

**ADOPTION OF ISO 9001 QUALITY MANAGEMENT STANDARD  
AND OPERATIONAL PERFORMANCE OF SERVICE  
ORGANIZATIONS IN KENYA**

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**Declaration**

This research project is my own work and has not been presented to any other university for the purpose of study or otherwise

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## **Dedication**

I dedicate this project to my daughter and family who have persevered long hours of my absence as I worked towards its completion. You showed the patience to be peaceful and as you spurred me on, I knew the results would be there for all to see. Indeed this has come to pass and thank you for your great support.

## **Abstract**

This study sought to establish how the performance of service organizations is influenced by the adoption of ISO 9001 standards. The standards are intended to assist organizations of all sectors and sizes to implement and operate an effective quality management system. The generic nature of the standards allows interested companies to determine the specifics of how the standards apply to their organizations. Registration or certification to the standards demonstrates to customers that the supplying organization has achieved a basic level of quality assurance by the formalization and documentation of its quality management system.

The study applied a descriptive survey to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in the service sector. A census survey was conducted on 53 service organizations with target respondents being operations managers, quality managers and implementers of ISO 9001 QMS in the respective organizations. This was drawn from the list ISO 9001 service organizations that had valid certification as at July, 2012 after being audited by the Kenya Bureau of Standards. Structured personal interviews were used to collect responses. A Likert Scale Questionnaire was used to assess the level of indulgence to the elements of the installation and implementation of ISO 9001 quality management system as well as how they perceived the improvement in measures of operational performance as a result of adopting the quality management standard.

It was established that the implementation of ISO 9001 is beneficial in terms of improving the operational performance. It was found that the most important factors that guided the implementation efforts are external coordination and internal integration as these were the most important for both internally and externally motivated organizations.

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# CHAPTER ONE: INTRODUCTION

## 1.1 Background

The application of standardized quality system models in business is considered to be a most important phenomenon in quality management and globalization. According to the latest statistics released by ISO that at the end of 2005,161 countries accounted for 776,608 certifications. Such an impressive number does indeed make ISO 9000 a universal and significant phenomenon (Jan & Lin, 2008).

ISO 9000 is a set of quality system standards that prescribes good quality practices, without mandating how a company should achieve those practices.ISO 9000 series of standards have become widely accepted for companies aiming to achieve cost effective and quality assurance methods(Nurre, Gunaman & De-almeida, 2000).

The standards are intended to assist organizations of all sectors and sizes to implement and operate an effective quality management system. The generic nature of the standards allows interested companies to determine the specifics of how the standards apply to their organizations. Registration or certification to the standards demonstrates to customers that the supplying organization has achieved a basic level of quality assurance by the formalization and documentation of its quality management system (Wahid & Corner, 2011).

The ISO 9000 series of standards consists of ISO 9000, which describes fundamentals of a quality management system and specifies terminologies thereof. ISO 9001 specifies the requirements of a quality management system. ISO 9004, which provides guidelines that consider the effectiveness and efficiency of the quality management system and finally ISO 19011 that provides guidance on auditing quality and environmental management systems (Kenya Bureau of Standards, 2006).

ISO 9000 is focused on quality control systems in general addressing the sequence from process to product design and also after sale service. The series also alludes to the notion that specific minimum characteristics of a quality control system can be standardized.

The standards do not automatically guarantee good quality of products but of a constant quality. The standards are aimed at quality consistency (Singels, Ruel & Water, 2001).

ISO 9000 is not a standardized package that can be applied in the same way in every organization. Rather it describes what elements quality systems should encompass but not how a specific organization should implement these elements. The standard intends for each organization to design and implement a quality system that works for its specific products, processes, and practices.

The most comprehensive standard, ISO 9001, includes management responsibilities for the quality system, procedures for contract review, and procedures to control and verify product design. Certification that an organization's quality system meets the requirements of the ISO standard is established by an independent third party selected by the organization (Simmons & White, 1999).

Furthermore the ISO 9001 standard ignores inputs and outputs assuming that the same are negotiated between the supplier and the customer in the sales contract. Instead the standards define a quality management system that can ensure the consistency of the quality of any product or service. Often companies become ISO certified because customers require it. For example, a lot of customers in Europe demand ISO 9000 approval. The increased business and recognition that an ISO 9000 certification often brings means organizations may start to see increased profits in the years just after certification (Uzumeri, 1997).

### **1.1.1 ISO 9000 certification and operations performance**

All the activities that make up a firm's operation relate to one another. Consequently, a firm's management has to decide which parameters of performance are critical to the firm's success and then concentrate the resources available on these particular characteristics. Improvement of the systems that create and deliver the firm's primary products and services will lead to better quality products and services, costs will decrease and defects rates will be minimized, customer satisfaction will be achieved(Aquilano, Chase & Jacobs,2009).

Terziovski, Feng and Samson (2007) define operational performance as the performance related to an organization's internal operations, such as productivity, product quality and customer satisfaction.

ISO certification is supposed to lead to advantages in the processes of organizations. These benefits include such things as improvement in throughput time, increase in technical flexibility, improvement of co-ordination of activities, improvement in product or service specifications, increase in internal and external delivery performance and improvement in efficiency.

A company operating within the requirements of the ISO 9000 standards should achieve customer satisfaction as the interactions with customers are improved and reductions in customer complaints are achieved. The standards are supposed to have a positive influence on employees which may lead to an increase in motivation albeit the fact that the standards increase the documentation workload and standardization of procedures which may impede the creative thinking of employees (Singels, Ruel & Water, 2001).

With in house, standardized and replicable routines and procedures for product design, manufacture, delivery, service and support more time would be devoted to manufacturing acceptable products or provision of better services; there would be less rework, less scrap and fewer wasted materials. Less rework and higher productivity should result in lower expenses, which would translate into higher gross profit margins. With lower defect rates and on-time delivery, sales should grow because new markets are created and customer retention is high (Naveh & Marcus, 2005).

When employees work according to the procedures that are described in the ISO 9000 series they are able to identify sources of problems in the production process. This enhances the purpose of the ISO 9000 series procedures which are meant to guarantee that the products or services an organization offers are in accordance with customer specifications. With better operational performance, the products or services the organization offers should become more attractive to customers and the firm should have better business performance. Sales and profitability should increase (Singels, Ruel & Water, 2001).

### **1.1.2 The Services Industry in Kenya**

Trade in services in Kenya remains the most important sector of Kenyan economy –both in terms of GDP and employment creation. Like elsewhere in the world, the service sector has been the fastest growing sector of the Kenyan economy since the 1980s. In 1960s, services contributed only 44% of GDP. It is today estimated to contribute about 60% of GDP. In regard to employment its share of employment was about 49.6% in 1970s while today its contribution is estimated to be about 68%.

The growth of the sector is phenomenal considering that successive governments were giving more attention to agriculture and manufacturing. The sector has always had an overall surplus in the current account in the country's balance of payments. The most important sectors for export in Kenya over the years have been tourism, transport, travel, communications, insurance, royalties and licenses and fees, other business. These have been and are likely to remain main sectors of export interest in the near future (<http://www.ileap-jeicp.org>).

For Kenya to achieve the double-digit economic growth envisaged in Vision 2030, Kenya must be able to respond to local and global market demands. Kenya, just like many African countries, is confronted by a myriad of challenges in improving its capacity to meet production and quality standards which are obligatory so as to access foreign

markets, especially the European Union which is one of Kenya's biggest trading partners. Kenya stands to spur its economic growth to a double-digit figure through participating in standards development, adopting and complying with ISO international standards. ISO international standards offer Kenya convenient solutions that will not only respond to the local and global market demands, but also be a panacea to the technological problems that it encounters (Omukhweso, 2012).

## **1.2 Statement of the Problem**

A number of researches (Naveh & Marcus, 2005; Bell & Omachonu, 2011; Lee, To & Yu, 2009; Gavin, Heras and Casadesus, 2008; Okwiri, 2010; Prajogo, Huo & Han, 2012) have analyzed the association between ISO 9000 and performance. Recent literature describes and evaluates ISO 9000 as a source of competitive advantage. Despite this there is still much debate concerning the standard's impact on firm performance, competitiveness and operations management. From an empirical perspective, previous research has failed to establish a causal relationship between certification and improvement in operational performance (Terlaak & King, 2000).

Naveh and Marcus (2005) found that the benefits of implementation are procedural efficiency and error rate reduction and not market share, staff motivation, or cost reduction. The ISO 9000 standard requires that firms have in-house standardized and replicable routines and procedures for product design, manufacture, delivery, service and support, but whether implementation of such a standard is helpful to organizations is not known with certainty.

A study by Njehu (2006) suggested that there are improvements in operations performance as a result of implementing the ISO 9001 standards after examining a manufacturing firm in Nairobi. This study lacked multiorganizational comparison.

Lee, To and Yu (2009) in their study of ISO 9001 in Macao, China maintain that organizations can implement the ISO 9000 standards in different patterns. If different patterns of ISO 9001 implementation are present in practice, it would be very interesting and useful to investigate whether different patterns of ISO 9001 implementation exhibit different levels of performance or not.

As shown in previous discussions, there is no compelling evidence to show that there is a positive or negative impact of ISO 9001 certification on the operational performance of the organizations acquiring the certification. This study seeks to examine the impact of ISO 9001 certification on the operational performance of service organizations. Hence, the following question; what is the impact of ISO 9001 certification on the operational performance of service firms in Kenya?

### **1.3 Objectives of the study**

The main objective of this study is to establish the impact of ISO 9001 on the operational performance of service firms. The secondary objective is to establish whether there are significant differences in operational performance between internally motivated firms and externally motivated firms to certify with ISO 9001.

### **1.4 Value of Study**

The study may be important to services organizations in Kenya. Adopting the ISO 9001 standards involves significant amounts of resources in terms of finances and time. Service organizations would be better informed in deciding whether or not to adopt the standard by the results of this study.

The Government is steadily certifying its various departments with the ISO 9001 standard. This study suggests an implementation pattern for adoption of the standards which incorporates both external and internal elements within an organization. This is deemed important in the adoption of the ISO 9000 standards.

This research has importance to students and researchers who may wish to carry out further studies in the field. The ISO 9000 standards are a worldwide phenomenon and their application varies from one economy to another.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0 Introduction**

This chapter sets the study subject in a broader context through investigation of relevant literature and other sources. The review will cover the following topics: Introduction, Quality, overview of ISO 9000 Quality Management Standards, Installation and Implementation of ISO 9001, Principles of ISO 9001, Summary of literature and finally the conceptual framework.

### **2.1 Quality**

Quality emerged as an important issue in operations management in the 1950's. The important gurus of quality ideas include Edwards Deming who advocated the use of statistical techniques to drive quality improvement by reducing process variation, Joseph Juran who also advocated the use of statistical techniques but also emphasized on the need to organize, coordinate and communicate and defined quality as fitness for use rather than conformance to specifications.

Phillip Crosby defined quality as conformance to requirements while using a quality system to prevent defects as well as measuring quality as the price of nonconformance and adopting zero defects as the quality standard. Ishikawa stressed on the need to involve everyone in the quality improvement process and advocated the use of statistical methods and problem solving techniques.

The theory and practice of quality has evolved from the concept of simple quality inspection to total quality management. It is possible to distinguish four stages in the evolution of the quality ideas. They include quality inspection, quality control, quality assurance and total quality management. Quality inspection involves the inspection of products at the end of the production process. Finished products are either approved for

sale or rejected. Quality control builds on quality inspection by introducing statistical techniques as well as detailing how a process should be operated and stipulating performance guidelines.

Quality assurance moves the concept of quality beyond measurement and feedback control towards a more proactive approach aimed at preventing quality problems from occurring in the first place. This is achieved by the introduction of comprehensive quality management systems based on detailed manuals that set out how an entire operation should be managed. The aim is to shift the whole focus towards solving quality problems by attacking their causes rather than their effects. Total quality management switches the emphasis from the mere application of tools and techniques to changing attitudes so that quality becomes embedded in the value and beliefs of everyone in an organization with an aim of exceeding the expectations of customers. TQM sees quality as a source of competitive advantage (Barnes, 2008).

Quality in service organizations is difficult to define due to the fact that services are intangible and are consumed at the point of production and often involve contact with customers. The singular nature of many service encounters makes their standardization more difficult. Due to the person to person interaction in customer service, setting quality standards and measuring performance requires consideration of both the service provider and the customer perception of quality. Any measurement of performance and control of quality must be carried out in a way that does not interfere with the provision of a service (Aquilano & Chase, 2001).

Many quality experts advocate the use of a quality management system as it offers a structured and methodical approach to managing quality by systematically organizing how activities should be carried out. There are various quality management standards that have been developed. These include the International Organization for Standardization (ISO) 9000, the US Federal Sentencing Guidelines, recent regulations of the Occupational Safety and Health Administration (OSHA), environmental management standards, and the Committee of Sponsoring Organizations of the Tread way Commission

(COSO) Framework internal controls for financial management. These standards are lists of design rules that guide the creation of entire classes of management systems. They constitute a new management technology that may bring meaningful standardization to general management practice (Uzumeri, 1997).

ISO 9001 which is the focus of this study is a standard that was developed by the International Organizations for Standardization and serves as a framework for organizational quality management systems. This framework is recognized by organizations and governments around the world. Organizations incur significant costs to obtain certification making it worthwhile to study the process to better understand the pertinent measures for certification success. It has been adopted by organizations and agencies of different industries and sectors (Bell & Omachonu, 2011)

## **2.2 Overview of ISO 9000 Quality Management Standards**

ISO is an International Organization for Standards that was formed by technical committees. It was established in 1947, in Switzerland, with the purpose of developing intellectual, scientific, technological, and economic cooperation between member countries. Later in 1979 the ISO Technical Committee (ISO/TC 176) was formed to make a set of guidelines that would bring together and standardize world industries. These standards have their origin as a British Standard, BS5750 first published in 1979. ISO has affiliates in more than 90 countries. It is interesting to note that the phrase ISO is drawn from the Greek word “isos” which means “same as.” The words “same as” can be implied to mean the consumer gets what the consumer expects. In our quality assurance class we have learned that if the consumer gets what they expect, this is considered quality (Nurre, Gunaman & De-almeida, 2000).

These standards were revised in 1994, and again in 2000. They have been applied in firms of all sizes and from all areas of business. Pinar, Crouch, Yucel and Guder (2003) maintain that the original ISO 9000 standards and the 1994 revision have only required that an organization to have a documented and verifiable process in place to ensure that it consistently produces what it says it will produce.

A company could comply with the standards and still produce a poor-quality product. As a result, these standards have been criticized in the literature for omitting clauses that address customer satisfaction, continuous improvement, and top management support. ISO 9000:2000 is a response to the dissatisfaction that resulted from the older standards. The 2000 version represents a fundamental change in approach over the earlier versions by focusing on the following elements: Increased emphasis on top management commitment, customer satisfaction, emphasis on processes, and continual improvement.

The focus of this paper is in ISO 9001 which has been reviewed and updated to keep it current. ISO 9001:2000 was a major revision, and had many changes from the previous version, ISO 9001:1994. In 2008 the latest version was released. The changes were administrative in nature (wording, clarifications etc), and did not result in changes to actual requirements (Prajogo, Huo & Han, 2012).

The path to certification that an organization could take can be defined by the following steps in sequence which would start by gaining top management commitment towards the adoption of the standard followed by employing external consultants who possess the technical knowhow. An awareness campaign to sensitize all the organizations members should then follow so that every organizational member understands their role. Creation of an overall quality system manual and the development of a documentation system would then follow. Employees should then be trained on the mechanisms of the system as well as its application.

Work processes and procedures to be created for each of the processes in the organization. System wide reviews to be conducted to ensure consistency with the documentation and lastly a pre-assessment audit to check the adherence of the quality system with the principles of the ISO 9001 standard. Organizations seeking certification may not necessarily follow all of these steps. Greater or lesser emphasis may be placed on any one of these activities depending on the amount of resources applied in each area (Bell & Omachonu, 2011).

For an organization to be issued with an ISO 9001 certificate it has to be audited. The certified auditor begins by comparing the design of the quality system of an organization to the clauses in the standard. If the design is complete, it is approved in principle. The auditor then looks for evidence that the organization is effectively implementing each subsystem. Often, the auditor will sample documents and records from day-to-day operation. This may be supplemented by employee interviews and physical inspections. By cross-checking the results, a skilled auditor can quickly determine whether the implementation is effective.

Finally, the auditor will look at any performance objectives that the organization set for itself when it designed the management system. The auditor will examine records to see if the system is achieving those objectives. At this point, the auditor may recommend that a certificate of compliance be issued. This process is repeated every three years, with less extensive surveillance audits being done every six months to a year (Uzumeri, 1997).

Organizational analysts have identified implementation failures as a main reason that organizations have not benefited from practices such as ISO 9000 viewing the process of implementation as akin to fads and fashions; managers implement such practices in the same ways that people make decisions about the length of a skirt or the width of a tie, as a consequence of being persuaded by glitzy rhetoric that exploits their vulnerabilities and psychological needs (Naveh & Marcus, 2005).

Nevertheless, Terlaak and King (2000) suggest that the implementation of practices such as ISO 9000 can raise organizational performance and result in real competitive advantage. Quality standards, such as ISO 9000, have continually evolved and have been refined over time and are supposed to offer a competitive factor in many industries. However, since knowledge of ISO 9000 is public and implementation of the practice aims to create greater homogeneity among organizations, it is debatable if ISO 9000 constitutes a competitive factor. Bell and Omachonu (2011) maintain that competitive advantage arises from the differences among firms (heterogeneity), but if all companies implement ISO 9000 in the same way, can a particular company derive a special benefit.

## **2.3 Implementation of ISO 9000 Series**

When implemented and used ISO 9000 should lead to better operational performance. It will be demonstrated by on-time delivery and customer satisfaction, and involve productivity improvements (Gavin, Heras & Casadesus, 2008).

Implementation consists of concept development and preparation, which must occur before a system such as ISO 9001 can be effectively used. Rules and procedures must be established to allow an organization to effectively adhere to ISO 9001 standards. These rules reside in quality policies and manuals. They include definitions of responsibilities and involve documentation, inspection, calibration, testing, data collection and analysis that show how the organization takes corrective actions and what its internal auditing plans are.

Implementation can be categorized along two dimensions: external coordination with customers and suppliers so that the requirements of the standard fit the needs of critical stakeholders; and internal integration, or customizing and integrating the standard with the organization's current stock of assets, that is, its existing practices (Naveh & Marcus, 2005).

ISO 9000 is generally externally induced, in that for many companies it is a condition for doing business. Many customers require that their suppliers be certified, thus the pressure that customers exert is a reason for certification. By external coordination, we mean that ISO 9000s design and development is harmonized with the needs and expectations of customers, suppliers and other stakeholders. ISO 9000 certification provides assurances to customers that suppliers have a system of quality assurance in place (Jang & Lin, 2008).

Internal integration of a standard, such as ISO 9001, means designing and developing new systems to conform to the standard based on an analysis of a company's existing internal processes. It requires integrating the standard with practices already in place. When a new practice such as ISO 9000 is introduced, the organization must find a fit between the ISO 9000 rules and its old ways of operating (Hongyi, 2000).

According to Lee, To and Yu (2009), consistency must prevail between the new practice and existing practices. Links have to be established between the organization's old policies, rules and procedures, and the new ones. For example, a full-scale organizational system including procedures for training and employee education has to be added and made consistent with the organizations' previous practices.

Bell and Omachonu (2011) observed that, a standard such as ISO 9001 must be customized to the company's needs, an activity best led by employees trained and nurtured in the company, as opposed to one led by outside consultants. Implementation is not enough, however, for a quality system such as ISO 9000 to have a long-term effect on an organizations performance. The system has to be used, on the one hand, in daily practice, and, on the other, as a catalyst for change.

Daily practice is the regular application of a standard to the point that it becomes part of an organization's everyday routines. Employees must consider it necessary and pay attention to it. An indicator of their daily use of the standard is that they do not prepare for external audits at the last minute. ISO 9000 requires that twice yearly independent, third party auditors evaluate a company's procedures and carry out site visits to determine the extent to which it is being used.

If employees just put on a show for the auditors and revert to earlier noncompliance, it suggests that they are not really using the standard. ISO 9000 can and should become a springboard for rethinking the way a company does business and a point of departure for additional innovation. Being a catalyst for change means that ISO 9000 is used as a launching pad for new understanding about how a company does business. ISO 9000s rules become the basis for branching out, expanding and moving in new directions (Naveh & Marcus, 2005)

This study intends to explore the implementation of ISO 9001 in service organizations. While ISO 9000 is widely considered a replicable management standard for organizations to accomplish quality excellence and customer satisfaction, one cannot assume that it is a homogeneous practice between all ISO 9001 certified organizations.

ISO 9001:2008 is based on eight quality management principles namely customer focus, leadership, involvement of people, process approach, system approach to management, continual improvement, factual approach to decision making; and mutually beneficial supplier relationships.

While these principles serve as the major guidelines for organizations in different parts of the world to obtain the certification, organizations may implement these principles in very different extents. For instance, it is possible that some organizations may implement the principle of customer focus in a very high level and the rest of the principles to the levels that can barely meet the requirements of ISO 9000 while others may implement all principles in very similar extents without paying extra attention to any of them. Thus, there may be variations in the implementation of the standard between ISO 9001 certified organizations (Lee, To & Yu, 2009).

## **2.4 Summary of Literature**

A number of empirical studies have examined the reasons for implementing ISO 9000 standards and the benefits that companies gained from certification (Terlaak & King, 2001; Naveh & Marcus, 2005; Dick, Heras & Casadesus, 2008; Simmons & White, 1999; Singels, Ruel & Water, 2001; Lee, To & Yu, 2009; Wahid & Corner, 2011; Prajogo, Huo & Han, 2012).

These studies found that the most common motives for implementing ISO 9000 fell into one of two broad categories of internal or external company activities. The internal motives were improved customer service/reduced customer complaints, increased efficiency, business survival or winning business, and the desire to embed a quality culture or better management control.

The external motives were customer requirements or pressure from customers, to respond to competitors' achieving certification, quality assurance certification being required by regulations or legislation, or as a marketing and promotional tool.



With regards to the performance outcomes that are achieved as a result of certification some of the various studies for example Singels, Ruel and Water (2001) explored 192 organizations (both manufacturing and service organizations) in the North of Holland in collaboration with KKNN (the foundation of quality circles in the North of Holland) found that ISO 9001 certification in itself (stand alone) does not lead to an improvement in the operational performance of organizations.

Lee, and To Yu (2009) after conducting a survey on 45 ISO 9001 certified service organizations in Macao, China postulate that in order to achieve superior performance, organizations should not consider the certification as a single, one-off project and the maintenance of the standard as routine processes. In addition they indicate that managers in service organizations must realize that ISO 9001:2000 is capable of generating a competitive advantage only if top management is fully committed to program implementation from a strategic perspective.

Gavin, Heras and Casadesus (2008) after comparing 400 ISO certified and non-ISO certified firms in the Basque region which is one of the areas in Spain where ISO certifications are concentrated postulated that it might be a wise decision to only pursue certification if major customers demand that it is required, since they found no conclusive evidence that sales or profitability improve after certification.

Naveh and Marcus(2005) argue that competitive advantage can be gained from implementing a replicable management standard, such as ISO 9000, if implementation is understood not as a discrete and homogenous industry-wide phenomenon, but if variations in this process are considered after conducting a study on 313 ISO certified organizations(both manufacturing and service ) in the USA.

Pinar, Crouch, Yucel and Guder(2003) after conducting a survey on 107 organizations both ISO certified and non certified organizations listed in the Istanbul Stock Exchange found that there exists no significant differences in the average stock market returns between the ISO certified and non-ISO certified firms although the ISO certified firms returns exhibited lesser volatility.

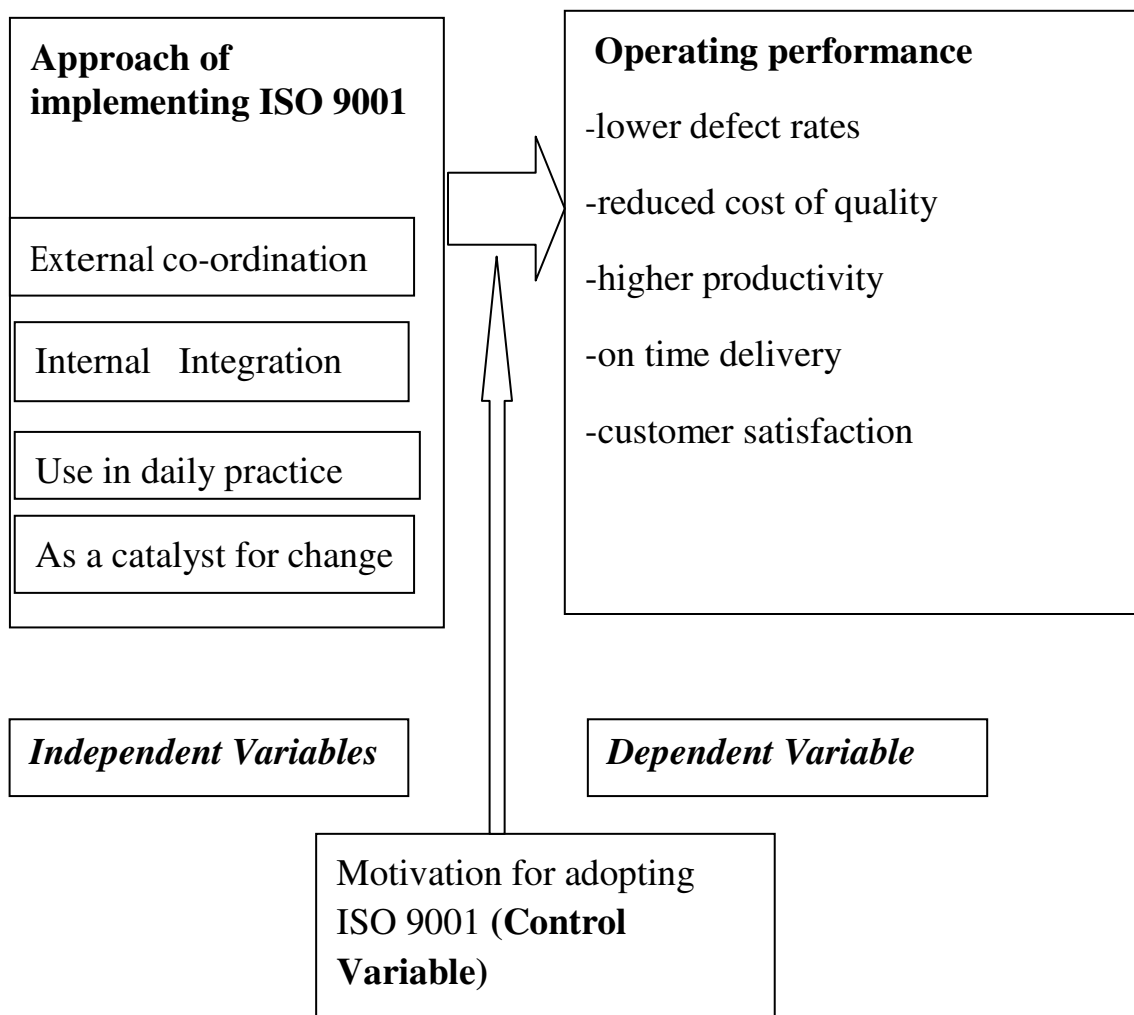
However Prajogo, Huo and Han (2012) conducted a study which examined 321 middle and senior managers of ISO 9001 certified firms in Australia who were responsible for managing the quality systems in their organizations. This study was based on establishing the effect of ISO 9000 implementation on operational and supply chain management practices that, in turn, will predict the operational benefits within adopting firms. Their results indicate that supplier and internal process management both have a positive effect on operational performance, while customer process management has no significant impact on operational performance.

In addition a study by Okwiri (2010) that sought to establish the relationship between ISO 9001 and operational performance in government agencies in Kenya concluded that the framework provided by the ISO 9001 management system standard can help optimize operational performance when the prescribed practices are applied appropriately. And also that observed cases of certification leading to reduction in performance are due to the effects of the minimalist adoption approach with focus on iconic objectives.

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## 2.5 Conceptual Framework



The issue which is being dealt with in this paper is whether ISO 9001 can have a positive effect on a firm's operational performance. The installation and implementation of ISO 9000 standards is expected to have a positive impact on the costs of services provided. Formalization and documentation of an organization's quality management system shows that it has achieved a basic level of quality assurance through independent auditing hence certification.

The cost of services provided should respond to the use of ISO standards as the needs of the stakeholders are understood and incorporated, the integration of the standards with the assets of an organization (practices) will ensure the consistent quality in the services provided as interactions with the customers are improved and services are delivered in a standardized manner. Consistent application of the principles of the standard in day to day operations should lead to other improvement initiatives due to an enhanced awareness

The items that will be used as the independent variables i.e. external co-ordination, internal integration, use in daily practice and catalyst for change as well as the dependent variable i.e. measure change in costs are drawn from Naveh and Marcus (2005) who carried out a study on whether firms can achieve competitive advantage by implementing a replicable management standard, the ISO 9001.

Contextual factors such as company size, industry as well as experience in implementation were discounted with support from the following previous studies. After conducting a survey on the implementation activities involved in certifying a quality management system to the ISO 9001 standard Bell and Omachonu(2011) found that operating costs and sales increase were robust across the contextual factors they examined in their study i.e. company size, industry, length of time since certification.

Secondly Lee to and Yu (2009) also indicate that contextual factors i.e. size, experience in implementing ISO 9000 and industry type are unlikely to be the predictors to explain the ISO 9000 implementation patterns. In other words, their results reveal that managers of sample firms that they studied did not consider contextual factors as crucial variables when they had to decide how to implement ISO 9001.

The motive for certification either external or internal will be used as the control variable. This will be a dichotomous measure of whether the motivation was due to external pressures from customers, suppliers or response to competitors achieving certification or internal where the organizational members feel the need to certify with the ISO 9001 standard.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.0 Introduction**

This chapter presents the methodology of sampling, data collection and data analysis. It is divided into the following sections: research design, population, sample design data collection, data analysis.

### **3.1 Research Design**

This study was a descriptive survey. This design is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation (Cooper and Schindler, 2008).

### **3.2 Population**

The target population for this study was all ISO 9001 Certified Organizations in Kenya and which were at the time of study actively involved in business related to the Kenyan market.

### **3.3 Sample Design**

The sample list was drawn from the collection of firms that were ISO 9001:2008 certified as of 31<sup>st</sup> July 2012 according to Kenya's authoritative standards organization (KEBS), of which 53 are service organizations (Kenya Bureau of Standards, 2011). A census survey was conducted on these 53 service organizations.

### **3.4 Data Collection**

The target respondents included operations managers, quality managers and implementers of ISO 9001 QMS in the respective organizations. Structured personal interviews were used to collect responses. A Likert Scale Questionnaire was used to assess the elements of the installation and implementation of ISO 9001 quality management system as well as how they perceived the improvement in measures of operational performance as a result of adopting the quality management standard.

### **3.5 Data Analysis**

The data collected was checked for completeness, coded and tabulated before final analysis. Descriptive statistics were used to calculate, calibrate the spread and the mean location of responses for each of the independent and the dependent variable.

Correlation analysis was applied to measure the strength and direction of the relationship between the independent variables which included external co-ordination, internal integration, use in daily practice and catalyst for change and the dependent variable deduced as the operational performance.

Student t-test was used to test whether there were significant differences in the adoption of the ISO 9000 quality assurance standards between the internally motivated organizations and the externally motivated organizations.

## CHAPTER FOUR: DATA ANALYSIS RESULTS & DISCUSSIONS

### 4.1 Results and Analysis

Primary data was collected from the organizations that were identified to have been certified with ISO 9001. Out of the total 53 organizations visited 32 useable responses were obtained with the rest declining or not providing a response in time as well as cases of incomplete responses. This represents a 60% response rate which was considered enough to provide a valid inference regarding the adoption of ISO 9001 in service organizations in Kenya. Titles of key informants included quality manager, training manager as well as HR and Training including those responsible for the adoption of the quality management system. The tests of analysis set out in the data analysis were administered to the collected data to attain the below illustrated results. The tables below illustrate the responses with regard to each of the elements (variables) of adoption of ISO 9001 that were considered.

### 4.2 External Coordination (EC)

Questions were posed to calibrate how important the sampled organizations perceived the importance of coordinating their ISO 9001 implementation with significant external stakeholders. On a scale of 1 to 5 representing no extent to very large extent the sampled organizations responded as follows.

**Table 4.1: External Coordination Results**

	Factor	Freq	Mean Score	Variance	std
1	Coordination with suppliers(EC1)	32	3.6	1.4	1.2
2	Coordination with customers(EC2)	32	3.9	0.8	0.9
3	Coordination with companies already registered(EC3)	32	3.2	1.7	1.3
	Total	<b>32</b>	<b>3.6</b>	<b>3.9</b>	1.1



The range of the responses was between 1(No Extent) and 5(Very Large Extent). The mean response ( $M$ ) was at 3.6( $SD=1.1$ ). A mean of 3.6 shows that generally the sampled organizations perceived that it was important to coordinate their ISO 9001 implementation effort with significant external stakeholders such as suppliers and customers. A standard deviation of 1.1 shows that there was modest variability with regards to how each of the sampled organization perceived the importance of coordination with external stakeholders. This would suggest that it is crucial to incorporate the needs of significant external stakeholders during the implementation of ISO 9001.

It is expected that organizations adopting the ISO 9001 standard would consider and or incorporate the needs of their significant external stakeholders. Lee, To and Yu(2009) found that if organizations could align their ISO 9001 implementation strategies with their external environments including suppliers and customers then they are more likely to achieve better operational performance as well as other competitive advantages.

### 4.3 Integration of ISO 9001 Practices (IP)

Propositions were put across to gauge the perception as to what level the sampled organizations integrated the requirements of ISO 9001 with their current assets and practices within their organizational structures and procedure. The results the same are as tabulated below:

**Table 4.2: Internal Integration Variable Results**

	Factor	Freq	Average	Variance	Std.
1	Coordination with employees developed inside the organization (II1)	32	3.8	0.81	0.9
2	Integrated with practices already in place (II2)	32	3.7	1.21	1.1
3	Analysis of internal processes and performance II3)	32	3.8	1.21	1.1
4	Customized to the needs of the company (II4)	32	4	1	1
	<b>Total</b>		<b>3.83</b>	<b>4.23</b>	<b>2.06</b>

The range of the responses was from 1(No Extent) to 5(Very Large Extent). The mean response ( $M$ ) was 3.83( $SD=2.06$ ). It can be deduced that the sampled organizations sought to integrate the requirements of ISO 9001 with their organizational needs, structures and procedures. The range of the responses from the mean response is at a relatively low value. Generally any organization that deviated from the almost large extent perception was on average two steps or up in perception. The worst would have been small extent with the best indicating very large extent indicated they integrated the requirements of the ISO 9001 standard with their organizational requirements. Kim, Kumar and Kumar (2011) found that it is imperative for organizations implementing ISO 9000 to customize the requirements of the said standard with their organizational structures and strategies. In addition they state that failure to customize will lead to resistance from employees as well as incompatibility with organizational systems.

#### 4.4 ISO 9001 Use in Daily Practice (DP)

Propositions were posed to calibrate how much the sampled organizations adhered to the guidelines of the ISO 9001 on their day to day activities. Questions were asked to elicit a specific response albeit through superimposed arguments. High ranks here would indicate adherence.

**Table 4.3: Use in Daily Practice Results**

	Factor	Freq	Average	Variance	Std.
1	Documents used in daily practice (DP1)	32	3.7	1	1
2	System a regular routine (DP2)	32	3.4	1.44	1.2
	<b>Subtotal</b>	<b>32</b>	<b>3.55</b>	<b>2.44</b>	<b>1.56</b>
3	Last minute preparations of external audits (DP3)	32	2.4	1.44	1.2
4	System Regularly Ignored (DP4)	32	1.9	0.81	0.9
5	System unnecessary burden (DP5)	32	2.3	1.44	1.2
	<b>Subtotal</b>	<b>32</b>	<b>2.2</b>	<b>3.69</b>	<b>1.92</b>

The range of responses was between 1(No Extent) to 5(Very Large Extent). The mean response of the questions that sought to calibrate whether the ISO 9001 quality management standard had become a daily routine was  $M=3.55(SD=1.56)$ . This shows a high degree that sampled organizations followed the ISO 9001 in their day to day activities. The deviation from adherence is less than two extents from the mean response showing that almost all the sampled organizations had seemingly converging perception as to how much they adhered to the requirements of ISO 9001 in their daily activities.

On the other hand the other propositions were posed to gauge the extent of neglect towards adherence to the ISO 9001 standard in the day to day activities of the sampled organizations. These questions were intended to elicit an opposite response (non adherence).

The mean response was  $2.2(SD=1.92)$ . The difference in the mean response of adherence ( $M=3.55$ ) and the mean for non-adherence ( $M=2.2$ ) is significant (1.31). This lower mean was expected in relation to having a higher mean for adherence. An organization cannot pose that it adheres consistently to the requirements of the ISO 9001 standard and at the same time indicate that it regularly ignores the requirements of the same standard. An organization cannot pose to adhere to the standard on a daily basis and then at the same time prepare at the last minute for the audits which are done twice yearly. An organization that operates consistently in line with the requirements of the ISO 9001 should be ready for an audit any time without any preparations as it is already compliant.

Lee To and Yu (2009) posit that organizations should not perceive certification as a single one time project and the maintenance of the standard as routine processes. Managers should be committed to adhering to the standard and sustain it in their day to day operations.

## 4.5 Role of ISO 9001 as a Catalyst for Change

Propositions were posed to calibrate whether the adoption of the ISO 9001 spurred the sampled organizations towards other quality improvement initiatives after certification. The results are tabulated here below.

**Table 4.4: Catalyst for Change Results**

	<b>Factor</b>	<b>Freq</b>	<b>Mean Score</b>	<b>Variance</b>	<b>Std</b>
1	New practices (CC1)	32	3.3	1	1
2	Improvement opportunities (CC2)	32	3.5	0.81	0.9
3	Advanced practices (CC3)	32	3.3	0.81	0.9
4	System a catalyst (CC4)	32	3.6	1	1
5	System an opportunity for innovation (CC5)	32	3.3	1	1
	<b>Total</b>	<b>32</b>	<b>3.4</b>	<b>4.62</b>	<b>2.15</b>

The range of the responses was between 1(No extent) and 5(Very Large Extent). The mean response was 3.4( $SD=2.15$ ). The general perception as to whether implementing ISO 9001 led to other improvement initiatives is moderate. However it seems that the sampled organizations significantly differed on this effect. However it would seem that there were significant differences how the ISO 9001 standard influenced the sampled organizations towards other improvements initiatives besides the standard itself.

Naveh and Marcus (2005) argue that ISO 9001 can provide the basis upon which a certified organization builds a quality management system. It should be a spring board towards rethinking how an organization operates as well as be a point of departure from the standard after thoroughly incorporating it.

## 4.6 Adoption of ISO 9001 and Operational Performance

Questions were posed to calibrate how the sampled organizations perceived the impact of adoption of ISO 9001 on operational performance. The results are as shown in the table below:

**Table 4.5: Operational Performance Results**

	<b>Factor</b>	<b>Freq</b>	<b>Mean Score</b>	<b>Variance</b>	<b>Std</b>
1	Cost efficiency (OP1)	32	3.8	0.81	0.9
2	Timeliness due to adopting the system (OP2)	32	3.9	0.81	0.9
3	Quality of service (OP3)	32	3.8	0.81	0.9
4	Customer satisfaction (OP4)	32	3.9	0.81	0.9
5	Service reputation (OP5)	32	3.8	1.21	1.1
	<b>Total</b>	<b>32</b>	<b>3.84</b>	<b>4.45</b>	<b>2.11</b>

The range of the responses was between 1 (No Extent) to 5 (Very Large Extent). The mean response was 3.84 ( $SD=2.11$ ). This is an indication that the sampled organizations to a large extent perceived that implementing ISO 9001 had a positive effect on their operational performance.

According to Naveh and Marcus (2005) an organization should experience better operational performance after implementing the ISO 9001 standard. There should be lower defect rates, higher productivity, on-time delivery, reduction in the cost of quality and improved customer satisfaction.

## 4.7 Tests of Correlation

A correlation analysis test was performed with an aim of establishing the strength and direction of the relationship between each of the independent variables i.e. external co-ordination, internal integration, use in daily practice and catalyst for change and the dependent variable i.e. operational performance. The results are illustrated in figure 4.7.

**Table 4.7: Correlation Analysis Results:**

		<b>OP</b>	<b>EC</b>	<b>II</b>	<b>DP</b>	<b>CC</b>
<b>OP</b>	Pearson Correlation	1				
	p value					
<b>EC</b>	Pearson Correlation	0.47	1			
	p value	<u>0.007</u>				
<b>II</b>	Pearson Correlation	0.47	0.34	1		
	p value	<u>0.006</u>	0.056			
<b>DP</b>	Pearson Correlation	0.22	0.20	0.28	1	
	p value	0.225	0.260	0.125		
<b>CC</b>	Pearson Correlation	0.31	0.39	0.50	0.56	1
	p value	0.086	<u>0.038</u>	<u>0.004</u>	<u>0.001</u>	
Years of Cert.	Pearson Correlation	-0.5	0.0	-0.4	0.1	0.1
	p value	<u>0.09</u>	0.94	<u>0.04</u>	0.49	0.64

Key:

OP- Operational Performance

EC-External Co-ordination

II-Internal Integration

DP-Use in Daily Practice

CC-Catalyst for Change

The correlation coefficient of the external coordination (independent variable) against operational performance (dependent variable) is  $r(30) = 0.47, p = 0.007$  which shows coordinating the implementation of ISO 9001 with significant external stakeholders such as customers and suppliers by the sampled organizations had a positive effect on operational performance. In addition the  $p$ - value is below the 5 percent significance level thereby implying that a relationship exists between external coordination and operational performance.

The correlation coefficient of the internal integration (independent variable) against operational performance (dependent variable) is  $r(30) = 0.47, p = 0.006$ . This shows that designing and aligning organizational systems and procedures with the requirements of the ISO 9001 standard in the sampled organizations had a positive effect on operational performance. . In addition the  $p$ - value is below the 5 percent significance level thereby implying that a relationship exists between internal integration and operational performance.

The correlation coefficient of the use in daily practice (independent variable) against operational performance (dependent variable) is  $r(30) = 0.22, p = 0.225$ . This shows that following the guidelines of ISO 9001 in day to day activities of the sampled organizations had a positive effect on operational performance. However the  $p$  value obtained is above the 5 percent significance level. This implies that the relationship between use in daily practice and operational performance could have been influenced by the respondents in an attempt to portray that they adhere to the requirements of the ISO 9001 in their daily activities while the same may not be the case.

The correlation coefficient of the catalyst for change (independent variable) against operational performance (dependent variable) is  $r(30) = 0.31, p = 0.086$ . This shows that implementation of ISO 9001 led to a quality awareness or a thrust towards other quality improvement initiatives in the sampled organizations which in turn had a positive effect on operational performance. However the  $p$  value obtained is above the 5 percent significance level. This implies that the relationship between ISO 9001 as a catalyst for change and operational performance may have been influenced by the perception of the respondents.

Terziovski, Feng and Samson (2007) posit that ISO 9001 certification has a significant and positive effect on operational performance but a positive but weak effect on business performance. However, this can only be realized if the implementation process is well planned while considering the philosophical aspects of the organization in addition to employee training, corrective action, periodic audits as well as commitment throughout all levels in an organization.

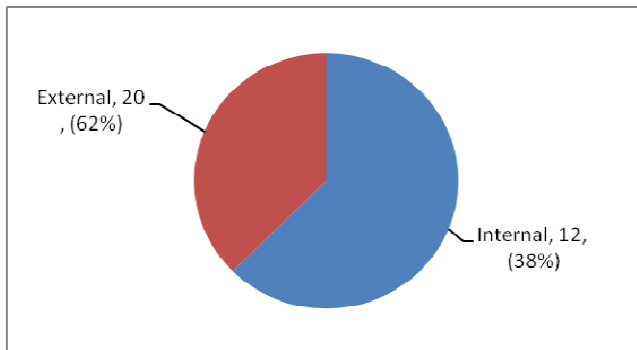
Further to this Naveh and Marcus (2005) indicate that ISO 9001 is a documented and structured quality management system which upon effective implementation can lead to improvements in operational performance. They maintain that different levels of implementation depth and scope will yield different levels of operational performance.

#### **4.8 Motivation for Adoption of ISO 9001**

It was considered that organizations adopt the ISO 9000 quality management standard as a result of a dichotomous dispensation in that adoption is either externally or internally induced. The results showed that 62% of the sampled organizations adopted as a result of external pressures while 38 % adopted the system as a result of an organizational need to do so. This is illustrated in figure 4.6 below.



**Figure 1: Motivation Percentages**



Motivation for adopting the ISO 9001 quality management standard was considered as a control variable in this analysis. This was considered to be the original cause that triggered the sampled service organizations to implement the ISO 9001 quality management system. The results of a paired student t-test to test whether there were statistically significant differences in between service organizations that were externally motivated to implement the standard and service organizations that were internally motivated was done and the results are illustrated in the figure 4.8 below:

**Table 4.8: Independent student-t test for Motivation**

Group Statistics							
	Motivation	N	Mean	Std. Deviation	Std. Error Mean	p value	
EC_total	External	20	11.6	2.1	0.5	0.009	
	Internal	12	9.1	3.1	0.9		
II_Total	External	20	16.4	2.8	0.6	0.029	
	Internal	12	13.8	3.5	1.0		
DP_total	External	20	14.4	2.9	0.7	0.09	
	Internal	12	12.6	2.5	0.7		
CC_total	External	20	18.2	3.3	0.7	0.014	
	Internal	12	15.2	2.8	0.8		
OP_Total	External	20	20.2	2.8	0.6	0.021	
	Internal	12	17.6	3.1	0.9		

Key:

OP- Operational Performance

EC-External Co-ordination

II-Internal Integration

DP-Use in Daily Practice

CC-Catalyst for Change

The results indicate that the *p-values* for each of the variables when compared between the internally motivated and the externally motivated organizations are significantly lower than  $p = .05$  for each of the variables (external coordination, internal integration, use in daily practice, catalyst for change and operational performance. This suggests that that the difference between the two groups (externally motivated and internally motivated) is not significant. Therefore the motive for adopting ISO 9001 did not lead to significant differences in operational performance between the sampled organizations which were externally motivated and those that were internally motivated to adopt ISO 9001.

Singels and Ruel (2001) indicate that only organizations that are internally motivated to certify with ISO 9001 so as to improve their processes will realize better performance outcomes. This implies that there should be significant differences between the internally and externally motivated organizations as opposed to the results of this research.

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **5.0 Introduction**

This chapter presents the summary, conclusions, limitations and recommendations. This is in relation to the objectives that were set out in the study. The same were establishing the impact of adopting ISO 9001 on the operational performance of service organizations as well as establishing whether there were differences in the operational performance between the service organizations that were externally motivated and those that were internally motivated to adopt ISO 9001 quality management system.

### **5.1 Summary**

The first objective of this study was to test whether there is an association between the implementation of ISO 9001 quality management standard on the operational performance of service organizations. These organizations are becoming increasingly important in both developing and developed economies in terms of revenue generation and employment opportunities. The results indicate that there is a potentially positive relationship between the two sets of variables.

It was observed that organizations are particularly keen to coordinate with the critical stakeholders in their environment when they are implementing the standard but the daily adherence to the application of the quality management system (ISO 9001) seems somewhat weak.

It was observed that the sampled service organizations indicated that they had not endeavored to implement any other standard in the ISO 9000 series besides ISO 9001. Most of them also indicated that certification leads to an undesirable increase in paper workload as well as forcing employees to work according to prescribed procedures that may impede creative and critical thinking in an organization.

## **5.2 Conclusion**

It has been established that the implementation of ISO 9001 is beneficial in terms of improving the operational performance. Managers should be aware that adoption of ISO 9001 is effective in organizations. It provides a framework for building a quality management system. It was also found that the most important factors that guided the implementation efforts are external coordination and internal integration as these were the most important between the internally and externally motivated organizations.

This research has reinforced the importance of processes in service organizations with recognition to the high level of contact between a service provider and a customer. The service delivery process has to be right so as to achieve superior operating performance.

## **5.3 Limitations of the Study**

The study was cross-sectional in nature and the snapshot views may not explicitly show the relationship between adoption of ISO 9001 and operational performance. Furthermore perceptual measures of performance and implementation were used which may have resulted to biases or ineffective calibration as a result of the respondents' dispensations. Furthermore the adoption of the ISO 9001 standard was considered on service organizations that have adopted it on the basis of one auditing agency i.e. The Kenya Bureau of Standards(KEBS) while there are many other service organizations that have been guided by other auditing agencies. Therefore the effect of the adoption of the standard through different agencies was not considered. ISO does not guide the implementation of ISO 9001 directly but the same is done by accredited agencies like the KEBS.

Improvements to the operational performance of service organizations that have implemented the ISO 9001 could be attributed to the fact that while an organization is preparing for the implementation it has to describe its processes. Doing this and probably for the first time it can become clear that its processes have defects which can lead to

improvements. These improvements may lead to better operating performance. In such a case it can be inferred that it is the attention and adjustments on the processes that lead to improvements rather than the adoption of a quality management standard. Any reason to look at the processes in an organization can lead to improvements.

#### **5.4 Recommendations**

Longitudinal studies should be conducted while utilizing objective measures of performance to further test the impact of adopting ISO 9001 for a longer period of time. This would help to gain better insight into the impact of such an international standard on domestic organizations.

## REFERENCES:

- Aquilano, N.J. & Chase, R. B. (2001). Fundamentals of Operations Management: 4th Edition Prentice Hall, New Jersey pp 214.
- Barnes David (2008). Operations Management: An international perspective: University of London Press.
- Bell M., Omachonu V. (2011) Quality system implementation process for business success International Journal of Quality & Reliability Management Volume: 28 Issue: 7
- Boiral O, Roy M.J. (2007) ISO 9000: integration rationales and organizational impacts International Journal of Operations & Production Management Volume: 27 Issue: 2
- Cooper D R and Schindler P S (2008) Business Research Methods Mcgraw publishing Company limited
- Gavin P.M.D, Heras I, Casadesus M. (2008). Shedding light on the causation between ISO 9001 and improved business performance. International Journal of Quality and Reliability Management Volume: 28 Issue: 7
- Hongyi S. (2000). Total quality management, ISO 9000 certification and performance improvement International Journal of Quality & Reliability Management Volume: 17 Issue: 2
- Jang W.Y., Lin C.I, (2008),"An integrated framework for ISO 9000motivation, depth of ISO implementation and firm performance: The case of Taiwan", Journal of Manufacturing Technology Management, Vol. 19 Issue: 2 pp. 194 – 216
- Kenya Bureau of Standards (2006): Quality Managements Systems-Fundamentals and vocabulary.pg v
- Kenya Bureau of Standards (2011): ISO 9001: 2008 certified organizations. Retrieved from [http://www.kebs.org/index.php?opt=certification&pageno=6&view=qms\\_firm](http://www.kebs.org/index.php?opt=certification&pageno=6&view=qms_firm)

- Kim D.Y, Kumar V, Kumar U (2011) : A performance realization framework for implementing ISO 9000. *International Journal of Quality and Reliability Management*, Vol 28 Iss:4 pp. 383-404.
- Lee P.K.C., To W.M., Yu B.T.W. (2009). The implementation and performance outcomes of ISO 9000 in service organizations: An empirical taxonomy *International Journal of Quality & Reliability Management* Volume: 26 Issue: 7
- Naveh E. & Marcus A. (2005). Achieving competitive advantage through implementing a replicable management standard: Installing and using ISO 9000 Retrieved from [http://www.iem.unifei.edu.br/turrioni/PosGraduacao/PQM07/iso\\_9001\\_aula\\_6\\_e\\_7/artigo%20iso%209001.pdf](http://www.iem.unifei.edu.br/turrioni/PosGraduacao/PQM07/iso_9001_aula_6_e_7/artigo%20iso%209001.pdf)
- Njoroge Kiama (2012). Current state of play of trade in services in Kenya. Retrieved from [http://www.ileap-jeicp.org/downloads/nairobi\\_09/session\\_1\\_eac-eabc/Ajumbo\\_EAC-country-presentations/kenya\\_current\\_state\\_of\\_play\\_of\\_trade\\_in\\_services\\_8-08-08.pdf](http://www.ileap-jeicp.org/downloads/nairobi_09/session_1_eac-eabc/Ajumbo_EAC-country-presentations/kenya_current_state_of_play_of_trade_in_services_8-08-08.pdf)
- Nurre A, Gunaman Y, De-Almeida (2000, Sept 22). What it means to be ISOcertified? Retrieved from <http://www.public.iastate.edu/~vardeman/IE361/f00mini/de-almeida-gunaman-nurre.pdf>
- Omukhweso William (2012). The role of ISO standards in the Kenyan economy. Retrieved from [http://www.iso.org/iso/iso\\_essay\\_contest-2012.pdf](http://www.iso.org/iso/iso_essay_contest-2012.pdf)
- Okwiri (2010). The relationship between ISO 9001 certification status and performance within government agencies in Kenya. Independent Research Paper. University of Nairobi School of Business.
- Pinar M., Crouch H.L, Yucel T, Guder F: Examining the Impact of ISO9000 Certification on Business Performance Using Stock Market Returns. Retrieved from [www2.pittstate.edu/mgmt/Musa/ISO9000Business.doc](http://www2.pittstate.edu/mgmt/Musa/ISO9000Business.doc) 2012
- Prajogo D, Huo B, Han Z. (2012). The effects of different aspects of ISO 9000 implementation on key supply chain management practices and operational performance *Supply* Volume: 17 Issue: 3

Simmons B.L., White M.A.; Journal of Managerial Issues, Vol. 11, 1999: The Relationship between ISO 9000 and Business Performance: Does Registration Really Matter? Retrieved from: <http://www.jmi.org>

Singels J, Ruël G., Water H. (2001). ISO 9000 series - Certification and performance. International Journal of Quality & Reliability Management Volume: 18 Issue: 1

Terlaak A. & King A (2001). The effect of certification with the ISO 9000 quality management standard. A signaling approach: Retrieved from [http://mba.tuck.dartmouth.edu/pages/faculty/andrew.king/docs/ISO\\_9KSignaling.pdf](http://mba.tuck.dartmouth.edu/pages/faculty/andrew.king/docs/ISO_9KSignaling.pdf)

Uzumeri M.V. ISO 9000 and other meta-standards: Principles for management practice? Academy of Management Executive, 1997 Vol. 11 No. 1 Retrieved from <http://www.stevewandel.com/sustainability/documents/MGT%20601%20ISO%209000%20and%20other%20metastandards.pdf>

Wahid R.A.B., Corner J., 2011. Critical Success factors and improvements in ISO9000 maintenance: Business management quarterly Review: Institute of Business Excellence, BMQR Vol.2, No.2, 2011 Retrieved from: [http://eprints.ptar.uitm.edu.my/884/1/Page\\_1\\_-13\\_Vol.2\\_No.2\\_2011.pdf](http://eprints.ptar.uitm.edu.my/884/1/Page_1_-13_Vol.2_No.2_2011.pdf)



## APPENDICES

### Appendix 1: Questionnaire

#### INSTRUMENT OF DATA COLLECTION - QUESTIONNAIRE

Dear Respondent,

This is to welcome you to this study in which the author intends to explore the ISO 9001 development in particular firms in Kenya. You are requested to respond to all questions and that confidentiality will be strictly observed.

#### **PART A – Demographic Information**

1. What is the name of your division or department: .....
2. How many years have you worked for the firm.....
3. What is your functional position.....
4. In which year did your organization obtain the ISO 9001 certification-----

#### **PART B**

Indicate your perception as to what extent you feel your firm achieved in terms of the following aspects of ISO 9001 where 5= Very large extent, 4 = Large extent, 3= Moderate extent, 2= Little extent and 1= No extent

**To what extent was the design and development of your ISO 9001 system?**

Pleas tick one box for each answer	Very Large Extent	Large extent	Moderate extent	Little extent	No extent
1. Coordinated with suppliers					
2.Coordinated with customers?					
3. Based on learning from other companies that already were registered?					

**To what extent was the design and development of your ISO 9001 system?**

	Very Large Extent	Large extent	Moderate extent	Little extent	No extent
4. Coordinated and led by employees who were trained and developed inside the organization?					
5. Integrated with practices already in place?					
6. Based on an analysis of internal processes and performance?					
7. Customized to the needs of your company?					

**To what extent**

	Very Large Extent	Large extent	Moderate extent	Little extent	No extent
8. Are the documents created for the purpose of ISO 9000 registration used in daily practice?					
9. Are preparations for ISO external audits made at the last minute?					
10. Is the system regularly ignored?					
11. Is the system an unnecessary burden?					
12. Has it become part of your regular routine?					

	Very Large Extent	Large extent	Moderate extent	Little extent	No extent
12. To what extent was the design and development of your ISO 9000 system a springboard to introduce new practices?					
13. To what extent has ISO 9000 led to the discovery of improvement opportunities?					
14. A starting point for other more advanced practices?					
15. A catalyst for rethinking the way you do business?					
16. Understood as an opportunity to innovate?					

17. Please indicate by ticking the scale best represents the contribution of the adoption of ISO 9001 to the improvement of the listed below elements of performance in your organization

	Very Large Extent	Large extent	Moderate extent	Little extent	No extent
1. Cost efficiency					
2. Timeliness					
3. Quality of Service					
4.Satisfied Customers					
16. Service Reputation					

18. What led your organization to adopt the ISO 9001 quality management standard in terms of internal or external requirements?

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.....  
.....

19. Are there any other quality initiatives established after the adoption of ISO 9001?  
YES/NO Tick one. If yes briefly explain

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

19. What do you think are the major resources required in adopting the ISO 9001 quality management systems?

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**Thank you for your patience in responding to the above questions.**

## **APPENDIX 2: Paraphrase of the ISO 9001 Standard**

### **Clauses required for the various subsystems**

1. A system of management for the quality system, including a policy, organization, assigned responsibilities and a review mechanism that involves senior management.
2. A documented plan for the quality system.
3. A system to ensure that customer and suppliers clearly understand and agree to their contract.
4. A system to control and verify the design to ensure that it meets specified requirements.
5. A system to prevent errors due to inadequate or out-of-date documentation.
6. A system to ensure deliberate purchasing decisions and the use of qualified suppliers.
7. A system to safeguard any materials that are entrusted to the supplier by the customer.
8. A system to trace units of product through production (if required by the sales contract).
9. A system to ensure that the produce is made in a known, planned and repeatable fashion.
10. A system to ensure that any necessary inspections and testing is diligently carried out.
11. A system to ensure that key measuring equipment is properly maintained and calibrated.
12. A system to keep track of which material has been tested.
13. A system to prevent the inadvertent sale or use of nonconforming material or product.
14. A system to make sure that corrective action is taken whenever a quality problem is discovered and a system to try to prevent future quality problems from occurring.
15. A system to make sure that the right items get to the right place safely and on time.
16. A system to maintain and safeguard documents and records that relate to product quality.
  
17. A system that conducts periodic internal audits to verify the integrity of the quality system.

18. A system to ensure that employees have received the appropriate training for their jobs.
19. A system to ensure that servicing is carried out (if required by the sales contract).
20. A system to ensure that statistical techniques are used where appropriate and are properly applied.