competing Values Framework on the process of implementation quality management system (QMS). Using a study of various technology companies within Top 100 small and medium sized companies that are ISO 9001:2008/2015 Certified, the relationship between dimensions of culture and QMS are discussed.

1.3 Objectives of the study

General Objective

- I. To establish the relationship between organizational culture dimensions using the Competing Values framework and the process of quality management system implementation.

Specific Objectives

- II. To identify how leadership impacts the process of implementation of the quality management system in cloud based technology companies.
- III. To identify how management of employees impacts the process of implementation of the quality management system in cloud based technology companies.
- IV. To identify how organization glue impacts the process of implementation of the quality management system in cloud based technology companies.
- V. To identify how strategic emphases impacts the process of implementation of the quality management system in cloud based technology companies.

1.4 Research Questions

- I. How does leadership impact the process of implementation of the quality management system in cloud based technology companies?

- II. How does management of employees impact the process of implementation of the quality management system in cloud based technology companies?
- III. How does organization glue impact the process of implementation of the quality management system in cloud based technology companies?
- IV. How do strategic emphases impact the process implementation of the quality management system in cloud based technology companies?

1.5 Significance of the Study

Today's successful organizations believe that they must achieve breakthrough improvements, maintain high performance by continuously improving their operations, and plot a course towards excellence and sustainability. To simultaneously achieve these challenging goals, the selection of effective quality themes remains vital. Yesterday's solutions may not deliver competitive performance. The entrepreneur's challenge is to choose the best approach for their enterprises. They must determine whether adoption of quality suits their culture, will deliver and sustain the desired results, and whether their people have the capability to handle the techniques of adoption (Wanjau et al., 2013).

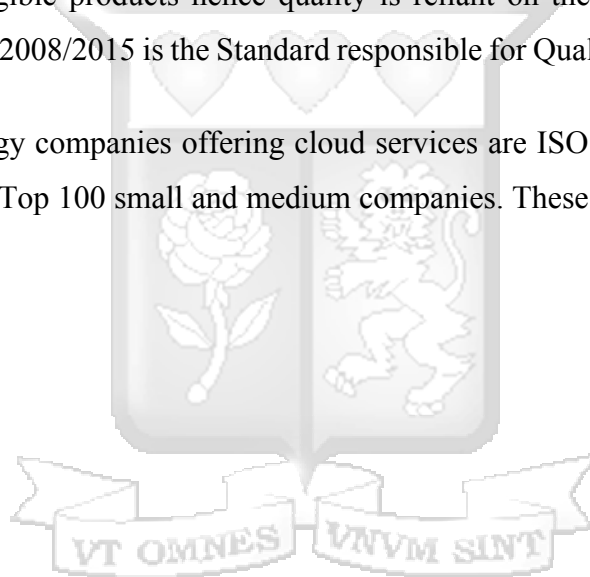
The aim of the study is to evaluate theoretical dimensions of organizational culture and quality management, their interrelation and impact on the process of implementation of the Quality Management System. The study will help the Management of an Organisation seeking to implement a quality management system understand how each of the dimensions that make up organizational culture affect the process of implementation of the Quality Management System with a focus on ISO 9001:2008/2015.

Before the implementation of quality management in the organization the management needs to be aware of the main culture that exists in the organization. The results of this research can be a guide for quality management representatives (QMRs) to design policies that can be easily adapted to the dimensions of quality management. Thus, create the suitable cultural environment, essential for complete support from various dimensions of quality management to enhance and increase the success of implementation of quality management.

1.6 Scope of Study

Science Technology and Innovation (STI) is one of the pillars that Kenya's Vision 2030 is anchored on. As such there has been a push from Government toward implementation and adoption of Information and communication Technology, and cloud computing is one of the new innovations that would be easy to adopt and implement (Sabwa, 2013). The study covered Top 100 small and medium technology companies whose products are cloud-based and are ISO 9001:2008/2015 Certified. Information Technology Service industries that are cloud-based rely on cloud services as a platform for the development of services. The model of these companies differs with the rest of the industry in that, they do not have tangible products hence quality is reliant on the customer's perception of value. ISO 9001:2008/2015 is the Standard responsible for Quality Management Systems.

Only 4 technology companies offering cloud services are ISO 9001:2008/2015 certified who were in the Top 100 small and medium companies. These were used as the scope of the study.



CHAPTER TWO:

LITERATURE REVIEW

2.1 Introduction

The chapter is a review of the literature on the concept of cloud computing, concept of organizational culture and its role relation to the process of implementation of quality management systems. The chapter begins with a definition of cloud computing, quality management systems, organizational culture and various aspects of culture that are adopted in organizations'. The impact of organizational culture on quality management implementation is also explored. The chapter finally concludes with a theoretical framework and a chapter summary.

2.2 Definition of Concepts

Concept of Cloud Computing

Cloud computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the data centers that provide those services. The services themselves have long been referred to as Software as a Service (SaaS). Some vendors use terms such as IaaS (Infrastructure as a Service) and PaaS (Platform as a Service) to describe their products, but we eschew these because accepted definitions for them still vary widely (Armbrust et al., 2010).

Cloud computing is “a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (such as networks, servers, storage, applications, and services) that can be quickly provisioned and released with minimal management effort or service provider interaction.” The emergence of cloud computing is transforming the way organizations purchase and manage computing resources, providing a fundamentally different IT model in which a cloud provider might be responsible for a range of IT activities, including hardware and software installation, upgrades, maintenance, backup, data storage, and security (Garrison et al., 2012).

The market for the cloud in developing countries is small but expanding rapidly (Kshetri, 2010). Findings and conclusions about the potential and impact of cloud computing in the developing world drawn from surveys, studies, and experiences of companies are confusing and remarkably inconsistent. Some analysts suggest that developing countries will be attractive markets for cloud services and predict that this technology will soon make “healthcare 2.0,” “banking 2.0,” and “education 2.0” realities in these countries (Kshetri, 2010).

Due to the vast diversity in the available Cloud services, from the customer’s point of view, it has become difficult to decide whose services they should use and what is the basis for their selection. With the growth of public Cloud offerings, for Cloud customers it has become increasingly difficult to decide which provider can fulfil their QoS requirements. Each Cloud provider offers similar services at different prices and performance levels with different sets of features. This makes it difficult to evaluate service levels of different Cloud providers in an objective way such that the required quality, reliability and security of an application can be ensured (Garg et al., 2013).

Concept of Quality Management Systems

Any organization offering products and services to consumers will be interested in ensuring that the end user is satisfied and offers repeat business. The organization will, therefore, manage the entire processes so that it excels in all dimensions of products and services that are important to the customer (Jacobs & Chase, 2014). Providing good quality is a competitive advantage against others who offer similar products or services in the marketplace (Vásquez, 2009). ISO management system standards provide a model to follow when setting up and operating a management system. The benefits of an effective management system include: more efficient use of resources, improved risk management, and increased customer satisfaction as services and products consistently deliver what they promise. According to ASQ (2018), a quality management system (QMS) is a formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives. A QMS helps coordinate and direct an organization's activities to meet customer and regulatory requirements and improve its effectiveness and efficiency on a continuous basis. ISO 9001:2015, the international

standard specifying requirements for quality management systems, is the most prominent approach to quality management systems. It helps businesses and organizations to be more efficient and improve customer satisfaction. A new version of the standard, ISO 9001:2015, has just been launched, replacing the previous version ISO 9001:2008 (ISO, 2015).

All requirements of ISO 9001:2008 are generic and are intended to be applicable to all organizations, regardless of type, size, and product provided (BS EN ISO, 2012). The customer is the focal point of all decisions and actions of the service organization - service strategy, the systems and the employees who serve him or her. From this view, the organization exists to serve the customer, and the systems and the employees exist to facilitate the process of service (Jacobs & Chase, 2014).

Concept of Organizational Culture

Culture has been viewed as a learned entity at the basic level, where it determines how things are done in an organization. Schein (1984) has defined culture as the fundamental assumptions that a given group has invented, discovered or developed in learning to adapt or cope with its challenges of external adaptation and its internal integration. Organisation culture is taught to new members of the organization so as to perpetuate organizational survival and growth. In another perspective, culture is viewed as a belief system that offers a contrast to the past rigidity in the management models. It is a pattern of shared beliefs and values that grant members the meaning of organizational citizenships by providing them with rules and regulations for behavior in the organization (Davis, 1984). The third perspective views organizational culture as a strategy. This view argues that organizational culture and strategy are synonymous, where strategic planning is an organizational cultural exercise. Hofstede (1980) has backed the perspective of culture as a mental programming. It is a collective programming of the mind which distinguishes members of one organization from another. It does define the characteristics of organization citizens; rather it exists in the shared values of the organization. As a mental programming, Hofstede seeks to make organizational culture as an invisible and intangible attribute of an organization. The core elements of organizational culture are in its values that can be defined as the broad tendencies and practices in a firm.

The organizational culture of a firm is based on the systems that define how employees think and make decisions in an organization. Since values and beliefs are multifaceted, there are different levels of culture as a combination of beliefs, norms and values. Organisation culture in a firm facilitates the sense of identity to organizational citizenship, strengthens organizational values, and enhances commitment to the organization and shape behaviours as the control framework in a firm (Ginsburg et al., 2010). The dimensions of organizational culture as outlined in Hofstede (1980) include individualism versus collectivism, power distance, uncertainty avoidance and masculinity /femininity. Power distance dimension of organizational culture is the degree to which the unbalanced distribution of power is accepted in the society.

Organizational culture sets a framework for controlling organizational behaviour that directs the organization's citizens from unfavourable behaviours and directs them to favourable ones (Belias et al., 2015). Cameron and Quinn (1999) have developed an organizational culture framework built upon a theoretical model called the "Competing Values Framework." This framework refers to whether an organization has a predominant internal or external focus and whether it strives for flexibility and individuality or stability and control. The framework is also based on six organizational culture dimensions and four dominant culture types (i.e., clan, adhocracy, market, and hierarchy). In addition, the framework authors generated an "Organizational Culture Assessment Instrument (OCAI)" which is used to identify the organizational culture profile based on the core values, assumptions, interpretations, and approaches that characterize organizations (Cameron & Quinn, 1999).

Organizational culture is a constituent of a set of resources and capabilities that generally define the appropriate quality methods and tool an organization can adapt (Oliver, 2011). Organizations have different working environments, work attitudes and leadership styles, which influence the implementation of the quality management approach. Therefore, it is important that companies understand their organizational culture profiles in order to integrate the quality management principles and choose the most appropriate approach for strategy development and continuous improvement (Lapina et al., 2015). Randle & Flamholtz (2011) note that that the concept of organizational culture has become

embedded in management vocabulary and thought. Although there are many definitions of the concept, the central notion is that culture relates to core organizational values. In a very real sense, organizational culture can be thought of as a company's "personality." Every organization, regardless of size, has a culture that influences how people behave, in a variety of areas, such as treatment of customers, standards of performance and innovation.

The present-day definition of organizational culture (OC) includes the daily routines, procedures, and dominant leadership style that characterize an organization's definition of success. The "Competing Values Framework" was developed by Cameron and Quinn (2006) to conceptualize if an organization has an external focus or a predominant internal focus and if the organization is working towards a flexible and individuality based climate or if it is striving for control and stability.

2.3 Theoretical Framework

Theories of Organizational Culture

Edgar H. Schein (1983)

Organizational culture, is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration -a pattern of assumptions that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein, 1983).

Organizational culture can be analysed at several different levels, starting with the visible artefacts — the constructed environment of the organization, its architecture, technology, office layout, manner of dress, visible or audible behaviour patterns, and public documents such as charters, employee orientation materials, stories. This level of analysis is tricky because the data are easy to obtain but hard to interpret. We can describe "how" a group constructs its environment and "what" behaviour patterns are discernible among the members, but we often cannot understand the underlying logic — "why" a group behaves the way it does (Schein, 1984).

Shein (1983) argues that culture is not the overt behaviour or visible artefacts one might observe on a visit to the company. It is not even the philosophy or value system that the founder may articulate or write down in various “charters.” Rather, it is the assumptions that underlie the values and determine not only behaviour patterns, but also such visible artefacts as architecture, office layout, dress codes, and so on. This distinction is important because founders bring many of these assumptions with them when the organization begins; their problem is how to articulate, teach, embed, and in other ways get their own assumptions across and working in the system.

Founders often start with a theory of how to succeed; they have a cultural paradigm in their heads, based on their experience in the culture in which they grew up. In the case of a founding group, the theory and paradigm arise from the way that group reaches consensus on their assumptions about how to view things. Here, the evolution of the culture is a multi-stage process reflecting the several stages of group formation. The ultimate organizational culture will always reflect the complex interaction between (1) the assumptions and theories that founders bring to the group initially and (2) what the group learns subsequently from its own experiences (Schein, 1983).

Cameron and Quinn (1999)- Competing Values Framework

The concept of organizational culture emerged initially from two different disciplinary roots: an anthropological foundation (the fact that organizations *are* cultures) and a sociological foundation (the fact that organizations *have* cultures). Within each of these disciplines, two different approaches to culture were developed: a functional approach (culture emerges from collective behaviour) and a semiotic approach (culture resides in individual interpretations and cognitions) (Cameron & Quinn, 2011).

The Competing Values Framework adopts the definition of culture represented by the functional, sociological tradition. Culture is treated as an attribute of the organization that can be measured separately from other organizational phenomena and, can be very useful for predicting which organizations succeed and which do not. Culture is assumed to be an attribute of the organization itself and not merely a metaphor (such as bureaucracy,

organized anarchy, or network) for labelling what an organization is (Cameron & Quinn, 2011).

In the last couple of decades, writers have proposed a variety of dimensions and attributes of organizational culture. One reason so many dimensions have been proposed is that organizational culture is extremely broad and inclusive in scope. It comprises a complex, interrelated, comprehensive, and ambiguous set of factors (Cameron & Quinn, 2011).

To determine the most important dimensions on which to focus, therefore, it is important to use an underlying framework, a theoretical foundation that can narrow and focus the search for key cultural dimensions. That is the purpose of using the Competing Values Framework to diagnose and facilitate change in organizational culture. It is a framework that was empirically derived, has been found to have both face and empirical validity, and helps integrate many of the dimensions proposed by various authors. Competing Values Framework has been found to have a high degree of congruence with well-known and well-accepted categorical schemes that organize the way people think, their values and assumptions, and the ways they process information (Cameron & Quinn, 2011).

There are four major types of cultures that exist in the organization. Firstly, the hierarchy culture is characterized by formalized and structured workplace. The hierarchical cultures envision standardized rules and procedure that control and account for the mechanisms that are important to the success of an organization. Effective organization management ensures leaders are good coordinators and organizers. The long-term concerns addressed by the hierarchy culture are predictability, stability and efficiency where formal rules and policies hold a firm together (Zheng et al., 2010).

Clan culture, which is typical for an organization that concentrates on internal maintenance with flexibility, concern for people, and sensitivity for customers. It places an emphasis on human relations and adopts flexible operation procedures focusing on internal relationships. Core values include co-operation, consideration, agreement, fairness and social equality. Such an organization is generally a very friendly place to work where people share a lot of themselves. It is like an extended family where leaders

are thought of as mentors and loyalty and tradition hold the organization together (Igo & Skitmore, 2006).

Market culture, working towards clear and rational goals that are achieved through high productivity and economical operation. Tends to be results orientated and concentrate on getting the job done and its members value competitiveness, diligence, perfectionism, aggressiveness and personal initiative. Its leaders are inclined to be hard-driving producer's intent on outperforming competitors and being at the forefront of their field of endeavour by maintaining stability and control. The term market is not to be confused with the marketing function or with customers in the market place. It represents a focus on transactions with external bodies such as suppliers and customers (Igo & Skitmore, 2006).

Adhocracy culture is founded on ad hoc implying a dynamic, specialized and temporary culture that fosters flexibility, adaptability and creativity in the face of information overload, ambiguity and uncertainty. The organizational culture can be perceived in the competing values model that orders the attribute of an organization including the cultural values and norms (Schein, 1990).

Although there are a variety of ways to assess organizational culture this instrument has been found to be both useful and accurate in diagnosing important aspects of an organization's underlying culture. It has been used in more than a thousand organizations that we know of, and it has been found to predict organizational performance. Its intent is to help identify the organization's current culture (Cameron & Quinn, 2011).

Theories of Quality Management Systems

The Juran Triology

According to Juran (1999) of the many meanings of the word "quality," two are of critical importance to managing for quality:

“Quality” means those features of products which meet customer needs and thereby provide customer satisfaction. The purpose of such higher quality is to provide greater customer satisfaction and, one hopes, to increase income.

“Quality” means freedom from deficiencies—freedom from errors that require doing work over again (rework) or that result in field failures, customer dissatisfaction, customer claims, and so on. In this sense, the meaning of quality is oriented to costs, and higher quality usually “costs less.”

To attain quality, it is well to begin by establishing the “vision” for the organization, along with policies and goals. Conversion of goals into results (making quality happen) is then done through managerial processes—sequences of activities that produce the intended results. Managing for quality makes extensive use of three such managerial processes: Quality planning, Quality control and Quality improvement. These processes are now known as the “Juran trilogy.” (Juran, 1999)

Quality planning	Quality control	Quality improvement
Establish quality goals	Evaluate performance	actual Prove the need
Identify who the customers are	Compare performance with goals	actual quality Establish the infrastructure
Determine the needs of the customers	Act on the difference	Identify the improvement projects
Develop product features that respond to customers' needs		Establish project teams
Develop processes able to produce the product features		Provide the teams with resources, training, and motivation to:
Establish process controls; transfer the plans to the operating forces		Diagnose the causes
		Stimulate remedies
		Establish controls to hold the gains

Figure 2-1- The three universal processes of managing for quality (AB, 1998).

Deming Management Method

The Deming management method contains a prescriptive set of 14 points that serve as guidelines for appropriate organizational behaviour and practice regarding quality management. The Deming management method is a set of 14 imperative statements, published together for the first time in Deming (1981/1982) and subsequently in Deming (1982) and Walton (1986) (Anderson et al., 1994). Deming's (1986) framework emphasizes the systemic nature of organizations, the importance of leadership, and the need to reduce variation in organizational processes (Dean & Bowen, 1994). The Deming management method concerns the creation of an organizational system that fosters cooperation and learning for facilitating the implementation of process management practices, which, in turn, leads to continuous improvement of processes, products, and services, and to employee fulfilment, both of which are critical to customer satisfaction, and, ultimately, to firm survival (Anderson et al., 1994).

Visionary Leadership	The ability of management to establish, practice, and lead a long-term vision for the organization, driven by changing customer requirements, as opposed to an internal management control role.
Internal and External Cooperation	The propensity of the organization to engage in non-competitive activities internally among employees and externally with respect to suppliers.
Learning	The organizational capability to recognize and nurture the development of its skills, abilities, and knowledge base.
Process Management	The set of methodological and behavioural practices emphasizing the management of process, or means of actions, rather than results
Continuous Improvement	The propensity of the organization to pursue incremental and innovative improvements of its processes, products, and services.

Employee Fulfilment	The degree to which employees of an organization feel that the organization continually satisfies their need
Customer Satisfaction	The degree to which an organization's customers continually perceive that their needs are being met by the organization's products and services

Figure 2-2 Constructs underlying the Deming management method as formulated by Anderson et al, (1994)

Total Quality Management (TQM)

TQM is an integrated management philosophy and set of practices that emphasize increased employee involvement and teamwork, continuous improvement, meeting customers' requirements, management by facts, team-based problem solving, constant measurement of results, closer relationship with suppliers, and so on (Ross, 1993; Brown, 1992). The goals of TQM are to satisfy the needs of customers, prevent poor quality rather than correcting problems after the fact, develop an attitude of continuous improvement, understand the value of measuring performance to identify opportunities and maintain improvements, and eliminate chronic sources of inefficiencies and costs (Evans and Lindsay, 1996; Burr, 1993). In order to achieve these goals, as well as to gain the competitive advantages, principles of TQM should be fully understood and committed by the entire organization workforce before implementing TQM.

TQM is the culture of an organization committed to total customer satisfaction through continuous improvement. In such a culture, resources, material, equipment and quality management systems are cost effectively implemented and fully utilized. TQM demands improved relations with suppliers, a true working partnership. TQM requires that communication systems be adapted to the needs of the work, not to the needs of the hierarchy. TQM demands constancy of purpose throughout the organization, and persistence in accord with a clear and widely understood vision. It is an environment that requires and nurtures total commitment from all employees providing benefits in the areas of cost reduction, customer satisfaction, job satisfaction for providers, increased market share, increased profit, enhanced business competitiveness and improved reputation (Gunasekaran, 1999; Youssef et al., 1996; Mosadegh Rad, 2003, 2004c).

Implementation of Quality Management Systems, the ISO 9001:2008/2015

Quality management principles are the main propositions in the foundation for systems of organizational behaviour and the rationale for ISO standardizations. The principle governing quality management systems include process approach, leadership, evidence-based decision-making process, improvement, customer focus, engaging people and relationship management (Fonseca, 2015). The ISO 9001: 2015 allows for a harmonized structure in quality management standards, with an explicit emphasis on risk-based thinking. It reinforces a business-centered focus on business process. As noted in Faery and Armstrong (2015), the ISO 9001 is based on a narrow view of practical quality implementation that can lead to distortions in the development of quality in an organization. Recent revisions to the ISO 9001 standards, i.e. ISO 9001: 2015 has been prompted for the need to have organization specific implementations and integrations based on the business systems in firms (Fonseca, 2015). It promotes the adoption of a process approach in the implementation strategy while taking risk-based thinking as a central strategy in the standardization process the ISO 9001:2015 ensures there is compatibility with other management systems standards and their simultaneous implementation and is banked with a future relevance (Fonseca, 2015).

ISO 9001 standards are meant to assist firms in all sectors of the economy to implement effective quality management systems irrespective of their size (Hoyle, 2009). Due to the generic nature of the quality standards, organizations determine the specific standards to apply. The ISO 9000 is a series of standards that is the fundamental quality management implemented to ascertain a given organization has attained certain standards according to the quality assurance. The ISO 9001 deals with the requirement of the quality management system while ISO 9004 provides guidelines to be considered to achieve effectiveness and efficiency in the quality management system. According to the Kenya Bureau of standards (2006), the ISO 19011 provides the guideline for quality auditing and environmental management systems. The sequence of processes from product design to after sale service and the quality control systems therein are addressed by the ISO 9000. The implementation of the quality standards seeks to foster consistency of quality rather than automatically guaranteeing good quality of products (Hoyle, 2009). The standards are

specific for organizations' and designed subject to the product, processes and practices in an organization.

Relationship between organizational culture and quality management system

Organizational culture allows the quality management system to be implemented effectively. Therefore, a firm that recognizes an adaptable strong organizational culture can effectively and efficiently implement a quality management system that improves organizational performance (Coffey, 2010). The relationship between quality management systems and organizational culture has been termed in Koh and Low (2008) as mutually reinforcing. The quality management systems influence organizational culture and the concept of organizational culture, in turn, influences the former. Organizational culture practices must be in a state of good congruence for the QMS practice to operate effectively. For instances, where quality management system develops a novel approach to internalize quality values, the organizational culture creates a climate to support the quality improvement.

The link between organizational culture and quality management systems is related to management practices such as management commitment, process management and leadership, effective communication in the organization as well as employee development and empowerment. The total quality management (TQM) implementation relies on process management that guarantees the realization of projects results to specified standards. Organizational culture is embedded in the process management, leadership and management commitment as important aspects of QMS implementation (Stamatis, 1994). Organizational culture reveals the quality management practices and it is crucial in enhancing the harmonic internal relationship among the workforce and the management of an organization. It creates a climate that fosters effective communication between the management and the staff such that the workforce is motivated and can produce a valuable outcome in the workplace. Asif et al., (2009) and Baird et al., (2011) have highlighted the link between organizational culture and the successful implementation of TQM. Organizational culture is a contextual variable in the implementation of TQM. It has been demonstrated that different facet of implementation of QM practices is dependent on the type of culture.

Rad,(2005) who investigated *The barriers to successful implementation of of total quality management in health care organizations in Iran* defined five domains of TQM barriers. These included: human resource problems; performance appraisal problems; strategic problems; structural problems; and process problems. In this study, human resources problems were the most important barriers to successful TQM implementation. Human resources barriers in these organizations included lack of effective and efficient employees for implementation of TQM, lack of non-monetary motivation mechanisms for developing employees' participation in TQM activities, low wages and salaries and cultural problems. These can be seen to be closely tied to the aspects of cultural dimensions through the competing values framework which the study seeks to explore.

Dimensions of organizational culture and the process of implementation of QMS

Dimensions Organizational Culture

The overall image of the organization is formed on the basis of the determinants of organizational culture: the main characteristics, leadership (management), human resource management, organizational unity, strategic objectives and success criteria (Lapiņa et al., 2015). The study will focus on the four culture aspects which include the leadership style, the management of employees, the organizational glue and the strategic emphases.

The competing values notion has been embodied into much of the current research and theory literature and is accepted as accurately determining both the type and strength of cultures prevalent in an organization. It has been rated as one of the 50 most important models in the history of business study. Whilst initially intended primarily as a tool for undertaking cultural audits, it has been shown to be also of use as a guide and indicator of cultural change, employee motivation and development of leadership skills (Cameron & Quinn, 2011).

Leadership

This is the leadership style and approach that permeates the organization. Quinn and Rohrbaugh (1981) described eight nominal categories of leadership and later incorporated these into the OCAI review process. The roles identified were mentor, facilitator, innovator, broker, producer, director, coordinator, monitor. In the hierarchical culture, effective leaders are good coordinators and organizers. Maintaining a smooth-running organization is important (Cameron & Quinn, 2011).

Market cultures are results-oriented where leaders excel at negotiating terms and achieving results. Leaders are hard-driving producers and competitors. They are tough and demanding and the major task of management is to drive the organization toward productivity, results, and profits (Cameron & Quinn, 1999). A study by Schimmoeller, (2010) on *Leadership Styles in Competing Organizational Cultures* cites market cultures are results-oriented and transaction based and do not include the inspirational and visionary behaviours associated with transformational leadership. The study, however, found no significant relationship between the two.

Cameron and Quinn (1999) describe clan culture as warm and friendly and consistent with transformational leadership that is inspirational and idealized. The major task of management is to empower employees and facilitate their participation, commitment, and loyalty. Leaders are thought of as mentors and perhaps even as parent figures.

Unlike markets or hierarchies, adhocracies do not have centralized power or authority relationships. Instead, power flows from individual to individual or from task team to task team, depending on what problem is being addressed at the time (Cameron & Quinn, 2011).

The adhocracy culture, as assessed in the OCAI describes effective leadership as visionary, innovative, and risk-oriented (Cameron & Quinn, 2011a). Cameron and Quinn (1999) predicted the behaviours of a transformational leader such as inspirational motivation would be found in adhocracy cultures. Adhocracy cultures are vision-driven with the focus on external results, not following internal processes, so it is inferred that

transformational leadership traits such as inspirational motivation would be found in such a culture (Schimmoeller, 2010).

Management of Employees

Management of employees as described by Igo & Skitmore, (2006) is how employees are treated, degree of consultation, participation and consensus, working environment. Cameron & Quinn (2011) state that in a hierarchy culture, procedures govern what people do. Assessments using the OCAI show a market-driven culture as a highly competitive, results-or-else, take-no-prisoners type of culture.

Instead of the rules and procedures of hierarchies or the competitive profit centers of markets, typical characteristics of clan-type firms are teamwork, employee involvement programs, and corporate commitment to employees. Some basic assumptions in a clan culture are that the environment can best be managed through teamwork and employee development. The clan culture, as assessed in the OCAI, is typified by a friendly place to work where people share a lot of themselves. It is like an extended family (Cameron & Quinn, 2011).

The adhocracy culture, as assessed in the OCAI, is characterized by a dynamic, entrepreneurial, and creative workplace. People stick their necks out and take risks. Emphasis on individuality, risk taking, and anticipating the future is high as almost everyone in an adhocracy becomes involved with production, clients, research and development, and other matters. staff members were assigned and reassigned different responsibilities, depending on changing client problems. Employees are encouraged to formulate innovative solutions to problems and to generate new ways of providing services to clients (Cameron & Quinn, 2011).

Organisation glue

Organisation glue is the bonding mechanisms that hold the organization together such as cohesion and teamwork, loyalty and commitment, entrepreneurship and flexibility, rules and policies, goal orientation and competitiveness (Igo & Skitmore, 2006).

In a hierarchy culture, as assessed by the OCAI, formal rules and policies hold the organization together. A market culture, as assessed in the OCAI, is a results-oriented workplace. The glue that holds the organization together is an emphasis on winning (Cameron & Quinn, 2011).

The clan culture as assessed by the OCAI describes the organization as held together by loyalty and tradition. Commitment is high. The glue that holds the organization together in an adhocracy culture is commitment to experimentation and innovation (Cameron & Quinn, 2011).

Strategic emphases

Strategic emphases is the organizational strategy drivers; long term development of human capital, innovation, stability and competitive advantage, growth and acquisition, achievement of goals (Igo & Skitmore, 2006). The long-term concerns of the organization in a hierarchy culture are stability, predictability, and efficiency (Cameron & Quinn, 2011).

A market culture, as assessed in the OCAI, the long-term concern is on competitive actions and achieving stretch goals and targets. Success is defined in terms of market share and penetration. Outpacing the competition and market leadership are important. The basic assumptions in a market culture are that the external environment is not benign but hostile, consumers are choosy and interested in value. The organization is in the business of increasing its competitive position. It is assumed that a clear purpose and an aggressive strategy lead to productivity and profitability (Cameron & Quinn, 2011).

Using the OCAI, in the clan culture, the organization is in the business of developing a humane work environment. The organization emphasizes the long-term benefit of individual development, with high cohesion and morale being important. Success is defined in terms of internal climate and concern for people. The organization places a premium on teamwork, participation, and consensus (Cameron & Quinn, 2011).

In an adhocracy culture, the strategic emphasis is on being at the leading edge of new knowledge, products, and services. Readiness for change and meeting new challenges are important. The organization's long-term emphasis is on rapid growth and acquiring new resources. Success means producing unique and original products and services (Cameron & Quinn, 2011).

Process of Implementation of ISO 9001:2008/2015

Oakland (2014) defines, "critical success factors" as the crucial elements that require examination and categorization to ensure effective management and implementation of an individual system and/or the overall mission of an organization. The critical success factors upon implementation of ISO 9001:2008/15 the study will evaluate are motivations for certification, quality awareness and the costs.

Motivations for Certification

Among the many critical success factors and barriers, the motivations for certification have been identified in the literature as being of particular importance to successful implementation (Psomas et al., 2010).

ISO certification is based on the parameters that a firm views as critical to its success and concentrates its resources on these critical parameters. Through improvement of the systems that create and deliver an organization's products, the outcome is the production of better quality products that decrease costs, defects rates and builds customer loyalty. These outcomes are translated to improved business performance and more profitability. Other benefits accrued due to the adoption of ISO 9000 certification include improvement in product specifications, increased technical flexibility and an improvement in a firm's internal and external delivery performance as well as efficiency. The benefits of implementation of quality management systems are largely inclined to error rate reduction and improvement of procedural efficiency (Alolayan et al., 2013). ISO 9000 certification demands the firm to have an in-house standardized and replicable routines as well as procedures for product design, manufacture, delivery, customer service and support (Aslan & Ilkay, 2012).

In their study, Wanjau et al., (2013) further confirmed the findings of previous researchers that SMEs adopt quality initiatives not from internal initiatives but mainly from external market pressures. SMEs often implement quality practices in response to external pressures rather than as the result of internally generated initiatives to improve quality or reduce costs.

Zeng et al. (2007) examined the main barriers for enterprises in effective implementation of ISO 9001 standards, which were as follows: short-sighted goal for “getting certified”; over-expectation on ISO 9001 standard; mandatory requirement (not wholehearted commitment) in some industries; and following others (the trend) in certification.

Psomas et al. (2010) identified five critical areas that should be considered by SME service firms that seek to implement ISO 9001 effectively. These are (in descending order of importance): the internal motivation of the company; the attributes of the company; employee attributes; the requirements of the quality system; and the attributes of the external environment.

Quality Awareness

The benefits achieved from the system are not provided by the standard itself, but by the method of implementation and the way of operating it (Poksinska, et al., 2013).

According to Nwankwo (2000), the results achieved from ISO 9000 are, without doubt, influenced by people's understanding of quality and quality systems. It might be that small organizations' do not have enough knowledge about ISO 9000.

A study done by Poksinska et al. (2013) on ISO 9001:2000 in small organizations': Lost opportunities, benefits and influencing factors found that there was no uniform definition of a QMS. In all three case organizations' the definitions ranged from “a file with documents”, “documentation system” to “all the processes within an organization which influence quality”. The first definition was very common, the last was rather rare.

ISO 9001:2000 was implemented by standardizing the practice and not by practicing the standard. As a consequence of this approach many opportunities for improvement were lost. The QMS was not perceived as a tool for managing organizational processes, but as a tool for keeping and updating documentation. Consequently, this was reflected in the benefits achieved (Poksinska et al., 2013).

Gustafsson, et al. (2001a) states,

“In the studied companies we found a relation between the amount of education and the amount of engagement and commitment in the system. Most of the studied organizations had performed a thorough education, both regarding the amount of the personnel, which had been educated, and the amount of education. Those companies, in particular those which started with education early in the process, have got a high level of awareness of quality and motivation to use ISO 9000. Even if the employees sometimes thought it was hard and lengthy with the routines and the documentation, we found that they had got an understanding why the system was needed and what was required to get it functioning.”

Costs

The main barrier that most small organizations' have is limited resources. Lack of financial resources limits the feasible initiatives that a small organization can take. Small organizations also tend to have a lean organization and they therefore find it difficult to appoint a full-time facilitator or coordinator. In addition, they have limited resources for providing internal training (Hellsten and Klefsjö, 1998).

Gustafsson, et al. (2001) in their study on the experiences from implementing ISO 9000 in small enterprises, noted, that certification costs were considered as the most negative factor obtained by certification of the quality system.

Resource availability plays a vital role in enabling small manufacturers to start ISO certification. Major obstacles to ISO 9000 registration for small manufacturers are both cultural and technical. Cultural issues are the same for manufacturers of any size.

Technical issues are high implementation costs, inadequate resources and insufficient external assistance. Thus, a small manufacturer requires a more cost-effective and well planned ISO implementation process (Mo & Chan, 1997).

2.4 Empirical Literature

A number of studies have been devoted to identify what kinds of factors are suitable for implementing TQM based on a proposition that culture affects the extent to which TQM can be implemented in organizations (Prajogo & McDermott, 2005) .

Prajogo & McDermott, (2005) in their study *The relationship between total quality management practices and organizational culture* chose the CVF developed by Denison and Spreitzer (1991) as the framework for defining organizational culture in their study. The first and second dimension being flexibility-control axis and the internal-external axis, respectively.

Based on the content analysis of the six TQM practices, Prajogo & McDermott (2005) came up with three subgroups- comprising leadership and people management practices that mostly relate to human relations aspects in the organization; customer focus and process management practices and strategic planning and information and analysis constructs which are also considered as representing the control element of TQM.

They found that the six TQM variables correlate at fairly similar degrees to group, developmental and rational culture, and less strongly with hierarchical culture. Their study supported the results of the pluralist view that provide evidence of the need for managing multidimensional elements within TQM that reflect multidimensional cultures (Prajogo & McDermott, 2005).

In their study, Psomas et al. (2010) found that for the top management leadership construct, top management team of the service organisations are better at encouraging long-term strategic thinking, demonstrating commitment to quality and carrying out regular reviews of the quality system.

Leadership style of managers is important factor in TQM success. In their study *The impact of organizational culture on the successful implementation of total quality management*, Rad (2006) found that using participative management techniques such as quality circles and autonomous work groups had more synergistic effects on TQM success. Participative management style empowered employees to take any necessary action to ensure customer satisfaction.

Rad (2006) identified that resources problems were the most important obstacles to successful TQM implementation and included lack of effective and efficient employees for implementation of TQM, Non clarity of employees' responsibilities and authorities, Lack of mechanisms for empowering of employees, lack of non monetary motivation mechanisms for developing employees' participation in TQM activities and low salaries and benefits. Hua et al., (2000) found that employee involvement has a positive effect on TQM results. Companies that encourage employees to become involved in quality management practices obtained better quality management results than those that did not. Employee education is also significantly and positively related to TQM practices and results. Companies with a higher level of employee education enjoyed better quality management practices and results.

Lapiņa et al. (2015) in their study *Role of Organizational Culture in the Quality Management of University* concluded that the desirable organizational culture, according to the respondents' opinions, is a mix of clan culture, which is internally focused, characterized as family culture and is directed towards mutual relationship between employees, and adhocracy culture, which is a creative and innovative culture, the most significant efficiency criteria is innovation and development, risk and creative freedom.

According to Roldán et al. (2012), findings of their study *The influence of organisational culture on the Total Quality Management programme performance*, showed consistency with the Resources-based view (complementary resources), and suggest that, rather than merely adopting or imitating less advanced cultures (defection culture), organisations should focus their efforts on generating a more advanced culture (e.g., creative culture).

Furthermore, these recommend the organisations to focus on both exceeding the performance of expected standards, and to emphasise surprising and delighting customers.

A study done by Singh et al. (2006) found that the service organisations regarded meeting customer (governmental) expectations as a higher priority for pursuing accreditation than the manufacturing organisations. Motivation for certification, especially for firms from the manufacturing sector, showed that organisations were registering for a variety of reasons, with the most prominent being externally-motivated customer pressure, internally-oriented improvement of processes and products, and opportunistic use as a marketing device.

Studies done by (Lee & Palmer, 1999; Hughes et al., 2000) show that the main motivations now include factors such as pressure from clients/customers, ability to compete successfully with competitors, improvement to quality of products/services, and gaining approved supplier status. Marketing related reasons no longer rank highly as a motivator for ISO 9000 registration.

The manager should first ensure that the firm's motivation for implementing the standard is internally oriented, rather than being externally oriented. The focus should thus be on modifying the culture of the whole organization (including senior managers, middle managers, and other personnel) with a view to transforming it into an overtly quality-oriented culture. The quality manager should also aim to update the facilities, equipment, and technological resources of the company. Attention to the culture and infrastructure of the organization represent the major critical areas for ensuring that a robust internal environment is created as a foundation for the effective implementation of a QMS (Psomas et al., 2010).

Unfortunately, resource constraints, including scarce managerial time, limited training funds, and a lack of quality know-how, can place the small-firm manufacturer at a quality disadvantage. As a result, small companies often struggle to achieve the world-class quality standards customers now demand. To overcome inherent resource constraints and to dispel poor-quality perceptions, many small-firm manufacturers have adopted

standardized quality programs. The goal is to improve quality practice and show customers that they are capable of meeting heightened quality expectations (Briscoe, Fawcett, & Todd, 2005)

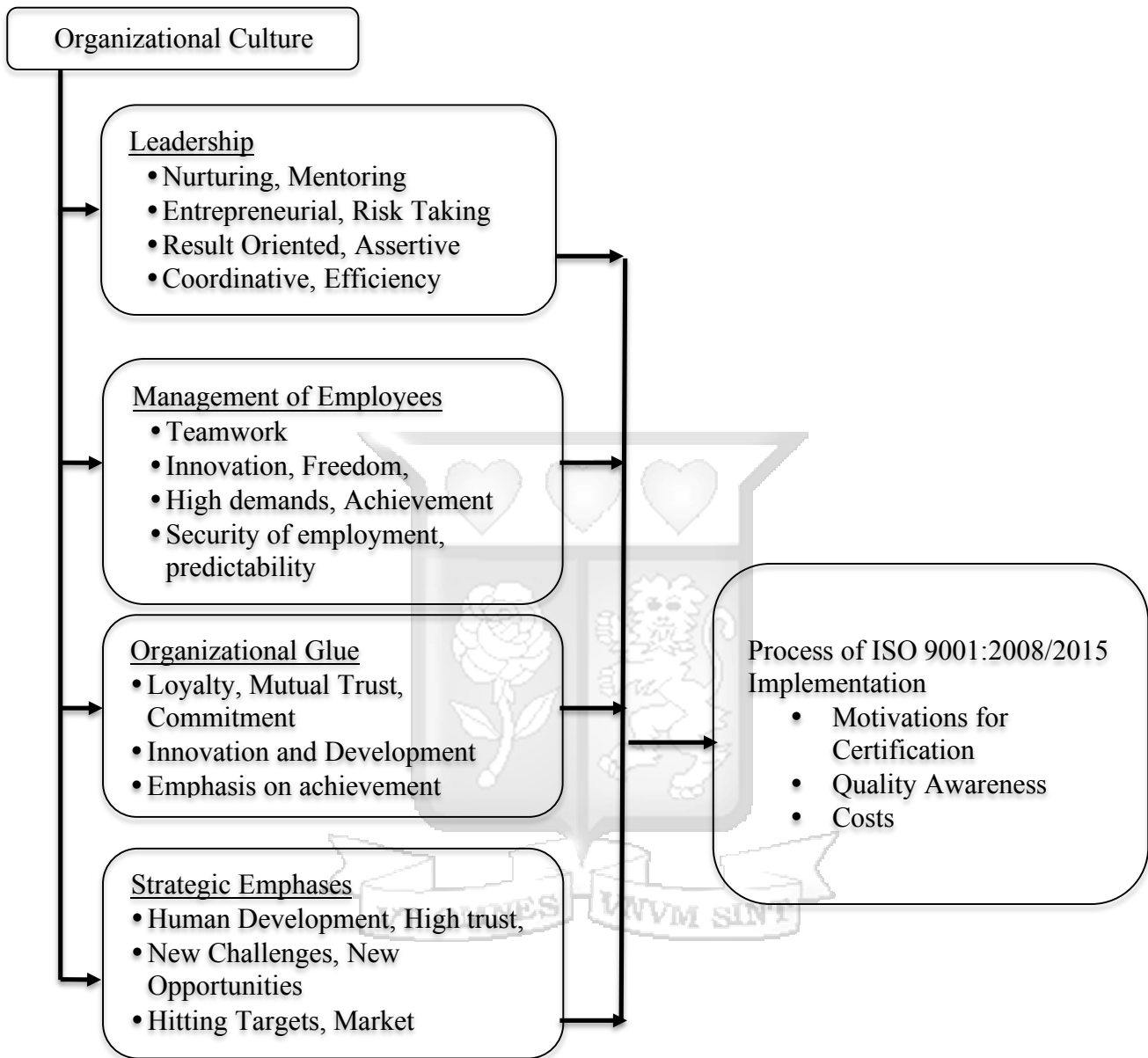
2.5 Research Gap

Various studies such as (Prajogo & McDermott, 2005; Lapiņa et al., 2015; Nezhad, et al. 2012; Baird, Hu, & Reeve, 2011; Rad, 2006) have sought the relationship between Organizational culture and total quality management. (Prajogo & McDermott, 2005; Lapiņa et al., 2015; Roldán et al., 2012) have sought the types of organization culture-rational culture, developmental culture, group culture and hierarchical culture and the success of quality management systems.

However, the studies focus on the generality of organisational culture in regard to the type of organisational culture that provides best suite for a quality management system but they do not delve into how each of these aspects of culture individually affect the process of implementation of a quality management system. Thus, the study sought to bridge this theoretical gap in literature to find out how the various elements/dimensions that make up culture, and not the specific types of culture interact with the implementation of quality management systems in a technology companies that are service based. Here the definition of quality is based on the customer's level of satisfaction.

2.6 Conceptual Framework

The competing values framework has been used severally in assessing organizational culture and its application in firms (Cameron & Quinn, 2011). The current study uses this framework to reflect on the competing role of flexibility and control created by the internal organization versus its external environment. Under this model, the study will seek to analyse the role of organizational culture in the implementation of quality management systems, with an emphasis on ISO 9001:2008.



2.7 Summary of the Chapter

Growth of public cloud offerings, for cloud customers it has become increasingly difficult to decide which provider can fulfil their QoS requirements. Each cloud provider offers similar services at different prices and performance levels with different sets of features. given the diversity of cloud service offerings, an important challenge for customers is to discover who are the “right” cloud providers that can satisfy their requirements. Often, there may be trade-offs between different functional and non-functional requirements fulfilled by different cloud providers. This makes it difficult to evaluate service levels of different cloud providers in an objective way such that the required quality, reliability and security of an application can be ensured (Garg et al., 2013).

Through decades of empirical research, scholars have established abundant links between organizational culture and organizational performance. While previously businesses were either unaware of culture’s importance or believed it too difficult to manage, today they recognize that it can be used for competitive advantage. This is something that Apple Computer gets. By leveraging their culture of innovation toward product as well as internal processes, they have been able to survive — despite incredible competition — as well as venture into new and profitable markets. But in order to use culture strategically, a company first needs to understand its culture. And there’s the rub (Tharp, 2009).

The success of the implementation of QMS is subject to the attitudes, behaviours, and the process in the organization. Organisation culture may affect quality management principles through the creation of awareness and support the continuous improvement which may entail a structural and progressive change in the management systems. Given the significance of organizational culture in shaping organizational performance, this study seeks to investigate the influence of organizational culture elements on the implementation of quality management systems with the specific focus on ISO 9001:2008/2015 certified technology companies in Nairobi.

CHAPTER THREE:

METHODOLOGY

3.1 Introduction

The chapter will provide the methodology to be used to gather and analyse the data to answer the research questions. The chapter is divided into sections that include the research design, sampling methods and selection of the sample size, research instruments that include questionnaire design and pilot study and data collection. Ethical issues and their consideration and the limitations of the research method are provided towards the end of the chapter.

3.2 Research design

The study engaged a mixed method approach which combined the use of quantitative and qualitative data collection techniques. It followed an explanatory research design where a semi-structured questionnaire was used to collect empirical data regarding the aspects of organizational culture. The study was explanatory as it embarked to establish causal relationships between organizational culture variables and the implementation of quality management systems. The emphasis in explanatory research is to study a situation or a problem in order to explain the relationships between variables (Saunders, Lewis, & Thornhill, 2016).

3.3 Sampling method and sample size

The study used a sample of a list of firms that have the ISO 9000:2008 certificate as at 31st December 2017 and were awarded the Top 100 small and medium enterprises by KPMG Kenya. It was based on companies operating in Nairobi, with the target population being general staff, quality management representatives and quality management auditors of the companies. The population of the study was 275 respondents in the 4 technology companies based in Nairobi as shown in Table 3-1.

	Population
Organisation A	65
Organisation B	60
Organisation C	100
Organisation D	50
Total Population	275

Table 3-1 Population

Sample is a representative of a larger population. Sampling involves selecting a number of individuals from a population in which the individuals selected have characteristics that represent the entire group. In this study the researcher used random sampling design to select the sample number of employees.

Determination of sample size (n) is;

Margin error (confidence interval) of 5% (E)

Average value of the attribute obtained by the samples is equal to the true population within the Confidence level of 95% (z).

Standard deviation will be assumed to be 20 (σ)

$$n = z^2 * \sigma^2 / E^2$$

$$n = 1.96^2 * 20^2 / 5^2 = 3.8 * 400 / 25$$

$$n = 61$$

Source: (Creswell, 2014)

The study targeted to obtain a sample of 61 participants which could form a representative sample that provided power and validity of the research findings. However, 73 questionnaires were administered. Since the target population was not homogeneous, sample stratification was implemented to have a representative sample.

3.4 Research Instruments, questionnaire design and pilot study

3.4.1 Organizational Culture Assessment Instrument (OCAI)

To measure the dimensions of Organisational Culture, the researcher used the OCAI. The purpose of the Organizational Culture Assessment Instrument is to assess six key dimensions of organizational culture. Although there are a variety of ways to assess organizational culture, this instrument has been found to be both useful and accurate in diagnosing important aspects of an organization's underlying culture. It has been used in more than a thousand organizations that we know of, and it has been found to predict organizational performance. Its intent is to help identify the organization's current culture (Cameron & Quinn, 2011).

Research instruments utilized in the study included the semi-structured questionnaire that was designed based on the literature linking organizational culture to the effective and successful implementation of ISO 9000 quality management systems. The questionnaire targeted respondents including quality managers and operations managers and employees assigned to the implementation of ISO 9001 quality management systems in the companies included in the study. The questionnaire included the demographic data of the respondents and Likert scale questionnaire's items that were used to assess the elements of organizational culture that facilitate the effective and successful implementation of ISO 9000 quality management systems. The responses to the Likert-scale questionnaire items were structured as strongly agree, agree, neutral/indifferent, disagree and strongly disagree.

A pilot study was conducted to test the suitability of the data collection instrument. The semi-structured questionnaire's items verified the expected perception from the pilot study participants. The results of the pilot study showed there was ambiguity in the selection of responses regarding quality awareness where the ranking of variables was impossible. This was then corrected. Any other deficiency in the semi-structured questionnaire including the removal of need for identification, was identified and rectified before conducting the full study.

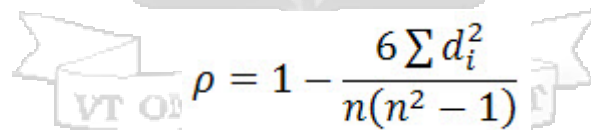
3.5 Data collection

For all the objectives, the researcher used primary data. The researcher reviewed all the technology companies within the Top 100 list and sought to find out their status of certification. Upon confirmation of the same, contact with the Quality Manager was made in the companies that were certified. A brief review of the study was given regarding the purpose of the study before issuance of the questionnaires.

Semi structured questionnaires were issued first to the Quality Managers and the Human Resource Manager to circulate to the staff to establish the type of organizational culture and perceptions of the quality management system. This was initially done by administering online questionnaires through Google Forms which were not so effective. The researcher then delivered the hard copy questionnaires to the respective organisations.

3.6 Data analysis

Data collected was quantitative and the researcher used the Spearman's correlation by use of SPSS software tool. Spearman's correlation coefficient, (ρ , also signified by r_s) measures the strength and direction of association between two ranked variables.


$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Where d is the difference between corresponding ranks of each variate, and n is the sample size (Creswell, 2014).

This was used to study the extent of the effect of independent variables (organisational leadership, management of employees, organisational glue and strategic emphasis) and the dependent variable (process of implementation of quality management systems in cloud based technology companies in Nairobi).

The researcher used the least square method (Kothari, 2006) by use of SPSS software tool to determine the coefficient of the logistic regression model. This was used to measure the

extent the independent variables had on the level of quality awareness on the employees in the technology companies.

$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \varepsilon$ Where, Y= Quality awareness on employees in the technology companies.

β_0 = Coefficient

β_1 = Organisation glue

β_2 = Management of employees

β_3 = Organisational Leadership

β_4 = Dominant characteristics

ε = error

Data from the semi-structured questionnaire was then entered into a spreadsheet software in a computer for analysis in the Statistical Package for Social Science (SPSS, v24) program. Specific codes were used for each semi-structured item. The analysis of the data included descriptive and inferential analysis. The descriptive analysis presentation included figures and tables. Ordinal data from the variables indicating the relationship between organizational culture and quality management system was analysed using multivariate regression analysis to identify the statistical significance of the relationship set at $p < 0.05$.

3.7 Issues of Reliability and Validity

Validity is concerned with the accuracy of the measurement. For validation of the instrument, we initially submitted a survey questionnaire and after approval, the questionnaire was distributed to ten personnel in the selected company. A pilot questionnaire was used to measure the accuracy of the tool and its effectiveness in getting the data required for the study.

Reliability test was done using Cronbach’s Alpha to measure the internal consistency of the data variables. Alpha values of 0.7 or higher are considered acceptable, with 0.6 being acceptable for new scales (Nunnally & Bernstein, 1978; Churchill, 1979; Flynn, 1990). Cronbach Alpha was established for the independent variables as indicated in Table 4-2 below.

Table 3-1 Cronbach test of Reliability

	Cronbach's Alpha value
Dominant characteristics	0.658
Organizational Leadership	0.766
Management of Employees	0.671
Organisational glue	0.712
Strategic emphasis	0.756
Criteria for success	0.703
Motivation	0.612
ISO Awareness	0.787

The Cronbach Alpha was above 0.6 hence this infers that the instrument was valid and reliable for data collection and analysis. Consistency was maintained in such a way that if another study was to be carried by a different researcher they should get the same outcome.

To measure the correlation between process of implementation of the quality management system, two we used two variables- Motivation for implementation and quality awareness. The Spearman's rank-order correlation assumption is that you need two variables that are either ordinal, interval or ratio (Creswell, 2014).

The Organizational Culture Assessment Instrument (OCAI) developed by Cameron & Quinn (2006) is a method to assess organizational culture. No one framework is comprehensive, of course, nor can one particular framework be argued to be right while others are wrong. Rather, the most appropriate frameworks should be based on empirical evidence, should capture accurately the reality being de- scribed (in other words, they should be valid), and should be able to integrate and organize most of the dimensions

being proposed. That is the purpose of using the Competing Values Framework. It is a framework that was empirically derived, has been found to have both face and empirical validity, and helps integrate many of the dimensions proposed by various authors. (Cameron & Quinn, 2011). The use of the OCAI instrument improved the accuracy and reliability of the data collection.

3.8 Ethical issues and consideration

Since the research sought employees' perceptions on the organizational culture and its relationship to implementation of quality management systems, the responses were treated with utmost confidentiality since the responses may infringe employer-employee relationship. Since the research was critical on the implementation of quality management system in the respective organization, the researcher maintained the confidentiality of the data through a password-protected folder and the questionnaire hand copies were stored in a secure locker with only the researcher having access to the data. In order to ensure confidentiality of the research data is not infringed, participants were not required to identify themselves using their names or social identification or employee's IDs that could reveal their identity. Participants were also allowed to withdraw from the research at any point and even withdraw their responses if they perceived it would impact them negatively. The study treated the data with utmost confidentiality and the participants were presented with an introductory note to the research and its purpose such that the researcher obtained an informed consent before commencing the collection of the data. A letter of introduction seeking informed consent was attached to each questionnaire presented to the participants of the study.

CHAPTER FOUR:

ANALYSIS, INTERPRETATION AND PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter details and presents the analysis and findings of this study. The main objective of the study was to establish the interaction of the dimensions that make up organisational culture on the process of implementation of quality management system. Questionnaires were printed and administered to cloud based technology company's employees in Nairobi.

4.2 Response Rate

The data gathered is outlined in this chapter for quantitative and qualitative purposes. All responses received were coded, analysed by use of SPSS and presented in form of frequencies, percentages, means and charts. These findings were discussed in detail.

Table 4-1 Response Rate

	Questionnaires Administered	Questionnaires Filled & Returned	Percentage
Organisation A	15	11	73%
Organisation B	15	13	87%
Organisation C	15	12	80%
Organisation D	28	19	68%
Total response	73	55	75%

The study targeted a sample size of respondents from 4 cloud based technology companies within Nairobi County, all questionnaires were administered and returned by the interviewers making a response rate of 75% as shown in Table 4-1 above.

73 questionnaires were administered and 55 were filled and returned. This was a response rate of 75%.

4.3 Descriptive Statistics

4.3.1 Demographic analysis inferential analysis

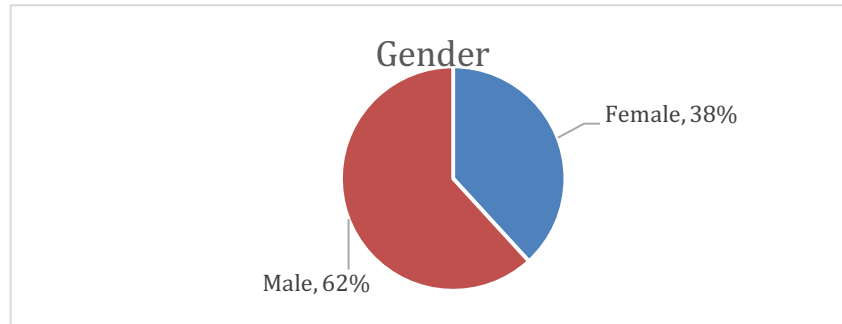


Figure 4-1 Gender of Respondents

The findings in figure 4 show that 62% of the staff in the technology companies were male and 38% female. That shows that the difference between the male and female employees is quite significant as the males almost double the females.

Abbiss (2008) in her study *Rethinking the 'problem' of gender and IT schooling: discourses in literature* states gender differences in computer uses and attitudes constitute a problem because of inequities that are seen to accrue as a result of these differences. In particular, girls are represented as disadvantaged because of their lack of involvement in IT, or, more precisely, their lack of involvement in 'hard' computing. This is seen to create gender inequalities as females are denied economic opportunities and influence in the IT world. The problem tends to be located with the existence of a male computer culture, which is thought to be anathema to females, and with females and their purportedly negative attitudes towards computers and computing.

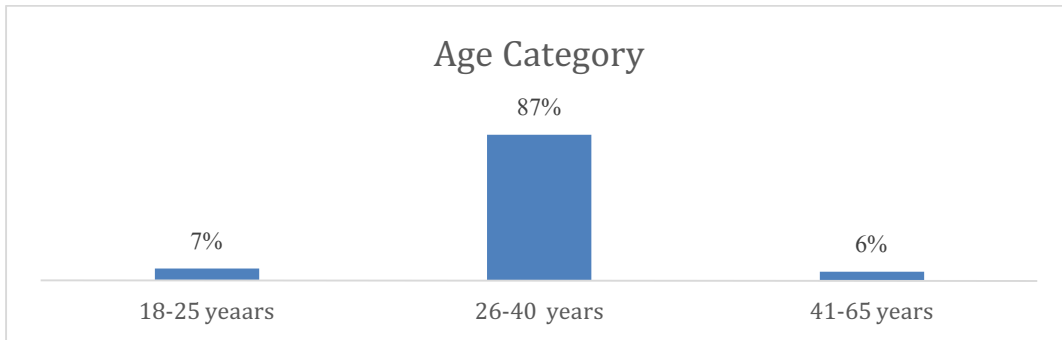


Figure 4-2 Age of Respondents

Age distribution among the respondents as shown in Figure 4-2 below was skewed towards the ages of 26-40 years with 87%, followed by those aged between 18-25 years (7%) and 41-65 years (6%). The results show that the work force in the small and medium cloud based technology companies are mainly young people below 40 years.

A possible explanation as provided by Michael et al. (2000) is that employees in their twenties and thirties (i.e., relatively “younger” workers in this study) are much more likely to have been exposed to information technology at a relatively early age-perhaps as early as elementary school in some cases. This is much less likely for older employees because they would have completed high school (and in many cases, college) before the personal computer was commonplace. In other words, the opportunity for older workers to interact with information technology before entering the workplace was much more limited.

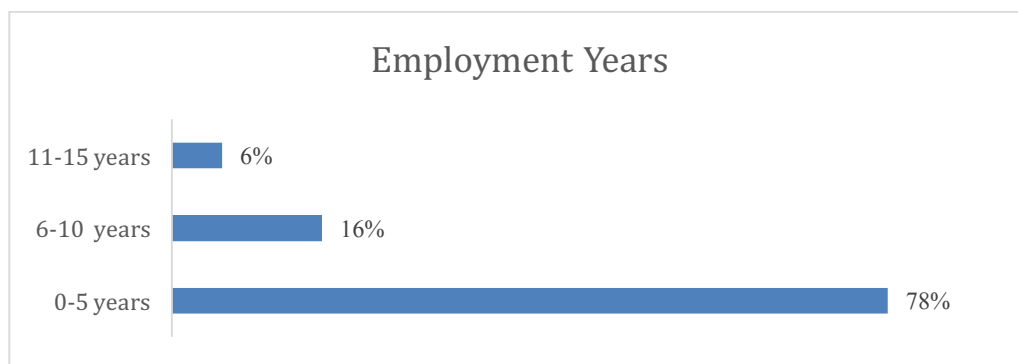


Figure 4-3 No. of Years worked by respondents

78% of the respondents have been at their current employer for 0-5 years as shown in figure 6 above. This is followed by 16% of the respondents having worked at the current employer between 6-10 years and finally 6% having worked at the current employer for 11-15 years. This could be because the companies are still growing hence the turnover is high as people seek growth opportunities.

The number of years worked at the current employer is relevant to the study as it also puts weight on the knowledge of the organisational culture and the level quality awareness.

4.3.2 Relationship between organizational culture aspects and the process of quality management system implementation.

Table 4-2- Correlation between Organisational Culture Aspects and process of implementation of ISO 9001:2008/2015

Spearman Correlations

	ISO Awareness		Certification Motivation	
Dominant Characteristics	.328*	0.015	.274*	0.043
Leadership	.398**	0.003	0.177	0.196
Management	.460**	0.001	0.251	0.065
Organisational glue	.507**	0.001	0.163	0.234
Strategic emphases	.529**	0.001	0.188	0.17
Criteria for success	.533**	0.001	.315*	0.019

* Correlation is significant at the 0.05 level (2-tailed).

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

The findings of the survey show that there is a strong positive correlation between Organisational culture dimensions as shown on Table 4-2 above, as all the 6 variables were above the P value at both confidence 0.05 level and 0.01 confidence level.

Of the 6 dimensions of culture, criteria for success had the strongest positive correlation to the process of implementation of ISO 9001:2008/2015.

4.3.3 Organisational Leadership

The survey sought to find how leadership impacts the process of implementation of the quality management system in the cloud based technology companies.

Table 4-3- Organisational Leadership

Organizational Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.	4%	7%	15%	44%	30%	3.89	1.04
Leadership exemplify entrepreneurship, innovation, or risk taking.	2%	4%	18%	58%	18%	3.87	0.818
Leadership exemplify mentoring, facilitating, or nurturing.	7%	6%	30%	37%	20%	3.57	1.109
Leadership exemplify a no-nonsense, aggressive, results-oriented focus.	2%	15%	31%	33%	19%	3.52	1.023

	Quality Awareness Correlation	P Value
Leadership	.398**	0.003

A spearman correlation was carried out to find out the relationship between organisational leadership and implementation of QMS. The results show that there was moderate positive correlation between leadership and ISO awareness, which was statistically significant ($r = .398, p = .003$).

The highest mean for the category is 3.89 indicating that leadership that employed a coordinating, smooth running organised approach led to high ISO 9001:2008/2015 awareness.

4.3.4 Management of Employees.

The survey sought to find how management of employees impacts the process of implementation of the quality management system in the cloud based technology companies.

Table 4-4- Management of employees

Management of Employees	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
The management style in the organization is characterized by teamwork, consensus, and participation.	2%	2%	15%	44%	37%	4.13	0.87
The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness.	0%	13%	36%	33%	18%	3.56	0.938
The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.	4%	19%	19%	43%	17%	3.5	1.095
The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	8%	21%	28%	26%	17%	3.25	1.191

	Quality Awareness	
	Correlation	P Value
Management of Employees	.460**	0.001

The results show that there is a moderate positive correlation between management and ISO awareness, which was statistically significant ($r = .460, p = .001$).

The highest mean for the category is 4.13 indicating that the management style in the organization characterized by teamwork, consensus, and participation led to high ISO 9001:2008/2015 awareness.

4.3.5 Organisational Glue

The survey sought to find how organisation glue impacts the process of implementation of the quality management system in the cloud based technology companies.

Table 4-5- Organisation Glue

Organisation Glue	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
The glue that holds the organization together is the emphasis on achievement and goal accomplishment.	2%	2%	17%	50%	30%	4.04	0.846
The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	2%	7%	16%	55%	20%	3.84	0.898
The glue that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important.	4%	11%	20%	41%	24%	3.7	1.075
The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.	8%	13%	15%	38%	26%	3.62	1.228

	Quality Awareness	
	Correlation	P_value
Organisation Glue	.507**	0.001

The results show that there was strong positive correlation between org. glue and ISO awareness, which was statistically significant ($r = .507$, $p = .001$).

The highest mean for the category is 4.04 indicating that the glue that holds the organization together is the emphasis on achievement and goal accomplishment led to high ISO 9001:2008/2015 awareness.

4.3.6 Strategic Emphases

The survey sought to find how strategic emphases impacts the process of implementation of the quality management system in the cloud based technology companies.

Table 4-6- Strategic Emphases

Strategic Emphases	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	0%	2%	9%	57%	31%	4.19	0.675
The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	0%	7%	20%	47%	25%	3.91	0.867
The organization emphasizes human development. High trust, openness, and participation persist.	4%	6%	17%	48%	26%	3.87	0.991
The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	6%	4%	19%	48%	24%	3.81	1.029

Quality Awareness	
Strategic Emphases	P Value
Strategic Emphases	0.001

The results show that there is a strong positive correlation between organisational glue and ISO awareness, which was statistically significant ($r = .529, p = .001$).

The highest mean for the category is 4.19 indicating that the organization that emphasized acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued led to high ISO 9001:2008/2015 awareness.

4.4 Process of Implementation of a Quality Management System

4.4.1 Motivation for Certification

The study sought to find the motivation for ISO 9001:2008/2015 certification within the organisation.

Table 4-7- Motivation for Certification

Motivation for Certification	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Desire to improve the company's internal processes	0%	0%	5%	44%	51%	4.45	0.603
Desire to enhance the overall competitive performance	0%	0%	11%	57%	32%	4.21	0.631
Marketing and public relations	4%	6%	17%	44%	29%	3.88	1.022
Requirement for tendering	6%	6%	17%	46%	26%	3.81	1.065
Requirement set out by major customers	6%	9%	22%	43%	20%	3.63	1.087

The study found that the desire to improve the company's internal processes was the most important with a mean of 4.45. It was followed by the desire to enhance the overall competitive performance, then marketing and public relations, requirement for tendering and finally requirement set out by major customers at 4.21, 3.88, 3.81 and 3.63 respectively.

4.4.2 Quality Awareness

The study sought to find the level of quality awareness within the organisation. The findings of the study show that there was generally high quality awareness as of the 12 aspects examined 8 were above our mean of 4.112 as shown in Table 4-8.

Table 4-8- Quality Awareness

ISO Implementation	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Dev
Quality management system is all processes within an organization which influence quality	0%	0%	4%	43%	53%	4.49	0.576
ISO 9001:2008/2015 implementation is part of the Organization strategic objective.	0%	2%	4%	42%	53%	4.45	0.667
ISO 9001:2008/2015 is appropriate in ensuring quality of services provided	0%	0%	8%	43%	49%	4.42	0.633
Roles during ISO 9001:2008/2015 implementation were clearly defined	0%	4%	12%	33%	52%	4.33	0.834
Management were involved in the ISO 9001:2008/2015 implementation process	2%	2%	6%	46%	44%	4.29	0.825
Employees were involved in the ISO 9001:2008/2015 implementation process	0%	4%	12%	37%	48%	4.29	0.825
Need for the ISO 9001:2008/2015 was well stated at the onset	2%	2%	10%	41%	45%	4.25	0.868
Scope of ISO 9001/2008/2015 was clearly defined	2%	2%	13%	37%	46%	4.23	0.899
There is a budget allocated for QMS implementation	0%	2%	16%	55%	27%	4.08	0.717
The time allocated for ISO 9001:2008/2015 was sufficient	2%	4%	15%	48%	31%	4.02	0.896
Quality management system is a documentation system	4%	18%	16%	49%	14%	3.51	1.065
Quality management system is a file with documents	14%	27%	20%	25%	14%	2.98	1.288

Regression

The study used Regression analysis to establish the significance of the independent variable. The findings are on Table 4-9 below.

Table 4-9- Regression Model

Coefficients^a					
	Unstandardized		Standardized		Sig.
	Coefficients		Coefficients	t	
Model	B	Std. Error	Beta		
1 (Constant)	1.203	.430		2.800	.007
Org. Glue	.683	.193	.655	3.544	.001
Management	.315	.152	.332	2.070	.044
Leadership	.020	.177	.020	.112	.911
Dominant	-.285	.185	-.289	-1.537	.131

a. Dependent Variable: Quality (ISO) Awareness

Findings show an R square 0.490. This means that 49% of the variation in quality awareness is explained by organisational glue, management of employees, organisational leadership and the dominant characteristics in the organisation. There was no significance of the variable strategic emphases as it had a strong positive correlation to the other independent variables.

The p-value was < 0.05 hence this means that the model is fit in predicting the factors that determine the Quality and ISO awareness. The regression, results shows that there are only two factors (organisation glue and management of employees) that were found to be significant in determining the Quality and ISO awareness. Organisation glue had a p-value of 0.001 which is less than 0.05, hence significant. The organizational glue are the bonding mechanisms that hold an organization together. These include things like cohesion, teamwork, loyalty, commitment, entrepreneurship and flexibility. Others are the rules and policies, goal orientation and competitiveness (Quinn and Cameron, 1983). These are referred to as the organizational glue and these factors determine quality adoption. From the beta value of ($\beta = .683$) it is clear that is a very strong predictor of quality adoption as compared to management of employees.

The management of employees was also a significant predictor with ($\beta = .315, p < 0.05$). This means that the way employees are treated, degree of consultation, participation and consensus and the working environment will determine quality adoption (Quinn and Cameron, 1983).

Dominant Culture

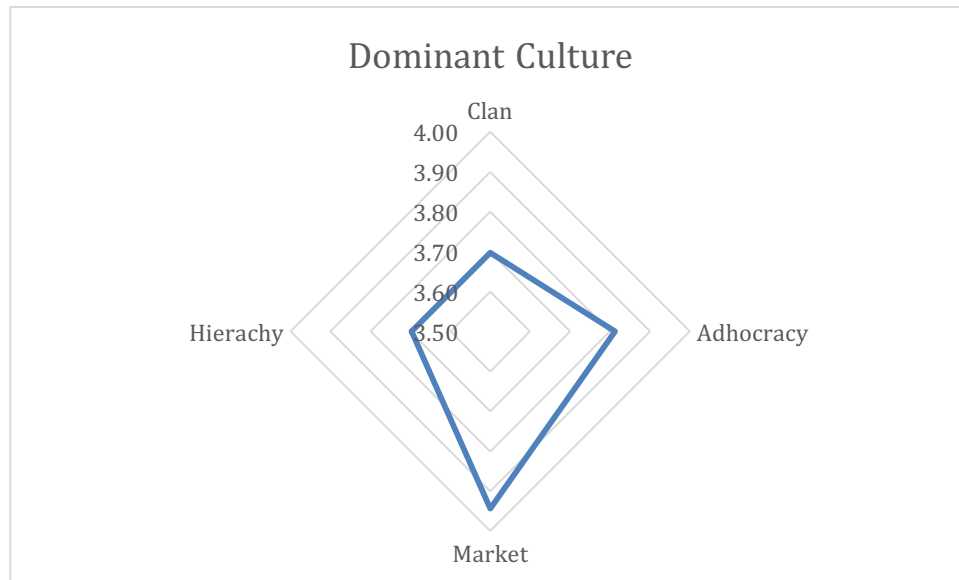


Figure 4-4- Plot showing the Dominant Culture

Results from the study show that the dominant culture was the Market Culture which had a mean of 3.94. An organization that focuses on external positioning with a need for stability and control. This means that from the study a market culture as the dominant culture is key to the process of implementation of a quality management system.

4.4.3 Costs

The study sought to find the cost of the implementation of ISO 9001:2008/2015.

Table 4-10- Costs incurred in ISO 9001:2008-2015 implementation

	Frequency	Percent
\$2000 - \$3000	1	25%
Over \$5000	3	75%

Information as obtained from the 4 quality managers who are responsible for the ISO 9001:2008/2015 implementation showed that 3 of the companies used more than \$5,000 to ensure the organisation was certified while 1 company used between \$2,000-\$3,000.



CHAPTER FIVE:

SUMMARY OF FINDINGS AND DISCUSSION

5.1 Introduction

In this chapter are the summary of the major findings from the study conclusions and detailed discussions from the findings.

5.2 Demographics

The findings show that 62% of the staff in the technology companies were male and 38% female. This aspect of technology being a largely male dominated field is in agreement with the findings of Abbiss, (2008) who state that there is a broadly held view that males' computing experiences make them better prepared for a world of work where computing skills and knowledge are increasingly a job requirement, and concomitantly that females are less well prepared and therefore economically and socially disadvantaged.

87% of the employees were aged between 26-40 years, followed by those aged between 18-25 years (7%) and 51-65 years (6%). This may be the case especially with cloud computing. According to Morris & Venkatesh (2000), having grown up in the age of the personal computer, younger workers may simply have more experience making independent judgments about technology. On the other hand, older workers may be less confident in their ability to render independent judgments about various facets of new technology. They appear to weigh issues of ease or difficulty of using the new technology more heavily than younger workers do.

The findings of the number of years worked show that 78% of the respondents have been at their current employer for 0-5 years. This is followed by 16% of the respondents having worked at the current employer between 6-10 years and finally 6% having worked at the current employer for 11-15 years. These findings are in agreement with Moore, (2000) study that states that the supply-demand gap in the IT labour market compounds staffing problems, as technology professionals not satisfied in current positions are likely to find alternative employment opportunities plentiful. Hence, the effective management of IT

professionals (i.e., management that contributes to the retention of valued technology workers, as well as contributing to the optimization of their job performance) is an area of increasing concern. Due to the high demand for talented IT workers in today's labour market, retention of valued technology professionals is a crucial concern for many organizations. Therefore, effective management -management that contributes to the satisfaction and retention of valued technology professionals- is imperative.

5.3 Organisational Leadership

Organisational leadership that considered to exemplify coordinating, organizing, or smooth-running efficiency had a better process of implementation of quality management system as quality awareness was moderately high. This type of leadership is a characteristic of a hierarchical culture. This is in agreement with Lapiņa et al. (2015) that at the organizational level the management forms a system within which the organization's activities are managed, for example., it is a set of principles and conditions under which the organizational goals are set and achieved. Within good governance systems the organization is stimulated to create added value by acting within a framework of clear responsibility and control principles that allow its operation to be ethical, predictable, strategic and consistent with the long-term interests of the organization's management and all stakeholders – internal and external. According to Hua et al., (2000), managers at small-firm manufacturers need to be aware that establishing managerial commitment, providing training, documenting activities, and inculcating real follow-through all require both time and effort. Achieving high levels of internalization in the small-firm setting can be a daunting task.

5.4 Management of Employees

The management style in the organization characterized by teamwork, consensus, and participation had a better process of implementation of quality management system as the quality awareness was moderately high. This type of style is particular to a clan culture. This is as highlighted by Cameron & Quinn (2011) who state that the group/clan culture is important in creating trust and participation in the core values of the organization while

embarking on the human resource potential development. It focuses on the internal organization of a firm and its flexibility.

Briscoe et al., (2005) states that one of the most important benefits of a thorough pre-implementation assessment is that it provides an opportunity for the organization's employees to become educated about ISO 9000. The findings are also in agreement to the findings by Rad (2006) who state participative management style empowered employees to take any necessary action to ensure customer satisfaction. This is also noted by Williams, (2004) who stated that a successful ISO 9001:2000 certification process depends on the way in which the standard is communicated to the workforce and how it is perceived by the workforce.

5.5 Organisational Glue

Organisations whose glue emphasised achievement and goal accomplishment had a better process of implementation of quality management system as the quality awareness was very high. This is a characteristic of a market culture. According to Briscoe et al. (2005), successful TQM implementation needs long-term strategic planning. Improved performance depends on internalizing core ISO practices. ISO 9000 practices must become part of the routine—part of the fabric of the organization. Companies that value and invest in quality are more adept at making quality a way of life. Quality principles are internalized so that they guide employee behaviour. This notion of internalization is critical to successful ISO implementation. A strong quality culture leads managers to view ISO 9000 as another tool to be used to improve quality practice. They are more likely to make ISO principles part of the daily routine. They also tend to use ISO data in the problem- solving process, as well as to design new training programs.

5.6 Strategic Emphases

Organizations whose emphasis was acquiring new resources and creating new challenges; trying new things and prospecting for opportunities are valued had a better process of implementation of a quality management system as quality awareness was very high. This is a characteristic of a market culture. This is noted by Roldán et al. (2012) who stated that

rather than merely adopting or imitating less advanced cultures (DC), organisations should focus their efforts on generating a more advanced culture (e.g., creative culture). Poksinska et al. (2013) states that the primary drivers for setting objectives do not come from ISO 9001 itself. They are influenced by the organisation's commitment to quality issues, its market position or simply the ambition to improve the organisation's performance. A dynamic environment characterized by rapid product and process change leads to the establishment of a corporate culture that values and emphasizes quality (Hua et al., 2000).

5.7 Motivation for Certification

The main motivation for certification was the desire to improve the company's internal processes. The findings in this study are similar to the finding by Psomas et al. (2010) who concluded that the manager should first ensure that the firm's motivation for implementing the standard is internally oriented, rather than being externally oriented. The focus should thus be on modifying the culture of the whole organization (including senior managers, middle managers, and other personnel) with a view to transforming it into an overtly quality-oriented culture.

Closer home, the study is in contrast to the findings by Wanjau et al. (2013) that SMEs adopt quality initiatives not from internal initiatives but mainly from external market pressures.

5.8 Quality Awareness

There was generally a high quality awareness in the organisations as the most of the employees understood what the ISO 9001:2008/2015 was all about and its requirements. Employees were properly trained on the standard. This as done by departmental champions who were part of coming up with quality objectives and ensuring that there was compliance and continuous improvement through internal audits. This ensured employee involvement in the process. Management were entrusted with leading their departments through the formulation of quality objectives which are measured for performance. They also did the quality training to the employees.

The regression analysis revealed that organisation glue and management of employees are significant in determining the quality and ISO 9001:2008/2015. From the study, an organisation whose bonding mechanisms that hold the organization together exemplifies goal accomplishment and achievement promoted teamwork and cohesion during the implementation process.

This is in agreement to the study done by Singh et al. (2006) who state that management and leadership have been found to be crucial for the success of ISO 9000 initiative, and lack of support of senior management in many organisations has seen the implementation and buy-in from employees to be at unacceptably low levels. The results of the case study done by Bhuiyan & Alam (2005) suggest that managers must focus their efforts and resources in a dedicated manner to the implementation of a quality system, and furthermore, need to provide sufficient training to the employees and provide them with an awareness of the reasons and potential benefits of implementing a quality system. With these critical prerequisites in place, the difficulties in implementing the ISO 9000 quality standard can be minimized and should enable a smoother implementation. Understanding the quality system, the implementation requirements and the benefits was crucial to make the system effective at the grass-roots level.

5.9 Correlation

The general objective of the study was to establish the relationship between organizational culture aspects using the Competing Values framework on the process of quality management system implementation.

The findings show that defining the criteria for success for an organisation is key to implementation of a quality management system. Further review showed that an organization defined success on the basis of winning in the marketplace and outpacing the competition had a higher awareness of quality and the motivation for certification was a desire to improve the company's internal processes. This is a characteristic of a market culture.

5.10 Dominant Culture

The dominant culture as assessed in the study shows a market culture, while the sub dominant culture is the adhocracy culture meaning that the technology companies culture emphasizes the right side of the profile— adhocracy and market. From the competing values framework, the right side identifies values that emphasize an external, organic focus (Cameron & Quinn, 2011). This means that in this quadrant organizations emphasize adaptation, change, and organic processes (like most start-up companies). They excel by focusing on the market or competition —“Our rivals have weak customer service, so this is where we will differentiate ourselves” (Tharp, 2009b).

According to Cameron & Quinn (2011), the market culture is a results-oriented organization. The major concern is getting the job done. People are competitive and goal-oriented. The leaders are hard drivers, producers, and competitors. They are tough and demanding. The glue that holds the organization together is an emphasis on winning. Reputation and success are common concerns. The long-term focus is on competitive actions and achievement of measurable goals and targets. Success is defined in terms of market share and penetration. Competitive pricing and market leadership are important. The organizational style is hard-driving competitiveness.

Studies linking the type of culture highlight the dominance of a market and adhocracy culture in technology companies. Shih & Huang (2010) state that the environment facing software organizations today is marked by extreme competition and uncertainty. The significance of organizational culture (OC) as a source of organizational inertia is well known and there has been some interest in its influence on both the successful implementation and the use of IT. Organizations with flexible cultures and having a long-term orientation tend to adopt advanced manufacturing technology. Adoption is likely to succeed in adhocracy culture.

Bradley et al. (2006) study revealed that the effects of technologies on information systems success was evident more in entrepreneurial firms at the tactical level. As competition in more and more industries necessitates rapid changes within firms, more companies will take on the characteristics of the entrepreneurial firm. Innovation which is

typical to technology companies is supported by an adhocracy culture as stated by (Naranjo-Valencia et al., 2016) findings that showed a positive influence of the adhocracy culture on firm innovation. Certain traits such as creativity, freedom, and a risk-taking attitude associated with the adhocracy culture enhance innovation. High-tech companies like Google are prototypical Create (adhocracy)(Tharp, 2009b).

Marketing orientation focuses on an organizational culture that puts the customer first. For SMEs, customer orientation is likely to be a vital success criteria because, such firms generally lack the financial resources to explore other sources of business profitability, such as research and development, competitive advantage, low cost leadership or skilled staff to develop effective planning strategies (Laforet, 2008). As earlier defined, quality refers to the ability of a product or service to consistently meet or exceed customer requirements or expectations (Vásquez, 2009). ISO 9001:2008/2015 specifies requirements for a quality management system where an organization needs to demonstrate its ability to consistently provide product that meets customer needs and applicable statutory and regulatory requirements (Noble, 2006). Hence from the study, is in agreement that a marketing orientation enhances the process of implementation of a quality management system in the technology companies in Nairobi.

5.11 Costs

The findings showed that 3 of the companies used more than \$5,000 to ensure ISO 9001:2008/2015 certification, while one of the companies used between \$2,000-\$3,000 to ensure ISO 9001:2008/2015 certification. Further discussion with the quality managers revealed that all companies incurred training, audit and certification costs while 2 of the companies incurred infrastructure costs.

According to Bhuiyan & Alam (2005), budget allocation, time devotion, and scarcity of resources have created obstacles in the smooth implementation of ISO 9000. The empirical study showed that scarcity of resources was found to be the biggest hurdle for organizations. The study showed that companies that are rich in resources face a lesser degree of difficulty as compared to small companies that have between one and 100 employees. Briscoe et al., (2005) states that the critical question to be answered is, “Does

the company have the infrastructure in place to successfully introduce and maintain ISO standards?” Because of the costs associated with implementing ISO 9000, it is vital to assess the fit between the company’s needs and ISO’s capabilities.

5.12 Implications of the study

The findings of the study show the dominant culture, a market culture, is key to the process of implementation of a quality management system. A market culture as described by Cameron & Quinn (2011) refers to a type of organization that functions as a market itself. It is oriented toward the external environment instead of internal affairs. It is focused on transactions with (mainly) external constituencies such as suppliers, customers, contractors, licensees, unions, and regulators. Competitiveness and productivity in market organizations are achieved through a strong emphasis on external positioning and control.

The findings are in contrast to the studies done by (Hua et al., 2000) and (Prajogo & McDermott, 2005) who advocate for a clan type of culture for an effective implementation of a quality management styles, this study shows that an analysis of the individual elements that make up organisational culture characterise different cultures. This study promotes an organisational leadership that is characterised by a hierarchical culture for implementation process of a quality management system. For organisational glue and strategic emphases, the study promotes a market culture for the implementation process.

The quality manager of a small-to-medium technology service company that wishes to implement a robust QMS according to the principles of ISO 9001:2008/2015 should focus carefully on the organisational culture dimensions to ensure the smooth and effective implementation process.

The cultural awareness can be key in ensuring the company’s motivation for certification is appropriate to the organisational mission and objectives. The awareness also helps focus the development of human resources with the aim being to develop an educated workforce of employees who are committed to quality procedures and are empowered to take part in decisions about quality issues.

The overall findings of the study are in agreement with Cameron & Quinn, (2011) review that states to foster the highest levels of quality in organizations requires the application of a variety of hierarchy culture activities such as improving measurement, process control, and systematic problem solving. However, world-class quality also requires the application of market culture activities such as measuring customer preferences before and after product and service delivery, improving productivity, creating partnerships with suppliers and customers, and enhancing competitiveness by involving customers in planning and design. It must include clan culture activities such as empowerment, team building, employee involvement, human resource development, and open communication. A common adage is that firms cannot treat customers any better than they treat their employees. TQM must also include adhocracy activities such as surprising and delighting customers, creating new standards of performance, anticipating customer needs, engaging in continuous improvement, and implementing creative solutions to problems that produce new customer preferences. In most failed TQM attempts (which constitute a majority), the elements of each of the four quadrants are not implemented; only a partial approach is tried. In other words, the Competing Values Framework helps us identify a more comprehensive approach to quality because it highlights the key elements of the four main cultures that underlie organizational performance.



CHAPTER SIX:

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter are the conclusions from the research findings, recommendations and the Gaps for further study that can be done in technology companies in Nairobi.

6.2 Conclusion

The study was to identify how the dimensions of organisational culture impact the implementation of a quality management system. From the findings it concludes that a company's definition of success is crucial to the implementation of a quality management system. Therefore, this should be among the key areas that management need to review to ensure the process of implementation of a quality management system has been properly managed.

Organisational leadership is key to the successful implementation process as the leaders ensure effective coordination, organizing and smooth running efficiency. The leaders create the quality culture within the organisation by ensuring the systems are put in place to support the implementation process and resources allocated to facilitate the activities that surround the certification process.

Management of employees is key in the process of implementation of a quality management system as the employees are the main stakeholders in the provision of service in the cloud based technology companies. The study concludes that the preferred management style is one that exemplifies teamwork, consensus and participation.

The findings from the study show that emphasis on achievement and goal accomplishment should be the glue that holds the organisation together. The process of implementation

of a quality management system should be a continuous project that aims towards continuous improvement hence organisations should work on achievement of these goal.

The study finds that an organisation whose strategic emphases is on acquiring new resources, creating new challenges and trying new things and prospecting for opportunities strongly impacts the process of implementation of a quality management system. The main purpose of a quality management systems is to ensure that there is customer satisfaction in service provision and for technology companies that seek to create new challenges and try new things and prospect for opportunities, they should ensure that the services provisioned ensure they meet the customers' requirements.

6.3 Recommendations

From the findings of the study, management should determine the organisational culture that exists in the organisation by looking at the dimensions that make up their culture. The leadership is what guides the culture that is embedded in the organisation hence should be evaluated as it is what trickles down to the staff as stated by (Schein, 1984) in his research that the culture is best formed by the top management.

Employees being the implementers and providers of quality should be well trained and empowered to ensure they understand what the standards requirement are this is done by managing the employees through teamwork and consensus building.

Technology companies should ensure that the glue holding the organisation together focusses on towards achievement. This ensures that resources and focus is given to ensuring quality is learnt and becomes a practice that can be said to be part of the company norms.

The strategic emphasis of an organisation is key to the operations and practices in the workplace. Technology companies should ensure that their strategy focuses on providing services that are meeting the customer needs in a diverse and changing technology environment. Having a blue ocean strategy in technology is ensures the organisation stays ahead of it's competitors which is extremely important in this.

Management should align the motivation for ISO 9001:2015 certification to the business need. This ensures that the process of implementation is well defined, and the resources properly allocated to ensure it is effective.

Quality Awareness is the heart of the implementation process especially at the onset and later on maintenance of ISO 9001:2008/2015. Both management and non-managing staff need to be constantly trained to ensure there is continuous improvement of the system.

The costs and resources needed for the ISO 9001:2015 implementation process should be part of the goals and objectives set out in the company's financial budgets.

The motivation for ISO 9001:2015 certification impacts the quality awareness as the organisation adequately allocates the resources to support the quality principles.

Managers should carefully assess the threats to internalization before proceeding with an ISO certification initiative. It is far better to forgo immediate implementation in favour of adequate preparation. While ISO 9000 can help the technology companies consolidate their quality certification efforts, the program must be well conceived and well executed to justify its costs and deliver on its promise of better quality and enhanced competitiveness.

6.2 Limitations of the study

Firstly, the current study faced the general limitations of quantitative research where there is an assumption of participants providing informed and sincere responses to the questionnaire items. The views that may be provided in the responses may not be factual and may not represent the implementation of quality management systems in the employee's respective organization. To limit this weakness due to the research design, the researcher sought to assure the participants that the feedback they provided in the semi-structured questionnaire was confidential and was not to be revealed to their employers or fellow workers. The participants were assured that the data they provided was for the purpose of academic research.

It was difficult to access and distribute the questionnaires to the target employees as they could only be distributed to the quality manager who would then distribute to the employees. The researcher ensured that the questionnaire items were brief and to the point and lacking ambiguity such that participants could provide their written feedback promptly. There was also the limitation where some study participants did not respond within the allocated response time, hence delaying the research. The subjectivity of the quantitative research study also limited the study in getting insight on the research problem. The questionnaire items may have limited the information that the research participants were willing to avail. The range of responses may have been narrow such that participants could not identify with any of the categories provided in the Likert scale responses categories. The subjectivity of the researcher in quantitative study approaches could have lead to the introduction of study bias that would affect the study findings.

The study focussed on cloud based technology companies that are small and medium sized. However, there is a very broad database encompassing technology companies that is not harmonised. This made it difficult to measure the total number of cloud companies in Kenya. There are also different ISO 9001:2008/2015 implementing certifying bodies therefore, getting the lists of certified companies was also difficult.

6.3 Areas for further research

The study was done on small and medium sized cloud based technology companies which are mainly in the service industry. However, only 4 companies listed in the Top 100 were ISO 9001:2008/2015 certified. Further research should be done on the reasons behind having such a small number of service based technology companies certified. The findings of the study are constrained by the small sample size. It is recommended that this analysis be expanded to include other business sectors and other technology companies that are not small and medium sized.

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APPENDICES

Appendices I: Letter of introduction to the Survey

23rd March 2018

To whom it may concern

Dear Sir/Madam,

RE:FACILITATION OF RESEARCH –GRACE NYAMBURA NDUNG’U

This is to introduce Grace Ndung’u who is a Master of Business Administration student at Strathmore Business School, admission number MBA/ 90658/16. As part of our MBA Program, Grace is expected to do applied research and to undertake a project. This is in partial fulfilment of the requirements of the MBA course. To this effect, she would like to request for appropriate data from your organization.

Grace is undertaking a research paper on-: **“The Influence of Organizational Culture on The Process of Implementation of Quality Management System in Technology companies in Nairobi.”** The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and we shall be willing to provide any further information if required. Yours sincerely,

Yours Sincerely,

Grace Nyambura Ndung’u

Email address: gnyambura.ndungu@gmail.com

Semi Structures Questionnaire

SECTION A: General Information

A1 .Gender

Male 1 Female 2

A2. Indicate your age category:

18- 25 Years 1 26-40 Years 2

51-65 Years 3 Above 65 years 4

A3.Duration of employment in the organization

1-5 years 1 6-10 years 2

11-15 years 3 16-20 years 4

21 and above 5

SECTION B- Identifying organizational culture profile

Please tick the option that best describes your organization.

Score:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Part A- Responses regarding the Dimensions of Organisation Culture

1. Dominant Characteristics

No	Statement	1	2	3	4	5
A	The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.					
B	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.					

C	The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement-oriented.					
D	The organization is a very controlled and structured place. Formal procedures generally govern what people do.					

2. Organizational Leadership

No	Statement	1	2	3	4	5
A	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.					
B	The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking.					
C	The leadership in the organization is generally considered to exemplify a non-nonsense, aggressive, results-oriented focus.					
D	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.					

3. Management of Employees

No	Statement	1	2	3	4	5
A	The management style in the organization is characterized by teamwork, consensus, and participation.					
B	The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness.					
C	The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.					
D	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.					

4. Organization Glue

No	Statement	1	2	3	4	5
A	The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.					
B	The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.					

C	The glue that holds the organization together is the emphasis on achievement and goal accomplishment.					
D	The glue that holds the organization together is formal rules and policies. Maintaining a smooth- running organization is important.					

5. Strategic Emphases

No	Statement	1	2	3	4	5
A	The organization emphasizes human development. High trust, openness, and participation persist.					
B	The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.					
C	The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.					
D	The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.					

6. Criteria for Success

No	Statement	1	2	3	4	5
A	The organization defines success on the basis of the development of human					

	resources, teamwork, employee commitment, and concern for people.					
B	The organization defines success on the basis of having the most unique or newest products. It is a product leader and innovator.					
C	The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.					
D	The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.					

Part B- Responses regarding the process of implementation of quality management systems

Score:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

1. What was the Organization's motivation for Certification?

No.	Statement	1	2	3	4	5
	Desire to improve the company's internal processes					
	Desire to enhance the overall competitive performance					

	Requirement set out by major customers					
	Requirement for tendering					
	Marketing and public relations					

Rate in Order of importance with 1 being not important and 5 being highly important

Score

1 = Not at all important • 2 = Low importance • 3 = Slightly important • 4 = Neutral
 • 5 = Moderately important. • 6 = Very important.

No.	Statement	1	2	3	4	5
	Desire to improve the company's internal processes					
	Desire to enhance the overall competitive performance					
	Requirement set out by major customers					
	Requirement for tendering					
	Marketing and public relations					

2. Questions on Quality Awareness

Score:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

No.	Statement	1	2	3	4	5
	Quality management system is a file with documents					
	Quality management system is a documentation system					

Quality management system is all processes within an organization which influence quality					
ISO 9001:2008/2015 implementation is part of the Organization strategic objective.					
Need for the ISO 9001:2008/2015 was well stated at the onset					
ISO 9001:2008/2015 is appropriate in ensuring quality of services provided					
Scope of ISO 9001/2008/2015 was clearly defined					
Roles during ISO 9001:2008/2015 implementation were clearly defined					
The time allocated for ISO 9001:2008/2015 was sufficient					
Management were involved in the ISO 9001:2008/2015 implementation process					
Employees were involved in the ISO 9001:2008/2015 implementation process					
There is a budget allocated for QMS implementation					

Discuss how employees were involved in the ISO 9001:2008/2015 implementation process

As a manager, discuss how managers were involved in the ISO 9001:2008/2015 implementation process

Costs incurred in ISO 9001:2008/2015 implementation process. - For Management Only

a) What was the budget allocation for ISO 9001:2008/2015 implementation?

- 1- \$1000-\$2000
- 2- \$2000- \$3000
- 3- \$3,000- \$4,000
- 4- Over \$5,000
- 5- Other (Specify)

How long did the ISO 9001:2008/2015 implementation process take?

Tick the costs the organization incurred in the implementation of ISO 9001:2008/2015

- 1- Training Costs
- 2- Audit Costs
- 3- Certification Costs
- 4- Infrastructure
- 5- Others (Specify)
