THE MEDIATING EFFECT OF ORGANIZATIONAL CULTURE ON TOTAL QUALITY MANAGEMENT AND ORGANIZATIONAL PERFORMANCE IN THE IT INDUSTRY IN KENYA

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DECLARATION

This research project is my original work and has not been presented for the award of any degree in any other university.

Sign…… Date ……

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L50/8442/2017

This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This research project is dedicated to my children who suffered the prolonged absence of their mother during the study period, my husband for his unfaltering support, patience and love, even during turbulent times, and my dear parents who instilled in me the value of hard work, perseverance and dedication which have been the driving force in my professional, personal and spiritual life. I promised to make my parents proud by the achievement of this monumental academic goal and I hope that I have fulfilled that promise.

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ABBREVIATIONS AND ACRONYMS

TQM	Total Quality Management
IT	Information Technology
QM	Quality Management
OC	Organizational Culture
CVF	Competing Values Framework

ABSTRACT

Total quality management (TQM) is perceived as an important approach to enhancing the performance and competitiveness of the firm. The purpose of this study was to investigate the mediating role of organizational culture in the TQM and organizational performance relationship. A descriptive research design was adopted and a survey of 107 participants selected randomly from IT firms in Kenya was used. Data was collected using closed ended questionnaires and analysed using both descriptive and inferential analysis using SPSS. Based on the findings, the correlation data analysis established that all the five factors had a positive significant association with firm performance. Secondly, from the hypotheses, it was found that all the four TQM factors had a positive and significant effect on firm performance. Specifically, organizational leadership, customer focused TQM, HRM focused TQM, and strategic planning and development practices were found to have a positive, significant effect on firm performance. Third, the findings also showed that clan culture did not mediate the relationship between TQM practices and firm performance. However, positive direct and indirect effects were established. Based on these findings, the study recommended the need to understand the firm culture, and implement TQM practices that are organizational culture specific to enhance firm performance.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Total quality management is perceived as an integrative organizational-wide philosophy which is focused on continuously improving the quality of the firm's products and or services and process so as to meet or exceed customer expectations (Lemak and Reed 2000). There are many studies on the concept of TQM, a majority of these indicating that firms have succeeded in implementing quality strategies in organizations (Chen and Chen 2009). This philosophy is not only common in many of the large enterprises but also among small and medium enterprises that have tried to implement quality strategies in organizations (Prajogo and Sohal 2001).

As a philosophy, it has been widely adopted in the last 50 years as firms continue to seek ways to improve their levels of competitiveness in the market. Studies in the UK market have found that at least 45-60% of US companies have adopted the TQM philosophy (Koilakuntla et al. 2012). A majority of these companies continue to benchmark by comparing each other's strategies with the intention of improving their TQM performance in the long term which is perceived as a key essence of TQM (Ooi 2014). The same has been found of UK organizations with a majority of the firms having implemented TQM practices in their organizations. The TQM philosophy in these developed nations has been a key element of the firm's strategies.

An article appearing in the Daily Nation in 2014 indicated that managers in a majority of the organizations in Kenya had no clue what quality management entails and hence could not implement quality management practices in Kenyan firms. Findings established that the practice is not passionately pursued among Kenyan firms as experts would want to believe it. Therefore,

the reason for failure of some of the firms in the Kenyan market can be attributed to their limited implementation of TQM practices.

1.2. Statement of the Problem

There are multiple studies on the relationship between total quality management and firm performance. These studies show that total quality management has a significant impact on performance (York and Miree 2004). In fact, the implementation of total quality management philosophy has been found to impact positively on productivity, increase both market share and the financial performance of the firm (York and Miree 2004). However, some reports have found that only about one-third of firms have achieved improvements in quality, productivity and competitiveness with total quality management initiatives (York and Miree 2004). In the Kenyan context, firms do not even realize the value of total quality management and in some contexts, such practices have not been implemented fully because of the lack of supporting evidence locally, on the positive impacts of TQM on firm performance (Álvarez-Santos et al. 2018). With the limited impact of TQM, it becomes important to understand whether there are other intervening variables in this relationship that affect the relationship between TQM and performance and organizational culture has been identified as one such factor (Álvarez-Santos et al. 2018). Considering that quality management may be contingent on context, researchers have begun to study the role of context and organizational culture in particular, as a potential explanation for these somewhat ambiguous findings and hence this study in the context of the IT industry in Kenya.

1.3. Purpose of Study

The main aim of this study was to investigate whether organizational culture mediates the relationship between the five total quality management practices and firm performance in the IT industry in Kenya.

1.4. Objectives of the Study

The objectives of the study were:

a) To investigate the relationship between Organizational leadership practice of TQM has an impact on firm performance in the IT industry in Kenya.
b) To explore the relationship between Customer focus practice of TQM has an impact on firm performance in the IT industry in Kenya.
c) To understand whether Human resource focus practice of TQM has an impact on firm performance in the IT industry in Kenya.
d) To investigate whether Strategic planning and development practice of TQM has an impact on firm performance in the IT industry in Kenya.
e) To examine whether Organizational culture mediates the association between TQM practices and firm performance in the IT industry in Kenya.

1.5. Research hypotheses

The following hypotheses were tested in this study.

H_0: Organizational leadership as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

$H_{1:}$ Customer focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

H_2: Human resource focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

H_3: Strategic planning and development as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

H_4: Organizational culture does not mediate the association between TQM practices and firm performance in the IT industry in Kenya.

1.6. Significance of the Study

This study was motivated by existing knowledge gaps in the TQM implementation in Kenyan firms and hence an interest in understanding whether promoting TQM implementation will impact on the performance of these firms (Rahman and Bullock 2005, Bastas and Liyanage 2019). Thus, the study is important in filling existing knowledge gaps.

Secondly, it was also motivated by the need to understand whether TQM implementation in the organization will require an understanding and incorporation of external factors such as organizational culture to enhance success (Jayaram, Ahire, and Dreyfus 2010, Abrunhosa and Moura E Sá 2008). More often, TQM implementation is not contextualized resulting in failure. This study thus sought to understand whether there was need for culture to be incorporated in the process of TQM implementation. Along this perspective, the study is important as a means of informing TQM and operations managers in organizations of the value of contextualizing TQM to a particular organization's culture. It was also important because it adds to existing studies on TQM implementation in Kenya and how Kenyan firms can improve the success of TQM projects by ensuring that they observe internal and external factors that can affect the TQM implementation process.

1.7. Limitations of the Study

In pursuit of carrying out this study, a few challenges were experienced. One limitation was that some participants were not willing to co-operate or participate in the study, which they perceived as not directly beneficial to them. To mitigate this, participants were told of the importance of the study for achievement of academic aims and were persuaded to take part in the study. Another limitation was associated with the bureaucratic nature of organizations in Kenya, which made it difficult for the study to be carried out in their premises. This reduced the number of participants who were willing take part in the study. To mitigate this, targeted organizations were approached in advance and requested to allow the researcher to carry out the study.

1.8. Delimitations of the Study

This study explores three constructs only: TQM practices, organizational culture and firm performance. Apart from the three, no other aspects was explored in this study to achieve the objectives of the study. Secondly, this study was only carried out in the context of IT firms in Kenya, specifically, those located in Nairobi. No other context was used in the study.

1.9. Assumptions of the Study

The key assumptions of the study included: first, that the respondents would agree to participate in the study and that they would answer the questions correctly and honestly. Secondly, the study also assumed that the data collection instruments would be valid and reliable to collect information that will accurately answer the study objectives. Third, that upon request, the targeted organizations would be willing to allow their members to take part in the study.

1.10. Organization of the Study

The study was organized into five chapters. Chapter one covered the background of the study, the statement of the problem, purpose of the study, limitation of the study, basic assumptions, definition of significant terms and organization of the study. The second chapter comprised a review of literature while the third chapter covered the research methodology which comprised the research design, target population, sampling procedure, research instrument in data collection, validity and reliability of the instruments, data collection procedures and data analysis techniques. Chapter four presented an analysis and interpretation of the data while chapter five presented a summary of the findings, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter explored previous studies on the issue of TQM, organizational culture and firm performance. The aim of the chapter was to analyze and synthesize literature with the aim of understanding what has been done in other studies by other scholars and to identify gaps in literature. The chapter concluded with a conceptual framework that explains how the study was done and accomplished its objectives.

2.2. Quality management- definitions and elements

There are many definitions of quality management which have been proposed in literature (Bolatan et al. 2016). Each of these definitions however look at various perspectives and dimensions and hence studies have suggested that there is no one approach or definition that is commonly accepted by all scholars (Prajogo and Hong 2008). One of the earliest definitions of quality management was by Dean and Bowen (1994) who looked at total quality as an approach to management which is characterized by its principles and techniques, each principle implemented through a set of practices. The practices are in turn supported by techniques (Chen and Chen 2009). Quality management is also defined as an approach to achieving and sustaining high quality output in the firm through a focus on the maintenance and continuous improvement of processes as well as defect prevention at all levels and in all functions of the firm (Ooi 2014).

Gimenez-Espin (2013) suggests that in defining quality management, most scholars focus on the use of terms such as total, quality and management without much understanding of the concept and how it should be defined properly. In understanding quality management however, it is

important to first consider Deming (1986) who introduced the concept of quality in his Deming Chain reaction theory (Calvo-Mora et al. 2014, Koilakuntla et al. 2012). However, Deming did not provide a formal definition of quality which has also resulted in various studies proposing different conceptualizations of the term (Calvo-Mora et al. 2014, Corredor and Goñi 2011). Despite this, Deming in his theory suggest that if a firm improves its quality, it is expected that the costs decrease as there are fewer mistakes and delays in the organization (Prajogo and Hong 2008). This then also means that there will be reduced rework, improved use and materials and improvements in the firm productivity.

Quality has thus been defined in many ways. Some authors have suggested that quality should be looked at as superiority or excellence of a product or service, others view it as lack of manufacturing or service defects, others think of it as related to product features or price (Caldas 2009, Bon and Mustafa 2013). The American National Standards Institute (ANSI) as well as the American Society for Quality defined quality as totality of features as well as characteristics of a product or service which bears on its ability to satisfy specific needs (Zehir et al. 2012, Bolatan et al. 2016). This perspective of defining quality from the customer perspective is often known as the fitness for use perspective. On the other hand, to beat competition, organizations seek to exceed customer expectations and hence one of the most popular definitions of quality is meeting or exceeding customer expectations. This is reflected in many organizations' visions (Bastas and Liyanage 2019).

Thus, in most of the definitions, customer driven quality is perceived as important and fundamental to high performing organizations and hence these firms aim to continuously evolve in order to meet the ever-changing needs of the consumer (Zehir et al. 2012).

In the context of this study, the consumer dimension of quality management is adopted along with other dimensions as suggested in Gimenez-Espin (2013) who look at quality management as focused on both the customer and continuous improvement. Thus, in enhancing quality in organizations practices such as leadership, engagement, teamwork, people management and empowerment become important(Prajogo and Sohal 2001). Additionally, elements of quality management in the form of techniques such as quality function deployment, failure mode and effects analyzing, brainstorming and statistical process quality among others, often looked at in terms of the core of quality management and hence an important part of this study(Abrunhosa and Moura E Sá 2008, Ooi 2014).

2.3. Total Quality Management (TQM)

There is a significant amount of literature on total quality management (TQM). Most of these studies are largely based on case studies and anecdotal evidence as well as the personal prescription of the recognized gurus in the quality management discipline such as Deming, Juran, Crosby and Ishakawa (Agus and Hassan 2011, Lemak and Reed 2000). Thus, the generic term total quality management is thus used to mean a collection of philosophies, concepts as well as methods and tools that are used to manage quality(Abrunhosa and Moura E Sá 2008).

While quality management is perceived as an approach to achieving and sustaining high quality output in organizations, it is made up of a set of mutually reinforcing principles often supported by a set of techniques and practices (Prajogo and Sohal 2001).

Among the many studies on quality management, there has been a focus on trying to understand key quality management practice dimensions (Li et al. 2008, Ooi 2014). Some studies have indicated that there is an agreement among authors on what key TQM practices should be and hence many of these are found in different national frameworks of quality management that have

been developed such as the European quality Award, the European foundation for Quality management Excellent models among others (Lemak and Reed 2000, Prajogo and Sohal 2006). In exploring these factors, one of the missing elements is a proper definition of the concept.

TQM is however perceived as a holistic management philosophy that seeks continuous improvement in all facets of the organization and hence can be achieved only if the total quality concept is utilized from the acquisition of resources to customer service after the sale (Mar Fuentes-Fuentes, Albacete-Sáez, and Lloréns-Montes 2004, Lemak and Reed 2000). Thus, many studies have indicated that total quality management should be perceived as an integrative organizational wide philosophy that is aimed at continuous improvement of products, services and processes so as to meet customer expectations (Abrunhosa and Moura E Sá 2008, Corredor and Goñi 2011, Ooi 2014). Thus, based on these definitions, both manufacturing and service firms can successfully adopt TQM. TQM adopting firms tend to obtain a competitive advantage over firms that do not adopt TQM (Chen and Chen 2009). Firms that focus on continuous improvement often tend to focus on involving and motivating employees with the aim of achieving quality output and focusing on satisfying customer needs (Singh, Kumar, and Singh 2018). Thus, such firms are perceived to be more likely to outperform those that do not have this focus.

2.4. TQM practices

As indicated previously, there are multiple studies that have explored total quality management and have explored the kind of practices that firms using TQM have adopted (Trivellas et al. 2015). TQM practices have been documented extensively in measurement studies as well as in the studies which have investigated the association between TQM and other factors (Zu, Robbins, and Fredendall 2010, Calvo-Mora et al. 2014). One of the earliest studies exploring

TQM practices and implementation in organizations was suggested by Saraph et al (1989) who developed an instrument to assess the implementation of TQM in manufacturing and service firms in the US. In his study, a total of seven practices were identified (Prajogo and Sohal 2006, Hung et al. 2011). These practices include management leadership, training, employee relations, quality data and reporting, supplier quality management, product/service design and process management.

While some studies have shown the existence of some forms of categorizations among studies, the TQM construct and practices remain relatively difficult to define and explain (Hendricks and Singhal 2001). A majority of the studies that have explored TQM have tried to combine different quality awards which include the Malcolm Baldridge National Quality Award European Quality Award, the Deming prize and Kanji Business Excellence models (Coyle-Shapiro and Morrow 2003). Each of these awards and models suggest different TQM practices and elements which can make it difficult to study or achieve a unified understanding of the concept (Abrunhosa and Moura E Sá 2008). While Saraph et al (1989) model has been effective in explaining TQM practices, a review of studies on TQM have identified the following factors as key aspects of TQM(Prajogo and Sohal 2006).

These factors include: organizational leadership, customer satisfaction, human resource focus, strategic planning and development and supplier quality management (Anil, 2016, Koilakuntla et al. 2012). Although this list is not perceived as exhaustive, it comprises of the core TQM practices that have been explored in TQM literature and hence will be a focus of this study.

2.5. Organizational leadership

The review of empirical TQM studies show that organization leadership is an important TQM factor. Top management leadership actively involved in communication and planning of

organizational goals (Jayaram, Ahire, and Dreyfus 2010). Management leadership provides significant means (resources) to improve and maintain quality. In addition, top management views quality more important than production and they take quality as their responsibility (Bastas and Liyanage 2019). Furthermore, management can interact with their concerned departments to anticipate changes and make plans to accommodate it. Finally, studies analyzed that top-management commitment significantly affects the organization performance (Calvo-Mora et al. 2014).

2.6. Customer Satisfaction and Relationships

For any organization customer satisfaction and relationship is the most important factor, while in TQM it is regarded the core issue for better business results (Li et al. 2017). In this construct of TQM practices, the key customer requirements are identified and customer-oriented strategies are built and reviewed for further improvements (Ortiz 2009). Customer satisfaction feedbacks are taken after a regular interval and customer complaints are properly recorded and reviewed to maintain our quality standards (Lemak and Reed 2000).

In addition, encouragement is provided to partnerships with customers to make better relations. Furthermore, concessions are provided for defective parts/products if delivered (Bastas and Liyanage 2019). Therefore, customer satisfaction and relationship is an important element of TQM construct and it helps in upgrading business performance.

2.7. Human Resource Focus

Human resource is one of the main assets of any organization and it plays a vital role for the betterment of quality and business (Lemak and Reed 2000). In addition, human resource is a critical factor of TQM construct that includes a variety of organizational development practices

such as efficient training, recruitment procedure, health and safety practices, involvement, empowerment, recognition, teamwork, etc. (York and Miree 2004). Moreover, well-trained, satisfied, and committed human resources enhance the organizational performance. Studies suggested that human resource focus was significantly and positively correlated with successful implementation of TQM (Bolatan et al. 2016, Agus and Hassan 2011).

2.8. Strategic Planning and Development

In TQM, strategic planning and development element also has a major role in achieving a satisfied quality and increased performance as suggested by researchers. It includes the quality policy, mission statements, improvement processes, use of quality control and other management tools (Chen and Chen 2009). Strategic planning and development is essential to examine how a firm evolves, executes and refines its strategy and policy to achieve better performance (Bastas and Liyanage 2019). A majority of existing studies found that strategic planning and development has a significant impact on TQM implementation success.

2.9. Supplier Quality Management

Effective supplier quality management supports a cooperative and long-term relationship with suppliers, gives them an opportunity to get involved in product design and production processes to improve the quality of their materials and/or services, helps companies to attain competitive advantages, and improves organizational performance (Prajogo and Sohal 2001, Mahmud and Hilmi 2014).

2.10. Organization Culture

Among several contextual variables which have been attributed as an important factor of quality management (QM) success, Organizational Culture (OC) is highlighted in many studies, which is

why many companies are now taking their cultural characteristics into account prior to implementing QM initiatives (Conrad, Serlin, and Harwell 2014, Luan, Tien, and Chen 2016). The first articles addressing the relationship between organizational culture and quality management emerged in the early 1990s. Organizational culture affects the way an organization operates, influences people's decisions and behaviors and, in effect, its performance, so much so that Schein (1984) states that culture is the key to organizational excellence (Eniola et al. 2019).

In defining organizational culture, several studies have suggested that as a construct. It is made up of the symbols, language, ideology, beliefs, rituals, and myths of an organization (Naor, Linderman, and Schroeder 2010). Culture is ubiquitous, and covers all areas of organizational life (Schein, 1990). Cameron and Quinn (2006) considered culture to refer to the core values, assumptions, interpretations, and approaches that characterize an organization (Roldán, Leal-Rodríguez, and Leal 2012).

In the quality management literature, several models of organizational culture have been used, including: Hofstede's model (Hofstede, 1980, 2001; Hofstede et al., 2010); the personal, customer orientation, organizational and cultural issues (PCOC) model (Maull et al., 2001); the organizational culture profile (OCP) (O'Reilly et al., 1991); and the competing values framework (CVF) (Quinn and Rohrbaugh, 1983). This study considers and uses the competing values framework in explaining organizational culture in the context of TQM implementation. CVF (Quinn and Rohrbaugh, 1983), is not only a well-established and theoretically sound instrument, but one that has also been relatively widely used in quality management studies and hence its use in this study.

2.10.1. Quinn (1983) Competing Values Framework (CVF)

To understand organizational culture, Cameron and Quinn (2006) proposed a theoretical typology of organizational culture, called the Competing Value Framework (CVF). The CVF identifies four dominant organizational culture types: clan, adhocracy, hierarchy, and market (Roldán, Leal-Rodríguez, and Leal 2012, Bortolotti, Boscari, and Danese 2015). They are defined along two major axes: (1) internal versus external organizational focus and (2) flexibility and discretion versus stability and control.

According to Cameron and Quinn (2006), clan culture focuses on maintaining its stability. This means that an organization focuses on shared values, tradition, teamwork, loyalty, common goals, commitment, and participation by the organization's members(Naor, Linderman, and Schroeder 2010). Adhocracy culture is externally oriented and focuses on innovation, growth, dynamism, and creation. In this type of culture, the organization presents opportunities to its members to self-develop (Linnenluecke and Griffiths 2010). Hierarchy culture refers to an organization with a formalized or structured construction.

This culture emphasizes order, procedures, stability, and the predictability of settings, therefore increasing productivity, efficiency, and the reliability of products (Caldas 2009). Finally, market culture focuses on the organization's transactions in the external environment. Members of market cultures are success and customer oriented (Pereira-Moliner et al. 2012). The priorities in a market culture are efficacy and achievement.

2.10.2. TQM, Organizational culture, Firm Performance

Several studies link total quality management and performance. Some studies take organizational culture into account in this context (Chen and Chen 2009). Studies have investigated the relationships between four quality tool groups (human resource, measurement, design and

discipline tools) and a set of performance indicators, and demonstrate that quality tool groups affect different dimensions of quality performance (e.g. defects, scrap rates) and overall firm performance (e.g. market share, competitive position)(Prajogo and Sohal 2001, Abrunhosa and Moura E Sá 2008). Others have examined the relationships between quality management practices (leadership, people management, customer focus, strategic planning, information and analysis, process management) and operational performance (customer satisfaction, employee morale, productivity, output quality and delivery performance) (Prajogo and Sohal 2001). Their results show that the "soft" elements of quality management (leadership, human resources management, customer focus) are stronger predictors of performance than systems and analytically oriented criteria (information and analysis, strategic planning, process analysis) (Taylor and Wright 2003).

Kaynak (2003) studies the relationships between seven total quality management practices (management leadership, training, employee relations, quality data and reporting, supplier quality management, product/service design and process management) and their effects on operational (i.e. inventory management and quality) performance and financial/market performance. Her study shows that some quality practices have a direct effect on performance, while others affect performance indirectly. Further, she demonstrates that the positive effect of quality management practices on financial/market performance is mediated through operational performance.

These and other studies show that total quality management has a significant impact on performance (Koilakuntla et al. 2012). However, according to some reports have found that only about one-third of firms have achieved improvements in quality, productivity and competitiveness with quality management initiatives (York and Miree 2004). Considering that

quality management may be contingent on context, researchers have begun to study the role of context and organizational culture in particular, as a potential explanation for these somewhat ambiguous findings (Singh, Kumar, and Singh 2018).

Naor et al. (2008) study the association between culture and quality management practices, and the relationships between these two constructs and performance. They report significant relationships between organizational culture and "infrastructure" quality practices, and between these practices and performance. The relationships between culture and "core" quality practices and between these practices and performance are not significant. Prajogo and McDermott (2011) examine the relationships between organizational culture and performance (product quality, process quality, product innovation and process innovation), and find that the developmental culture is the strongest predictor of performance indicators related to product quality, product innovation and process innovation.

The group culture predicts process quality and process innovation, while the hierarchical culture predicts only process quality. Finally, they find that the rational culture is related to product quality and process quality. Wu et al. (2011) investigate associations between organizational culture, quality culture, quality management practices and performance and conclude that quality exploitation practices are highly related to performance outcomes when a firm's quality culture is not a well-established part of its organizational culture. If, in contrast, the quality culture plays a dominant role in a firm's organizational culture, quality exploration practices are significantly associated with performance.

2.11. Theoretical Framework

2.11.1. Saraph et al (1989) TQM model

Saraph et al (1989) model has been effective in explaining TQM practices. A review of studies on TQM have identified the following factors as key aspects of TQM as suggested in the model (Prajogo and Sohal 2006). These factors include: organizational leadership, customer satisfaction, human resource focus, strategic planning and development and supplier quality management (Anil, 2016, Koilakuntla et al. 2012). Although this list is not perceived as exhaustive, it comprises of the core TQM practices that have been explored in TQM literature.

2.11.2. Quinn's Competing Values Framework of Organizational culture.

Cameron and Quinn (2006) proposed a theoretical typology of organizational culture, called the Competing Value Framework (CVF).

The CVF identifies four dominant organizational culture types: clan, adhocracy, hierarchy, and market (Roldán, Leal-Rodríguez, and Leal 2012, Bortolotti, Boscari, and Danese 2015). They are defined along two major axes: (1) internal versus external organizational focus and (2) flexibility and discretion versus stability and control.

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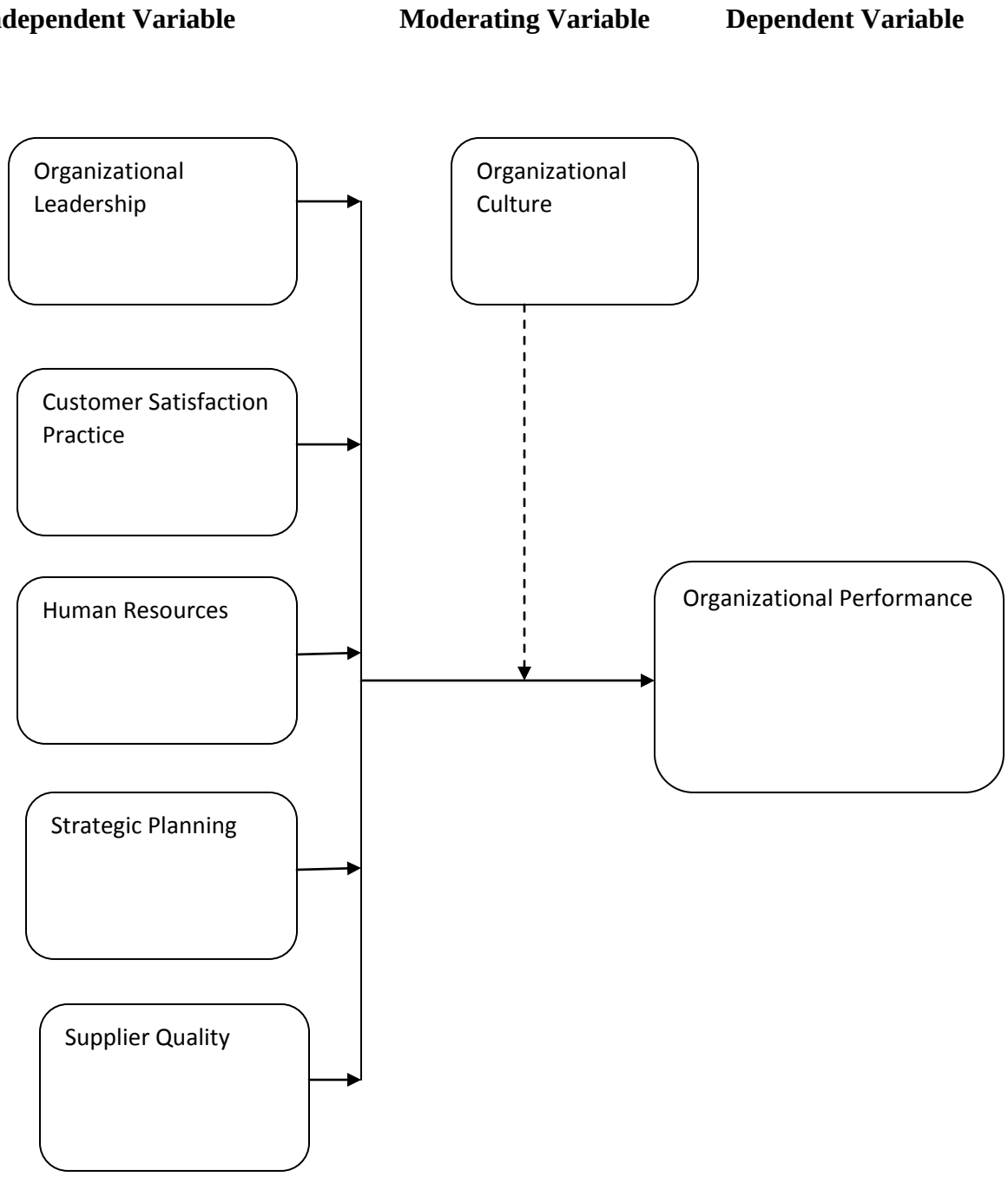
Finally, market culture focuses on the organization's transactions in the external environment. Members of market cultures are success and customer oriented (Pereira-Moliner et al. 2012).

2.12. Conceptual Framework

Figure 1: Conceptual Framework



2.13. Knowledge Gaps

The concept of total quality management has been explored in many studies. The findings of these studies have shown that TQM is an important aspect of organizations today. Findings also seem to suggest a positive association between TQM and performance. However, these findings established that despite this positive association, TQM only predicts a small percentage of firm performance and hence the need to understand whether other contextual variables such as organizational culture can affect this relationship. Building on this perspective, studies on culture, TQM and performance have found mixed evidence of the impact of culture on the relationship between TQM and performance. Thus, this study was built on the need to understand whether organizational culture mediates this relationship and to what extent.

2.14. Summary of Literature Review

This chapter discussed the core TQM practices which include organizational leadership, customer satisfaction, human resource focus, strategic planning and development and supplier quality management. The chapter discourses various factors and dimensions that previous researches on the topic have focused on and points out that, in exploring these factors, one of the missing elements is a proper definition of the concept of TQM.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter dealt with the description of the research methods and strategies that were used in completing the study. It explained the approach and design, sampling, data collection methods and data analysis approaches and procedures that were used in the study.

3.2. Research Approach

In conducting research, two approaches are often explored in research methods. These include the inductive and the deductive approaches. The former is related to the qualitative approach while the latter is more in line with the quantitative research approach (Singh 2007). In the context of this study, a deductive rather than an inductive approach was preferred on the basis that the study sought to test and verify hypotheses and hence the deductive approach supported the ability of the study to achieve such an objective (Ortiz 2009). In using the deductive approach, preference was on testing theory as opposed to building theory and hence the research started by developing tentative hypotheses that were then tested in order to understand the relationships among various key variables (Singh 2007). This study sought to understand whether organizational culture mediates the relationship between TQM and firm performance. To test this association, various hypotheses were developed and tested to understand existing relationships and thus enhance the study outcomes. The deductive approach was thus suggested because of its ability to facilitate hypothesis testing as opposed to the development of new theory that is the focus of the inductive approach.

The existence of many previous studies on TQM and performance made the deductive approach more effective in helping achieve the intended objectives as opposed to the use of the inductive approach that is more effective in situations where very few prior studies exist.

3.3. Research Design

The research designs were perceived as a set of plans implemented by the researcher with the intention of guiding the implementation of the study. Driven by the need to support research planning and achievement of research outcomes, three research designs were previously explored (Conrad, Serlin, and Harwell 2014). These include the exploratory, explanatory and causal research designs. In the context of this study, an explanatory research design coupled with a causal design was preferred for use in order to achieve the study outcomes (Johnson & Onwuegbuzie, 2007).

Explanatory research was conducted for two important reasons. These included, as a preparatory examination of a particular issue and hence, gain insights and ideas. Secondly, information gathering for immediate solving of a particular problem. Causal designs allow the study to test various strengths and associations or cause and effect relationships (Johnson & Onwuegbuzie, 2007). This study intended to examine whether organizational culture mediates the association between TQM and firm performance. Hence the causal design provided an important perspective into the nature of this association. The causal design was intended to test various hypotheses to understand whether the type of organizational culture implemented in the organization can affect the relationship between TQM and firm performance.

Explanatory or exploratory approaches may not be suitable in understanding this association because of their inability to facilitate hypothesis testing for causal relationships.

3.4. Target Population

The study population is an important aspect of any study because it helps the study to achieve its objectives. The basic aspect of research is to solve a problem and solving a problem demands that a particular group of people, items or objects is used to conduct the study (Conrad, Serlin, and Harwell 2014). Populations are expected to be significantly large and therefore it is important that a part of the population is used in order to achieve its research outcomes.

In the context of this study, the target population was employees in IT companies in Kenya. There are many IT companies in Kenya both large and small enterprises. The study expected to use IT companies that are located in Nairobi Kenya. Hence employees from these companies were selected to take part in the study. The study used 50 companies that were randomly selected from the IT industry.

3.5. Sampling Methods

As indicated previously, the population in any study can be significantly large and therefore it is paramount that a sample section of the population is used to carry out the study. Previous studies have also found that in some situations, the entire population may be used especially in situations where the population is small (Ingleby 2012, Taylor et al. 2010).

However, this is not often the case and hence sampling must be conducted in order to select a number of participants to be used in completing the study. From this point of view, there are multiple ways to sample a population with studies differentiating between the probability and non-probability sampling approaches (Borrego, Douglas, and Amelink 2009). In the context of this study, it employed use of the probability sampling approach. In probability sampling, the simple random sampling technique was used. Simple random sampling allows the study to select

participants randomly in the population. This was preferred because it increased the objectivity of the findings along with the reliability of the study findings.

3.6. Sample Size

The sample size was arrived at based on certain strategies and approaches that have been used immensely in research. The choice of the research sample size is dependent on many factors which include aspects such as the size of the population, the objectives of the study among others (Cirgin Ellett and Beausang 2002). In the context of this study, the study used a total of 150 participants selected from the population of 50 companies. This means that at least 3 employees were selected from each of the companies to take part in the study. To attain the 150 participants, the study invited at least 5 people from each of the 50 companies to increase the potential of arriving at the sample size. The selection of 150 participants for use in this study was based on the following reasons. First, was the cost associated with extremely large samples that the researcher would not have been able to attain. Thus, a sample of 150 participants spread across 50 firms within Nairobi was perceived as achievable and cost effective. Secondly, an oversized sample drains more resources and amount of time required to achieve the desired results. Hence, the use of 150 participants is perceived as more resource conscious as opposed to having a larger sample size.

Third, this study used statistical tests such as correlations and regression analysis to understand causation. These tests demand at least 30-50 observations be done. Therefore, having 100-150 observations was perceived as adequate enough to achieve the desired objectives.

3.7. Research Instrument

To achieve the aims of the research study, primary data was collected through the use of questionnaires. The questionnaires were tested and validated through a pilot study. Questionnaires had the benefit of being less costly and consume less time as instruments of data collection (Gall *et al.,* 1996). Only the closed questionnaire were administered to the respondents. Questionnaires have been used for a long period of time in the process of conducting surveys. Closed ended questionnaires in particular were important because they were easy to design and implement as opposed to other forms of data collection instruments (Cirgin Ellett and Beausang 2002). Questionnaires also have higher responses rates which made them important for use in this study. In order to collect the data, self-administered questionnaires were used (Cirgin Ellett and Beausang 2002). The researcher identified participants and issued the questionnaires to each of them. They were then collected for analysis after the participants had filled them.

3.7.1. Pilot Study

The researcher verified the research instrument to establish validity and reliability beforehand. Mugenda and Mugenda (2008) argues that a pilot study sample size of 1% to 10% is a reasonable number to consider enrolling in a pilot study. Based on this argument, the pilot study sample size was 15 subjects.

Since the study was conducted on IT firms based in Nairobi County, the pilot testing of the instruments was conducted within different selected IT firms also based in Nairobi County. Ambiguities detected in the questionnaire were rectified before actual administration to the sample respondents.

3.8. Validity of the Instruments

According to Mugenda (1999), validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under the study. It follows that, if such data is a true reflection of the variables then, the inferences based on such data will be accurate and meaningful. To ensure proper validation of the research instrument, two qualified individuals who are well-qualified in the area under study were approached to assist in determining the validity of items in the questionnaires.

3.9. Reliability of the Instruments

This is the degree to which a test consistently measures the sample (Gay, 1992). That is, the ability to consistently yield the same results when repeated measurements are taken within the same conditions. In order to test the reliability of the questionnaire, Chronbach's alpha test for reliability was used in SPSS. All the questionnaire items were included in the test. An alpha value of between 0.7 and 0.9 indicated strong reliability. Values below 0.7 were perceived as weak indicators of the reliability of the questionnaire. Therefore, the reliability test sought to have a value within the recommended limits.

3.10. Data Collection Procedure

The researcher sought and obtained permission from the National Commission for Science, Technology and Innovation, Kenya (NACOSTI) through the Graduate School of Nairobi University before proceeding to the field. The researcher engaged staff members employed at different levels and departments within 50 IT firms in Nairobi. The researcher ensured to get approval and support from the Management of the firms from which data was collected. The support was envisioned to aid in mobilising respondents. The researcher trained ten research assistants who administered the questionnaires once the respondents consent had been sought.

3.11. Data analysis Methods

Data analysis is a process of making sense of the data collected from the field. Data analysis often takes two approaches: the statistical and the non-statistical approach (Caldas 2009). Statistical data analysis approach focuses on the use of mathematical formula and techniques in order to make sense of the data (Ingleby 2012). The non-statistical data analysis approach on the other hand does not use mathematical formula but rather focuses on identifying key themes and patterns from the data.

In the context of this study, the statistical data analysis approach was used. In particular, the study made use of SPSS which is perceived as an important data analysis software for conducting statistical analysis (Conrad, Serlin, and Harwell 2014). Along this perspective, data that was collected was cleaned, sorted and analyzed in order to make sense of it. Two approaches to analyzing the data were used. These included the descriptive and the inferential statistics approaches (Moen and Middelthon 2015). Descriptive analysis identified trends in the data while the inferential analysis helped in the statistical data analysis.

3.12. Ethical Considerations

Several ethical considerations were taken into consideration in the study to ensure that the participants were not negatively affected by the research process (Ingleby 2012). These included seeking informed consent from the participants; not using private data or personally identifying data such as names and other bio-identifiers; ensuring anonymity of the study participants by not mentioning their names in the study; and ensuring confidentiality by keeping the records safe and secure on a personal computer and limiting access to the information by third parties.

CHAPTER FOUR

RESULTS AND ANALYSIS

4.1.Introduction

The purpose of this chapter is to first present the data that was collected and secondly to analyze the data in order to make sense of the data. To do this, the study used graphs, tables and charts with the intention of making the findings easy to understand.

4.2.Sample Size

The study anticipated to use a total of 150 participants who were invited from various IT firms in the nation. However, out of the 150 that were invited only 107 participants took part in the study. This represented a response rate of 71%. Previous studies have shown that response rates are critical in the context of surveys to achieve representativeness. However, response rates of above 60% are considered sufficient for use in a study. In this study, the 71% response rate was thus viewed as effective for use.

4.3.Descriptive analysis

This section sought to conduct an analysis of the data from a descriptive perspective so as to understand the spread of various elements in the study sample such as gender of participants, time working at the company, and position or management level. This can be seen from table 1 below.

4.4.Population Characteristics

This section analyzes the population characteristics from the sample that was used in the study. The findings are as indicated in the table below.

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Male	61	57.0	57.0	57.0
Female	46	43.0	43.0	100.0
Period				
Below 1	19	17.8	17.8	17.8
1-3 years	54	50.5	50.5	68.2
3-6 years	34	31.8	31.8	100.0
Total	107	100.0	100.0	
Management level				
Upper	15	14.0	14.0	14.0
Middle	65	60.7	60.7	74.8
Lower	27	25.2	25.2	100.0
Total	107	100.0	100.0	

Table 1: Population characteristics

Table 1 above shows that 57% of the participants were male while 43% of the participants were female. Secondly, it was found that 18% had worked in their organizations for less than a year, 51% had worked for a period of 1-3 years, and 32% had worked at the firms for a period of 3-6 years. Lastly, in terms of the levels of management, 14% were in upper management, 61 in middle management, and 25% in lower management.

4.5.Analysis of the responses

In this section, the study sought to understand how participants responded to the study questionnaire. The findings of analysis are as indicated in the table 2 below.

Code	Statement	Mean	SE	SD
L1	The senior leaders appropriately set and deploy our	3.8037	0.10064	1.04104

	organization's vision and values throughout organization			
L2	Our senior leaders create an environment for organizational performance improvement, the accomplishment of our mission and strategic objectives	4.1682	0.07684	0.79487
L3	Our senior leaders encourage frank, two-way communication with the entire workforce	3.6449	0.07657	0.79209
L4	The management and fiscal's actions are accountable, and the performance of our senior leaders is being evaluated, as appropriate	3.8224	0.07128	0.73732
C1	We appropriately listen to former customers, potential customers, and customers of competitors to obtain actionable information and to obtain feedback	3.8037	0.10064	0.54104
C2	We determine the satisfaction of our customers and the competitors' customers	4.1682	0.07684	0.79487
C3	We identify and innovate product offerings and services to meet the requirements and exceed the expectations of our customer groups and market segments	3.6449	0.07657	0.79209
C4	We enable customers to conduct their business with us and provide feedback on our products and our customer support, as appropriate, to use their offering information to improve marketing, build a more customer-focused culture, and identify opportunities for innovation.	3.8131	0.07982	0.82566
H1	We assess our workforce capability and capacity needs, including skills, competencies, and staffing levels.	4.3682	0.07684	0.79487
H2	We recruit, hire, place, and retain new members of our workforce, as appropriate, to ensure that this workforce represents the diverse ideas, cultures, and thinking of our hiring and customer community.	3.6449	0.07657	0.79209
H3	We organize and manage our workforce, as appropriate, to accomplish the work of the organization, reinforce a customer and business focus, and address our strategic challenges and action plans.	3.8131	0.07982	0.82566
H4	We address workplace environmental factors, including accessibility, to ensure and improve workforce health, safety, and security.	3.7664	0.06716	0.69472
S1	Our organization conducts its strategic planning according to our organization's strengths, weaknesses, opportunities, threats,	3.6449	0.07657	0.79209
S2	We define the key strategic objectives and our timetable for accomplishing them according to our ability and the needs of all key stakeholders	3.8131	0.07982	0.82566
S3	We develop and deploy our action plans and their key performance measures or indicators throughout the	3.7664	0.06716	0.69472

	organization, as appropriate, to achieve our key strategic objectives.			
S4	We allocate the financial, human, and other resources to support the accomplishment of our action plans.	3.6075	0.10265	1.06183
Clan	Our culture supports participation and open discussion	3.6449	0.07657	0.79209
Clan2	The organization culture fosters empowerment of employees	3.8224	0.07128	0.73732
Clan3	The culture in the firm supports employee concerns and ideas	3.8037	0.10064	0.64104
Clan4	The culture supports human relations, teamwork and cohesion	4.4682	0.07684	0.79487
F1	Customer satisfaction exceeds expectations	3.8037	0.10064	1.04104
F2	Productivity is consistently increasing.	4.1682	0.07684	0.79487
F3	The unit cost of manufacturing is consistently decreasing	3.4449	0.07657	0.79209
F4	Scrap, rework and defects are consistently decreasing.	3.9252	0.07709	0.79741

Table 2: Responses analysis

From the table 2 above L1-L4 explored organizational leadership. The findings showed that the mean for the 4 statements ranged from 3.8 to 4.1 which means that a majority of participants strongly agreed with these statements. However, L1 had a large standard deviation which means participants were ambivalent to this question. Secondly, C1-C4 examined customer focus in TQM and found that the mean for these statements range from 3.6 to 4.1 which also means that many of the participants agreed of a strong focus on customers. All statements had a small standard deviation and hence responses were close together. Third, H1-H4 explored the human resource focus with means of between 3.6 and 4.3 which also means that participants strongly agreed with these statements. Additionally, the small standard deviation also shows responses were closer together and hence most participants shared similar opinions. Fourth, S1-S4 explored strategic planning at the firms and it was found that the means were between 3.6 and 3.8 indicating participants agreed with the strategic planning statements. However, a large standard deviation for the four statement (S4) means that the participants had various opinions about this statement. Fifth Clan-Clan4 explored the clan culture at the firms. It was found that the means

ranged from 3.6 to 4.4 and hence participants seemed to also strongly agree with these statements. This is also supported by the small standard deviation which means that responses were closer together and that participants shared similar opinions. Lastly, F1-F4 measured firm performance. It was found that the means range from 3.4 to 4.1 and hence this means that participants agreed with the statements on firm performance. However, one of the statements (F1) had a large standard deviation which means that participants did not agree on this statement.

4.6.Hypothesis testing

4.6.1. Correlations

This section was to explore whether there were any associations between and among the study variables. To do this, a multiple linear Pearson correlation analysis was conducted. The findings are as indicated in table 3 below.

		Leadership	Customer Focus	Human Resource	Strategic Planning	Clan Culture
Customer Focus	Pearson Correlation	.847**				
	Sig. (2-tailed)	.000				
Human Resource	Pearson Correlation	.524**	.747**	1		
	Sig. (2-tailed)	.000	.000			
Strategic Planning	Pearson Correlation	.442**	.603**	.684**	1	
	Sig. (2-tailed)	.000	.000	.000		
Clan Culture	Pearson Correlation	1.000**	.847**	.524**	.442**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
Firm Performance	Pearson Correlation	.841**	.882**	.602**	.457**	.841**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	107	107	107	107	107

Table 3: Correlation analysis

The table 3 above shows that organizational leadership (R= 0.841, P<0.001), customer focus (R= 0.882, P<0.001), strategic planning (R= 0.457, P<0.001), human resource focus (R= 0.602, P<0.001) and clan culture (R= 0.841, P<0.001) had a moderate to strong significant association with firm performance. Specifically, leadership, customer focus, human resources and the clan culture had a strong significant association with firm performance while strategic planning had a moderate significant association with firm performance. These findings therefore indicate that higher levels of these factors, would result in a successive increase in firm performance. The study findings mean that when organizations increase their investment in TQM practices and when the culture is conducive, there is a successive increase in firm performance.

4.6.2. Regression analysis

This section analyses the hypotheses by testing them in order to identify whether there are any relationships. To conduct the analysis, regression analysis tests were implemented. The findings are as indicated in the following tables.

H_0: Organizational leadership as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

In the first hypothesis, the study sought to understand whether organizational leadership had an effect on firm performance. To test this hypothesis, a simple linear regression model was conducted. The findings of the analysis are indicated in the table 4 below.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.841[a]	0.708	0.705	1.02077		
ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.

1	Regression	265.154	1	265.154	254.474	.000[b]
	Residual	109.407	105	1.042		
	Total	374.561	106			
b. Predictors: (Constant), Leadership						
Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.443	0.827		2.954	0.004
	Leadership	0.848	0.053	0.841	15.952	0.000
a. Dependent Variable: Firm Performance						

Table 4: organizational leadership regression

A simple linear regression model was conducted to test whether organizational leadership predicts firm performance in the IT industry in Kenya. First, findings showed that the relationship was strong (R =0.841). Secondly, the findings showed that 70.5% of the variance in firm performance was explained by organizational leadership (Adjusted R square =0.705). Third, the findings of the ANOVA indicated that the relationship was positive and significant with F (1,105) = 254.154, N= 107, P<0.001. Hence, given that p<0.05, the null hypothesis was rejected in favor of the alternative. This means that the hypothesis was confirmed and hence organizational leadership as a TQM practice has a positive effect on firm performance in the IT industry in Kenya. Third an analysis of the regression coefficients indicated that organizational leadership was positive, strong and significant (beta= 0.841, P<0.001). The findings therefore indicate that an increase in organizational leadership will result in a successive increase in firm performance. These findings mean that a rise in organizational leadership at the firm would have a positive effect on firm performance in the IT industry in Kenya.

$H_{1:}$ Customer focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

In the second hypothesis, the study sought to understand whether customer focus had an effect on firm performance. To test this hypothesis, a simple linear regression model was conducted. The findings of the analysis are indicated in the table 5 below.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.882[a]	0.778	0.776	0.89018		
ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	291.357	1	291.357	367.683	.000[b]
	Residual	83.203	105	0.792		
	Total	374.561	106			
b. Predictors: (Constant), Customer Focus						
Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.627	0.731		2.226	0.028
	Customer Focus	0.902	0.047	0.882	19.175	0.000

Table 5: customer focus regression

A simple linear regression model was conducted to test whether customer focus predicts firm performance in the IT industry in Kenya. First, findings showed that the relationship was strong (R =0.882). Secondly, the findings showed that 77.6% of the variance in firm performance was explained by customer focus practice (Adjusted R square =0.776). Third, the findings of the ANOVA indicated that the relationship was positive and significant with F (1,105) = 367.683, N= 107, P<0.001. Hence, given that p<0.05, the null hypothesis was rejected in favor of the alternative. This means that the hypothesis was confirmed and hence customer focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya. Third an analysis of the regression coefficients indicated that customer focus was positive, strong and significant

(beta= 0.882, P<0.001). The findings therefore indicate that an increase in customer focus will result in a successive increase in firm performance. These findings mean that an increase in customer focused TQM practices at the firm would have a positive effect on firm performance in the IT industry in Kenya.

H_2: Human resource focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

In the third hypothesis, the study sought to understand whether human resource focus had an effect on firm performance. To test this hypothesis, a simple linear regression model was conducted. The findings of the analysis are indicated in the table 6 below.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.602[a]	0.362	0.356	1.50850		
ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	135.625	1	135.625	59.600	.000[b]
	Residual	238.935	105	2.276		
	Total	374.561	106			
b. Predictors: (Constant), Human Resource						
Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.959	1.507		2.627	0.010
	Human Resource	0.752	0.097	0.602	7.720	0.000

Table 6: Human resource focus regression

A simple linear regression model was conducted to test whether human resource focus predicts firm performance in the IT industry in Kenya. First, findings showed that the relationship was

strong (R =0.602). Secondly, the findings showed that 35.6% of the variance in firm performance was explained by human resource focus practice (Adjusted R square =0.356). Third, the findings of the ANOVA indicated that the relationship was positive and significant with F (1,105) = 59.600, N= 107, P<0.001. Hence, given that p<0.05, the null hypothesis was rejected in favor of the alternative. This means that the hypothesis was confirmed and hence human resource focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya. Third an analysis of the regression coefficients indicated that human resource focus was positive, strong and significant (beta= 0.362, P<0.001). The findings therefore indicate that an increase in human resource focus will result in a successive increase in firm performance. These findings mean that an increase in human resourced focused TQM practices at the firm would have a positive effect on firm performance in the IT industry in Kenya.

H_3: Strategic planning and development as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.

In the fourth hypothesis, the study sought to understand whether strategic planning had an effect on firm performance. To test this hypothesis, a simple linear regression model was conducted. The findings of the analysis are indicated in the table 7 below.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.457[a]	0.209	0.201	1.67993		
a. Predictors: (Constant), Strategic Planning						
ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.234	1	78.234	27.721	.000[b]
	Residual	296.327	105	2.822		
	Total	374.561	106			
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.499	1.347		6.308	0.000
	Strategic Planning	0.475	0.090	0.457	5.265	0.000
a. Dependent Variable: Firm Performance						

Table 7:Strategic planning regression

A simple linear regression model was conducted to test whether strategic planning predicts firm performance in the IT industry in Kenya. First, findings showed that the relationship was moderately strong (R =0.457). Secondly, the findings showed that 20.1% of the variance in firm performance was explained by strategic planning practice (Adjusted R square =0.201). Third, the findings of the ANOVA indicated that the relationship was positive and significant with F (1,105) = 27.721, N= 107, P<0.001. Hence, given that p<0.05, the null hypothesis was rejected in favor of the alternative. This means that the hypothesis was confirmed and hence strategic planning as a TQM practice has a positive effect on firm performance in the IT industry in Kenya. Third an analysis of the regression coefficients indicated that strategic planning was positive, strong and significant (beta= 0.475, P<0.001). The findings therefore indicate that an increase in strategic planning will result in a successive increase in firm performance. These findings mean that an increase in strategic planning TQM practices at the firm would have a positive effect on firm performance in the IT industry in Kenya.

H_4: Organizational culture does not mediate the association between TQM practices and firm performance in the IT industry in Kenya.

In the last hypothesis, the study sought to understand whether clan culture had any mediating effect in the relationship between TQM practices and firm performance. To test this hypothesis,

Andrew Hayes process model for mediation was used in the study. The findings of the analysis are as indicated in the table below.

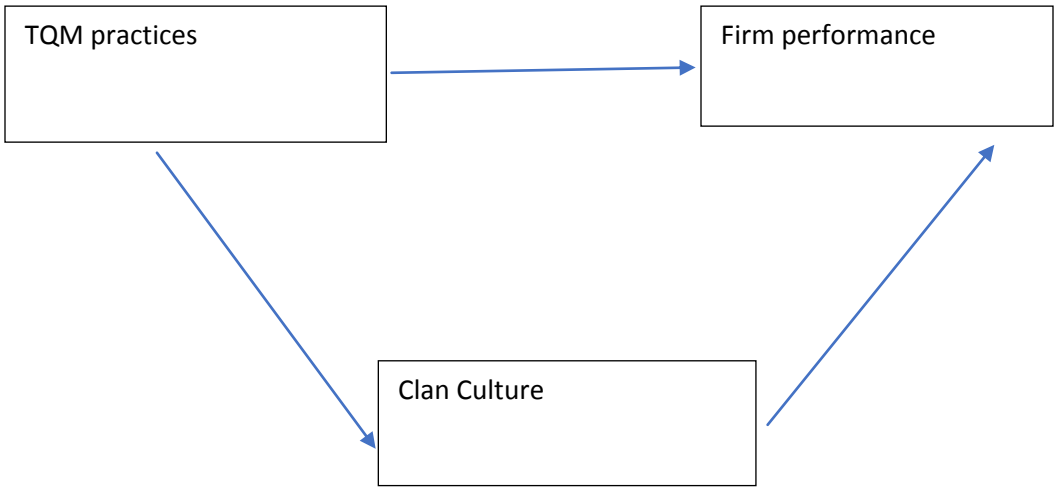


Figure 2: Mediation model

OUTCOME VARIABLE:						
ClanC						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.8350	.6972	1.0621	241.8142	1.0000	105.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI

constant	-.4164	1.0245	-.4064	.6853	-2.4477	1.6150
TQMP	.2595	.0167	15.5504	.0000	.2264	.2926
OUTCOME VARIABLE:						
FirmP						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.8683	.7539	.8865	159.2646	2.0000	104.0000	.0000
Model						
	Coeff	se	t	p	LLCI	ULCI
constant	.0477	.9367	.0510	.9594	-1.8097	1.9052
TQMP	.1221	.0277	4.4066	.0000	.0672	.1771
ClanC	.5204	.0892	5.8366	.0000	.3436	.6972

A regression model was conducted to test whether TQM practices predict clan culture. The findings showed that 69.7% of the variance in clan culture was predicted by TQM practices, and the relationship was positive and significant, F (1, 105) = 241.8142, P<0.001. In the second model which explored the combined effect of TQM practices and clan culture on fir performance. It was found that 75.39% of the variance in firm performance was predicted by the two factors (TQM practices and clan culture), which was found to be positive strong and significant, F (2, 104) = 159.2646, P<0.001. An analysis of the regression coefficients indicated

that both were positive and significant. However, TQM practices was found to be a weak predictor (beta = 0.1221) and clan culture was strong (beta = 0.5204).

Direct effect of X on Y						
Effect	se	t	p	LLCI	ULCI	
.1221	.0277	4.4066	.0000	.0672	.1771	
Indirect effect(s) of X on Y:						
Effect	BootSE	BootLLCI	BootULCI			
ClanC	.1351	.0258	.0843	.1848		

The above table shows the direct and indirect effects of the independent variables on the dependent variable and the indirect effect of clan culture on firm performance. Given that direct and indirect effect do not change with the introduction of culture it can be concluded that the clan culture does not mediate the relationship between TQM practices and firm performance.

4.7.Summary of the findings

This chapter sought to analyze the findings in order to understand the data that was collected. Based on the findings, the correlation data analysis established that all the five factors had a positive significant association with firm performance. Secondly, on the hypotheses, it was found that all the four TQM factors had a positive and significant effect on firm performance. Third, the findings also showed that clan culture did not mediate the relationship between TQM practices and firm performance.

CHAPTER FIVE

DISCUSSION

5.1.Introduction

The purpose of this chapter is to compare the findings of this study and those from previous studies. The aim is to understand the contribution of the findings of this study to literature. The discussion therefore looks at the TQM practices, culture and firm performance, and whether the findings mirror what was established in previous studies.

5.2.Leadership as TQM practice and firm Performance in the IT industry in Kenya

In the first hypothesis, 70.5% of the variance in firm performance was explained by organizational leadership (Adjusted R square =0.705), which was positive and significant with F (1,105) = 254.154, N= 107, P<0.001, confirming the hypothesis that organizational leadership as a TQM practice has a positive effect on firm performance in the IT industry in Kenya and hence improvements in organizational leadership at the firm would have a positive effect on firm performance in the IT industry in Kenya. Previous studies found that organization leadership is an important TQM factor. Top management leadership actively involved in communication and planning of organizational goals (Jayaram, Ahire, and Dreyfus 2010). Management leadership provides significant means (resources) to improve and maintain quality. In addition, top management views quality more important than production and they take quality as their responsibility (Bastas and Liyanage 2019). Furthermore, management can interact with their concerned departments to anticipate changes and make plans to accommodate it. Finally, studies analyzed that top-management commitment significantly affects the organization performance (Calvo-Mora et al. 2014). Hence, based on these findings, it is clear that previous studies mirror what has been established in this study. However, these findings are unique because they help

understand the contribution of organizational leadership in IT firms in Kenya on the aspect of TQM.

5.3.Customer focus as a TQM practice and firm performance in the IT industry in Kenya.

In the second hypothesis, the findings established that 77.6% of the variance in firm performance was explained by customer focus practice (Adjusted R square =0.776), which was positive and significant with F (1,105) = 367.683, N= 107, P<0.001. Hence, given that p<0.0, hence customer focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya, thus, an increase in customer focused TQM practices at the firm would have a positive effect on firm performance in the IT industry in Kenya. There are many previous studies that have explored customer focused TQM practices and their effects on firm performance. Studies have shown that in this TQM practice, the key customer requirements are identified and customer-oriented strategies are built and reviewed for further improvements (Ortiz 2009). Customer satisfaction feedbacks are taken after a regular interval and customer complaints are properly recorded and reviewed to maintain our quality standards (Lemak and Reed 2000). In addition, other studies have found that encouragement is provided to partnerships with customers to make better relations improving TQM performance. Furthermore, concessions are provided for defective parts/products if delivered (Bastas and Liyanage 2019). Overall, customer focused TQM strategies have a positive effect on firm performance. These findings are unique in the case of Kenya as the study was carried out in IT firms, a context that has not been studied before.

5.4.Human resource focus as a TQM practice and firm performance in the IT industry in Kenya.

In the third hypothesis, 35.6% of the variance in firm performance was explained by human resource focused practiced which was found to be positive and significant with F (1,105) =

59.600, N= 107, P<0.001. Hence, given that p<0.05, confirming the hypothesis, hence human resource focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya, thus the findings meant that an increase in human resourced focused TQM practices at the firm would have a positive effect on firm performance in the IT industry in Kenya. human resource is a critical factor of TQM construct that includes a variety of organizational development practices such as efficient training, recruitment procedure, health and safety practices, involvement, empowerment, recognition, teamwork, etc. (York and Miree 2004). Moreover, well-trained, satisfied, and committed human resources enhance the organizational performance. Studies suggested that human resource focus was significantly and positively correlated with successful implementation of TQM (Bolatan et al. 2016, Agus and Hassan 2011). The findings in this study mirror what has been established in previous studies on the aspect of human resources and how they affect firm performance when implemented in TQM. These findings are unique because they help explain why effective human resource policies for TQM are critical in the IT industry in Kenya in helping to influence firm performance.

5.5.Strategic planning and development as a TQM practice and firm performance in the IT industry in Kenya.

In the fourth hypothesis, 20.1% of the variance in firm performance was explained by strategic planning practice which was positive and significant with F (1,105) = 27.721, N= 107, P<0.001, hence, the hypothesis was confirmed- strategic planning as a TQM practice has a positive effect on firm performance in the IT industry in Kenya, which means that an increase in strategic planning will result in a successive increase in firm performance. There are several studies on strategic planning and development as a TQM practice and firm performance. strategic planning and development element also have a major role in achieving a satisfied quality and increased

performance as suggested by researchers. It includes the quality policy, mission statements, improvement processes, use of quality control and other management tools (Chen and Chen 2009). Strategic planning and development is essential to examine how a firm evolves, executes and refines its strategy and policy to achieve better performance (Bastas and Liyanage 2019). A majority of existing studies found that strategic planning and development has a significant impact on TQM implementation success. Based on these studies, it is clear that implementing strategic planning in TQM can have a positive effect on firm performance, which has been confirmed in this study. Given that these findings are established within the Kenyan context, they are thought to reflect the importance of strategic planning in IT firms that have implemented TQM.

5.6.Organizational culture, TQM practices and firm performance in the IT industry in Kenya.

In the last hypothesis, the model showed that organizational culture, TQM practices were both positive significant predictors of firm performance. Additionally, when both variables were included in the model, the overall model was positive and significant. Checking for direct and indirect effects also showed that this relationship remained the same. Hence, it was concluded that organizational culture does not mediate the relationship between TQM practices and firm performance in IT firms in Kenya. Naor et al. (2008) study the association between culture and quality management practices, and the relationships between these two constructs and performance. They report significant relationships between organizational culture and "infrastructure" quality practices, and between these practices and performance. The relationships between culture and "core" quality practices and between these practices and performance are not significant. Prajogo and McDermott (2011) examine the relationships

between organizational culture and performance (product quality, process quality, product innovation and process innovation), and find that the developmental culture is the strongest predictor of performance indicators related to product quality, product innovation and process innovation. The group culture predicts process quality and process innovation, while the hierarchical culture predicts only process quality. Finally, they find that the rational culture is related to product quality and process quality. Wu et al. (2011) investigate associations between organizational culture, quality culture, quality management practices and performance and conclude that quality exploitation practices are highly related to performance outcomes when a firm's quality culture is not a well-established part of its organizational culture. If, in contrast, the quality culture plays a dominant role in a firm's organizational culture, quality exploration practices are significantly associated with performance.

5.7.Summary of the findings

The findings in this study point to the importance of organizational culture, TQM practices in influencing firm performance. The findings of the analysis showed that the findings established in this study were consistent with those established in previous studies. The following chapter is the conclusion chapter for the study including implications and recommendations.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1.Summary of the findings

In the Kenyan context, firms do not realize the value of total quality management and in some contexts, such practices have not been implemented fully because of the lack of supporting evidence locally, on the positive impacts of TQM on firm performance (Álvarez-Santos et al. 2018). With the limited impact of TQM, it becomes important to understand whether there are other intervening variables in this relationship that affect the relationship between TQM and performance and organizational culture has been identified as one such factor (Álvarez-Santos et al. 2018). Considering that quality management may be contingent on context, researchers have begun to study the role of context and organizational culture in particular, as a potential explanation for these somewhat ambiguous findings and hence this study in the context of the IT industry in Kenya. Based on this therefore, the aim of the study was to investigate whether organizational culture mediates the relationship between the five total quality management practices and firm performance in the IT industry in Kenya.

To conduct the study, a quantitative research approach was implemented. Data was collected using questionnaires and analyzed using SPSS. The study used total of 107 participants were identified from IT firms in Kenya. Some ethical considerations were made during the process of collecting data. The following table shows the hypotheses and the outcomes.

Hypothesis	Outcome
H_0: Organizational leadership as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.	Confirmed

$H_{1:}$ Customer focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.	Confirmed
H_2: Human resource focus as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.	Confirmed
H_3: Strategic planning and development as a TQM practice has a positive effect on firm performance in the IT industry in Kenya.	Confirmed
H_4: Organizational culture does not mediate the association between TQM practices and firm performance in the IT industry in Kenya.	Confirmed

6.2.Conclusions and Implications

Organizational culture is perceived critical in the context of implementing TQM which in essence is expected to affect firm performance. To the best of the knowledge of the author, no empirical study has tried to investigate how OC and TQM jointly affect organizational performance. In this study, a model was created to investigate the relationship among the three variables. The results of the study established positive significant direct effects of culture and TQM on organizational performance. Similarly, the positive significant indirect effects of culture were established on TQM. Based on these findings, the implication is that managers need to be aware of the cultural values emphasized in the organization especially clan culture because their influences on TQM and performance is significant. Hence, this study provides the necessary instruments for managers to diagnose the culture of a particular IT firm and evaluate how they can develop TQM to enhance overall performance. They can use guidelines proposed in the findings in this study to design TQM practices that are customer focused, with HRM strategies,

and strategic planning and leadership if they expected to enhance organizational performance. This should be done in a context of a culture that is people oriented and supports TQM.

6.3.Recommendations

First, there is need for organizations in the IT industry implementing TQM to understand the role played by organizational culture. The findings established that organizational culture plays a key role and hence the need to understand and implement a clan culture- that is people oriented to enhance TQM and performance outcomes.

Secondly, there is need for organizations to understand the role played by TQM practices such as leadership, strategic planning, customer and HR focused strategies if TQM has to have any positive impacts. These must be properly implemented in the organization to realize the benefits of TQM.

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APPENDIX 1: RESEARCH QUESTIONNAIRE

Research Questionnaire

1. What is your gender?
    a. Male
    b. Female
2. How long have you worked at the firm?
    a. Below 1 year
    b. 1-3 years
    c. 4-6 years
    d. More than 6 years
3. Which level of management do you work?
    a. Upper
    b. Middle
    c. Lower
    d. Support

Please respond to the following statements (1- Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree.)

		1	2	3	4	5
	Leadership					
	The senior leaders appropriately set and deploy our organization's vision and values throughout organization					
	Our senior leaders create an environment for organizational performance improvement, the accomplishment of our mission and strategic objectives					
	Our senior leaders encourage frank, two-way communication with the entire workforce					

	The management and fiscal's actions are accountable, and the performance of our senior leaders is being evaluated, as appropriate					
	Customer focus					
	We appropriately listen to former customers, potential customers, and customers of competitors to obtain actionable information and to obtain feedback					
	We determine the satisfaction of our customers and the competitors' customers					
	We identify and innovate product offerings and services to meet the requirements and exceed the expectations of our customer groups and market segments					
	We enable customers to conduct their business with us and provide feedback on our products and our customer support, as appropriate, to use their offering information to improve marketing, build a more customer-focused culture, and identify opportunities for innovation.					
	Human resource focus					
	We assess our workforce capability and capacity needs, including skills, competencies, and staffing levels.					
	We recruit, hire, place, and retain new members of our workforce, as appropriate, to ensure that this workforce represents the diverse ideas, cultures, and thinking of our hiring and customer community.					
	We organize and manage our workforce, as appropriate, to accomplish the work of the organization, reinforce a customer and business focus, and address our strategic challenges and action plans.					
	We address workplace environmental factors, including accessibility, to ensure and improve workforce health, safety, and security.					
	Strategic planning					
	Our organization conducts its strategic planning according to our organization's strengths, weaknesses, opportunities, threats,					
	We define the key strategic objectives and our timetable for accomplishing them according to our ability and the needs of all key stakeholders					
	We develop and deploy our action plans and their key performance measures or indicators throughout the organization, as appropriate, to achieve our key strategic objectives.					
	We allocate the financial, human, and other resources to support the accomplishment of our action plans.					
	Clan Culture					
	Our culture supports participation and open discussion					
	The organization culture fosters empowerment of employees					
	The culture in the firm supports employee concerns and ideas					

	The culture supports human relations, teamwork and cohesion					
	Firm performance					
	Customer satisfaction exceeds expectations					
	Productivity is consistently increasing.					
	The unit cost of manufacturing is consistently decreasing					
	Scrap, rework and defects are consistently decreasing.					

APPENDIX 2: WORK PLAN

2020 starting August 1st	*Establish research topic and problem.*	*Draft research proposal.*	*Data collection.*	*Report compilation.*	*Report submission.*
2 Weeks					
14 Weeks					
1 Week					
2 Week					
1 Week					

APPENDIX 3: BUDGET

ITEM	***NEEDED***	***DESCRIPTION***	***COST/UNIT Kshs.***	***TOTAL COST Kshs.***
Proposal	*8 copies*	*Printing 70 pages*	*10.00*	*5,600.00*
	8 copies	*Spiral binding*	*60.00*	*480.00*
Sub Total				***6,080.00***
Questionnaires	*80 Copies*	*Printing 4 page set document.*	*10.00*	*3,200.00*
Sub Total				***3,200.00***
Stationery	*Note book*	*1*	*300.00*	*300.00*
	Pen	*5*	*25.00*	*125.00*
	Pencil	*5*	*30.00*	*150.00*
	Highlighter	*3*	*40.00*	*120.00*
Sub Total				***695.00***
Data collection preliminary costs		*Introductory letters and questionnaires*		*3,500.00*
Sub Total				***1,500.00***
Final report	*8 copies*	*Printing 80 pages*	*10.00*	*6,400.00*
Publishing				*40,000.00*
	8 Copies	*Hard cover Binding*	*500.00*	*4,000.00*
Sub Total				***49,400.00***
Miscellaneous				*14,125.00*
Total project cost				***75,000.00***

APPENDIX 4: RESEARCH PERMIT

REPUBLIC OF KENYA

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Date of Issue: **30/November/2020**

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