FACTORS AFFECTING QUALITY SYSTEMS IMPLEMENTATION BY TEA HANDLING WAREHOUSES IN MOMBASA COUNTY IN KENYA

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DECLARATION

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

Signed …… …….

KIZITO SHIVACHI. **Date**

D61//73724/2012

This MBA research report has been submitted with my approval as the University supervisor.

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DEDICATION

I dedicate this project to my life partner Faith Constance and our blessings Fadhili Makamu, Sasha Koko, and Valour Yaa. Thanks for the moral support, patience and inspiration to always work hard.

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ABBREVIATIONS AND ACRONYMS

ASQ:	American Society for Quality
CAC:	Codex Alimentarius Commission
CCP:	Critical Control Points
COSO:	Committee for Sponsoring Organizations
DCP:	Disease Control and Prevention
EATTA;	East Africa Tea Trade Association
FAO:	Food and Agricultural Organization of the United Nations
FDA:	Food and Drug Administration
FSMA:	Food Safety Modernization Act
FSMS:	Food Safety Management System
GAP:	Good Agricultural Practices
GDP:	Gross Domestic Product
GFSI:	Global Food Safety Initiative
GHPS:	Good Hygiene Practices
GMPS:	Good Manufacturing Practices
GSPP:	Good Seed Plant Practices
HACCP:	Hazard analysis and critical control point
ISO:	International Organization for Standardization
IWLA:	International Warehousing and Logistics Association
KEPHIS:	Kenya Plant Health Inspectorate Services
KPA:	Kenya Ports Authority

KTGA:	Kenya Tea Growers Association
KTDA:	Kenya Tea Development Agency
KRA:	Kenya Revenue Authority
NCWSC:	Nairobi City Water and Sewage Company
OHSAS:	Occupational Health and Safety Assessment Specifications
oPRP:	Operational Pre-Requisite Program
OSHA:	Occupational Safety and Health Administration
PRPs:	Pre-Requisite Programs
SQM:	Strategic Quality Management
TBK:	Tea Board of Kenya
TQM:	Total Quality Management
TRFK:	Tea Research Foundation of Kenya
UK:	United Kingdom
US:	United States
UTZ:	Sustainable farming
QMS:	Quality Management System
QM:	Quality Management
WHO:	World Health Organization

ABSTRACT

The tea industry is the leading foreign exchange earner in Kenya. It is therefore important that quality systems are put in place throughout the tea value chain to secure customer confidence. The primary aim of this study was to determine factors affecting the implementation of quality systems in tea handling warehouses in Mombasa County. The study had three objectives. The first was to establish the extent to which quality systems have been implemented by tea handling warehouses in Mombasa County. The second was to determine the factors that affect quality systems implementation within the context, while the third objective was to determine the benefits of implementing quality systems by the sector. This was a census study of 29 tea handling warehouse sites. Descriptive research design was used. The theoretical framework was on systems and customer satisfaction theories. The response rate was 82.8 %. Data was gathered exclusively from the questionnaire. The study relied on primary data that was collected using a structured questionnaire that was administered using drop and pick method. Quantitative data on the range of factors affecting quality systems implementation was analyzed using descriptive statistics such as distribution tables, frequencies and percentages. On the first objective, study concluded that the tea handling warehouses have implemented quality systems with up to 83.33 % of the warehouses found to have implemented quality systems and were duly certified by the respective certification bodies. Factors affecting the implementation of quality systems were studied in four aspects; top management commitment, people involvement and training, PRPs and infrastructure, and system measurement and continuous improvement. The findings were that all the four factors were paramount in the successful implementation of any quality system. The study also confirmed the last objective. The implementation of quality systems comes with a number of benefits such as improved customer confidence, prevention of food contamination, compliance with legislation, promoting company's image, motivating employees, reduction of operating costs and reducing product defects. The study recommended that tea handling warehouses should continue implementing quality systems more especially using the HACCP preventive approach being a food handling sector. More research can focus on other sectors, integrating systems and aligning warehouse design and layout to the control and management of food safety hazards.

CHAPTER ONE: INTRODUCTION

1.1Background of the Study

Many organizations have adopted quality standards developed by the International Organization for standardization (ISO) with the aim of ensuring that quality systems are implemented to enhance performance and customer satisfaction. The mission of ISO is to develop, promote and publish international standards for voluntary adoption. Its mandate is to promote the development of international standards to facilitate exchange of goods and services worldwide (Bon & Mustafa, 2013). Senol and Suleyman (2010) pointed out three main characteristics of quality systems as process based, system based, and verifiable through records and documents.

Quality emerged as an important issue in operations management in the 1950's. 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 system. The theoretical framework for quality systems is grounded in the works of a quality guru Edward Deming. Some of the applicable theories are the systems and customer satisfaction theories. The systems theory offers a framework to describe and analyze groups of objects while the customers' satisfaction theory relates input and output relative to the expectation of the consumer (Cole & Scott, 2000). 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 (Terziovski, Samson, & Dow, 1997).

According to Liao, Chen, & Yen (2007), the quality system that is relevant and applicable to food handling and manufacturing is the ISO 22000: 2005. The HACCP based approach covers requirements of the food chain. ISO 9001: 2008 is a generic standard that can be implemented in any business organization. Other standards that are cross sectional relate to environmental and workplace occupational safety, ISO 14000 and OHSAS respectively. Very specific sector certifications are UTZ and Rain Forest Alliance. The adoption of quality systems has experienced rapid growth in the Kenyan tea sector, ever since it was realized that the attainment of quality standards is of strategic importance in the marketing of the tea product. Tea handling warehouses are distribution centers in the tea value chain (Kariuki, 2012).

1.1.1 Quality Systems

Implementation of a quality system is expected to provide benefits to the organization implementing it, its customers and employees. According to McAdam (1999), there are many benefits that can accrue from quality systems that include system efficiency, customer satisfaction, morale of workmen, reduced complaints and costs, and reduced time for finishing tasks. Quality has been described as the "single most important force leading to economic growth of companies in the international markets". ISO quality systems provide tools for tackling many of today's global challenges from general business management to improving the safety of the food we consume (Hagen, 2008).

ISO 9001:2008 addresses customer satisfaction and applicable regulatory requirements. Effective quality systems assist organizations to enhance the realization of the critical

objective of customer satisfaction (Ndanga, 2013). Organizations that have implemented quality systems strive to satisfy not only their immediate customers but the entire range of stakeholders (Hoyle, 2009). A quality system in an industry, as observed by Riisgaad (2008), is "a formal statement of an organization's business policy, management responsibilities, processes and their controls, that reflect the most effective and efficient ways to meet (or exceed) the expectations of those it serves, whilst achieving its own prime business objectives".

According to Okwiri and Mbeche (2013), quality systems provide a valuable business capability assessment tool that is applicable globally and is in itself a framework for the management of organizations. Certification to ISO quality standards which is globally acknowledged is considered as an order qualifier rather than order winners by many organizations in the increasingly competitive global business market. To remain competitive, many organizations including those involved in warehouse distribution logistics are compelled not only to change their old operational and management systems, but also to develop or adopt the ISO quality systems very often associated with the ISO 9000 series (Rohitrahana & Boon itt, 2001).

1.1.2 Food Safety Management Systems

According to Carter and Rogers (2008), ISO 22000 is a derivative of ISO 9000 and is applicable to the food sector requirements. There is a global effort to standardize food safety procedures through the Global Food Safety Initiative - GFSI (Chountalas, Tsarouchas, & Lagodimos, 2009). ISO 22000:2005 specifies requirements for food safety

management system where an organization in the food chain needs to demonstrate its ability to control food safety hazards in order to ensure that food is safe at the time of human consumption (Richard, 2004). A food safety management system aims to assure that there are no weak links in the food supply chain, and one of its important elements is the systems approach based on ISO 9001 quality management system (QMS) principles (Bertolini,, Rizzi, & Bevilacqua, 2007).

FSMA is touted as the recent US food legislation that mainly calls for a shift from reactive mode of detecting and intervening on food safety problems to proactive mode of preventing them, and outlines the regulator's modus operandi in achieving this (FDA, 2011). Since the genesis of the act is mainly attributed to the recent upsurge in food safety outbreaks, a greater focus is given to the development, maintenance and improvement of PRPs as PRPs are the foundation of a food safety program. The establishment of such risk based preventive controls by various quality practitioners should, in turn, contribute to a facility's compliance with FSMA requirements (Chauntalas et al., 2009).

The best available food safety system is Hazard Analysis Critical Control Points (HACCP) – a prevention-based "quality management system for effectively ensuring food safety throughout the entire value chain by controlling microbial, chemical and physical hazards associated with food" (Leveson, Dulac, Marais, & Carroll, 2009). HACCP focus on how individual processing steps can also increase participation in quality control to the entire handling processes, as advocated by a systems approach such as TQM (Total Quality Management). HACCP principles can be extended to cover non safety quality attributes,

such as economic adulteration, and are often a step toward broader systems such as ISO 9000 (Sodano, 2006).

A HACCP based food safety has a three-level safety control mechanism from the PRPs, Operational prerequisite programs (oPRPs), and HACCP plan. PRPs define all basic conditions and activities that are required to maintain a hygienic environment throughout the food chain. They are the control measures covering the design and basic operations of all infrastructure deployed. PRPs may control serious hazards and fully complement safety control at operational level. Operational safety control with significant impact on the product and production process are managed by the oPRPs and the HACCP (Fraser, Mabee, & Figge, 2005).

The systematic adoption and use of these systems, including Good Agricultural Practices (GAPs), Good Manufacturing Practices (GMPs), Good Hygienic Practices (GHPs) and HACCP have contributed to the development of the farm to table approach. These approaches are now recognized as the most effective way to achieve maximum consumer protection. This is done by ensuring that regulatory and non-regulatory measures are applied at the most critical control points in the food chain, from primary production through distribution to consumers (Kheradia, & Warriner, 2013).

1.1.3 Tea Handling Warehouses in Mombasa

According to Kariuki (2012), Agriculture accounts for about 24% of Kenya's GDP and offers employment to two thirds of the Kenyan population. Tea is a major cash crop in

Kenya. The tea industry is ranked as the highest foreign exchange earner for the country, ahead of diaspora remittance, tourism and horticulture. The Tea Board of Kenya (TBK) is the apex body of the tea industry as established by the Tea Act (Cap 343) of the laws of Kenya. The tea industry in Kenya operates under the Ministry of Agriculture for technical and policy guidance. The tea trade stakeholders are largely based in Mombasa County which is seen as the hub of the tea trade activities by virtue of the location of the tea auction and proximity to the port of Mombasa (TBK, 2014).

The Kenyan tea industry export earnings amounted to Ksh 114 Billion in the year 2013 compared to Kshs 112 Billion in 2012 which is a slight increase given the depressed world prices due to oversupply (TBK 2014). The trade is largely organized in the categories of producers, Brokers, Packers, Buyers/Exporters and Warehousemen and is grouped as EATTA members. Other key players and stakeholders include the Government regulatory Agencies that include TBK, TRFK, KEPHIS, KRA and KPA. The tea industry has many players who have organized themselves in various related groups depending on the type of services offered to the industry. This include tea broking, buying and exporting, warehousing and related logistics. These groups have gone further to form a mutual association under the auspices of East Africa Tea Trade Association (EATTA) which is tasked with the responsibility to coordinate member's mutual activities and deal with all common external interest (EATTA, 2010).

TBK is the licensing and regulatory body for all the tea players in the industry. It also has the task of marketing the product and maintaining product movement statistic from production to markets. The tea producers are grouped under the large scale and small scale producers. The large scale consisting mainly of multinationals operate under the Kenya Tea Grower Association (KTGA). The small scale tea farmers in Kenya are over 600,000 and are managed by Kenya Tea Development Agency (KTDA) Ltd. KTDA coordinates the production, logistics and marketing of tea produced by small scale growers. Tea sales are either through the auction or direct private sales (TBK, 2014).

According to Changwony (2012), tea warehousing operators are the leading stakeholders in the Tea value chain as they constitute distribution centers that handle the tea product just before final release to the global market. The integrity of raw materials from suppliers and the reputation of a manufacturer or product distributor cannot be left to chance. Food storage is an important link from the farm to final consumption. It is important to maintain hygiene at warehouses to prevent warehouse hazards like viruses, pests and chemical leaks (Fraser et al., 2005).

Warehouses are focal points for product and information flow between sources of supply and beneficiaries. A warehouse in most cases is viewed as a large wholesale shop. Warehousing is today seen as distribution centers and not places to store goods. In terms of cost, they represent approximately 20 per cent of total logistics costs, whilst in terms of service they are critical to the achievement of customer service levels. As distribution

centers, they are often the final point in the supply chain for order assembly, value added services and dispatch to the customer (Akintola, Adetunmbi, & Adeola, 2011).

1.2 Research Problem

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, regulations of the Occupational Safety and Health Administration (OSHA), environmental management standards, and the Committee of Sponsoring Organizations of the Tread way Commission (Bartolini et al., 2007).

These standards are lists of design rules that guide the creation of entire classes of quality systems. They constitute a new management technology that may bring meaningful standardization to general management practice (Hagen, 2008). All parties along the food chain must ensure and guarantee the requisite requirements by ensuring sound hygiene and prevention or control of any possible hazards which are harmful to humans (Carter & Rogers, 2008). Greater responsibility is with both producers and distributors in safeguarding food safety (Terziovski et al., 1997).

Tea handling warehouses are strategically located in Mombasa County because of the Mombasa tea auction and the port. Mombasa tea auction is the second largest of the eleven

world tea auctions, behind Sri Lanka and the largest CTC tea outlet. Of the tea sold at the Mombasa auction, about 72% is Kenya, 16 % Uganda with the rest originating from the other East and Central African Countries (Owuor, Wachira, & Ng'etich, 2010). Given the growing importance of the Mombasa tea auction in the global tea supply chain, Producers from as far as New Guinea and Indonesia have expressed their wish to join the East Africa Tea Trade Association for participation at the Mombasa auction. Mombasa is now the only auction center in the world trading in straight-line teas from more than one country. Quantities have grown by over 300 percent in the last 20 years (Gujar & Yan, 2010).

Several studies focusing on quality systems have been undertaken by different scholars in the recent past. In one study, Rohitrahana and Boon-itt (2001) undertook a study on quality standards implementation in the Thai sea food processing industry. They found that, sea food companies obtained at least one quality standard, either ISO 9000 or HACCP, or both. Related studies on the implementation of quality systems have been carried out in Kenya. Muasya (2013), researched on the influence of top management involvement and support in the implementation of quality systems in an organization. Kigotho (2012), studied on employee related factors influencing their perception on implementation of quality systems. Another study by Kamau (2012), focused on factors influencing the implementation of quality systems in the flower industry.

A critical look at these studies reveals that there has been great emphasis on the various aspects of quality management systems as an integral aspect in the management of

organization in the improvement of performance and competitiveness. The researcher is not aware of any study that focuses on the factors affecting the implementation of quality systems in tea handling warehouses in Mombasa County in Kenya. More importantly, tea is food and food safety requirements constitute an important aspect in meeting and exceeding customer requirements in the global market place.

An understanding of the critical factors affecting the implementation will contribute to the establishment of quality systems that will ensure improved tea handling standards for the global market. Tea handling warehouse are an important link in the tea value chain. This study therefore seeks to establish to what extent have quality systems been implemented by tea handling warehouses in Mombasa County? The study also seeks to determine what factors are affecting the implementation of quality systems by the tea handling warehouses in Mombasa County? Finally, this study seeks to determine what are the benefits of implementing quality systems by the tea handling warehouses in Mombasa County?

1.3 Research Objectives

i) To establish the extent to which quality systems have been implemented by tea handling warehouses in Mombasa County.
ii) To determine the factors that affect quality systems implementation by tea handling warehouses in Mombasa County.
iii) To determine the benefits of implementing quality systems by tea handling warehouses in Mombasa County.

1.4 Value of the Study

This study is useful to quality practitioners as it has investigated the factors affecting quality systems implementation and therefore offers a guideline to successful quality system implementation. The research findings are also useful to Warehousemen in instituting improved tea product handling thereby safeguarding product safety and integrity. This will in the long run assist grow the competiveness of Kenyan tea in the world market.

For scholars, this descriptive research provides a basis for future research on key requirements of warehouse design and layout in conformity to quality standards requirements.

Food sector quality systems emphasize on a proactive preventive approach that focuses on effective PRPs implementation. The entire value chain must actively ensure that hazards are identified and effectively controlled. This study emphasizes on the critical role of systems where each and every part must be coordinated for the optimal good of the whole system.

With focus on tea handling warehouses, this study is useful to government agencies in formulating basic hygiene standards that must be adhered to by food handling organization and product traceability mechanism in the event of product recalls. Quality systems require specialized post-harvest skills for food handling environments. Education curriculums can derive useful inputs from this study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents literature information on the study topic in line with research objectives. A theoretical review is provided on the factors affecting the implementation of quality systems in the tea handling warehouses, a key distribution center in the tea value chain. Challenges of implementing quality systems and an empirical review of related studies is also discussed.

2.2 Theoretical Foundation of the Study

Increasingly, organizations are recognizing the strategic importance of quality and quality management. This has led to the belief that effective quality management can enhance their market performance. One of the strongest proponents of quality management is W. Edwards Deming, who is credited with contributing to the rapid revitalization of the Japanese economy after World War II. The Deming management method is currently embraced by many firms in the United States and around the world (Kanji, 1998). Its widespread popularity appears to stem from numerous case studies attributing organizational turnaround to the influence of the Deming management method (Rungtusanatham, Forza, Filippini, & Anderson, 1998). There are however various theories on this study as outlined below.

2.2.1 Systems Theory

Systems theory offers frameworks to describe and analyze groups of objects. It was proposed by Biologist Ludwig Von Bertalanffy in 1928. He believed that there were two types of systems; closed and open systems (ZurMuehlen, 2004). Quality management systems are anchored on the systems approach whereby any part of the organization has some effect on the activity of every other part of the organization. The principal duty of quality systems is to connect each and every part and establish the overall good for the organization. Therefore, even though departments may appear different, seemly function differently, they should all operate in unity for the common good of the overall organization to obtain the optimal goal (Oakland, 2003).

Dubois (1980) believes that social systems such as organizations are always open systems. The major characteristics of an open system are that they receive inputs from their environment which they convert into outputs and discharge into the environment. The inputs may be people, materials and finances which are converted through human skills and equipment into products and released to consumers. All the components of a system are important as they are necessary to make the system whole and a weakness or change in one component causes some effect on other parts and the system as a whole. An organizational system is consciously established to achieve certain objectives.

ZurMuehlen (2004), observes that the system theory acknowledges the important role of employees as well as other organizational variables. Quality systems approach advocates

for the system approach to management among other things. In this study the system has an input in the form of the quality standards which undergo conversion through implementation of the quality standard with the output as the quality system. The system implementation is however influenced by other variables in the environment which in this case are factors like management commitment, people involvement and training, resources and infrastructure and other moderating variables like customized customer requirements. ISO 22000:2005 requirements for any organization in the food chain aims to assure that there are no weak links in the food supply chain and one of its important elements is the systems approach. The system thinking relates to the holistic quality systems approach featured in the risk – based preventive controls of the entire food chain (Christensen, 2013). In a related study, Malechwanzi (2013) used the systems theory to relate the influence of ISO 9001:2008 on academic performance.

2.2.2 Customer Satisfaction Theory

The marketing and consumer behavior literature has traditionally suggested that customer satisfaction is a relative concept, and is always judged in relation to a standard (Bruhn & Grund, 2000). According to the Equity Theory, satisfaction exists when consumers perceive their output/input ratio as being fair. According to this theory, parties to an exchange will feel equitably treated (thus, satisfied), if in their minds, the ratio of their outcomes to inputs is fair. Whether a person feels equitably treated or not may depend on various factors including the price paid, the benefits, the time and effort expended during the transaction and the expectations (Liao et al., 2007).

The input in all quality systems are the customer requirements which are processed internally as dictated by factors affecting the implementation of the quality system to produce customer satisfaction. Quality systems culture is about getting it right first time and always. Systems realize growth through continual improvement and are aimed at better customer satisfaction. It is considered that customers judge products on a limited set of norms and attributes (Liao et al., 2007). Equity disconfirmation has been supported empirically, though it applies primarily to social interactions (Oliver & Swan, 1989). The very essence of quality systems is customer satisfaction (Holyle, 2009).

2.3 Critical Factors Affecting Quality Systems Implementation

According Taylor and Wright (2003), a combination of factors will determine the success or failure in the establishment and failure of quality systems in an organization. The leading key factors are; team leaders' involvement and top management commitment, the level of quality systems awareness across all levels of the organization, people involvement and top –down training, the degree of resistance from employees, and system measurement and continual improvement. The implementation of quality systems is not an event but an iterative process that requires dedication. Kheradia and Warriner (2013), recognizes that PRPs and infrastructure have a strong effect on the implementation of food safety systems. Other relevant factors are organization culture, resources, and customer orientation.

2.3.1 Policy and Management Commitment

Top and senior management play a leading role in the establishment, implementation, and maintenance of quality management systems. Leaders show the way, and provide the needed resources and a conducive environment for the quality systems culture to manifest. No system can succeed without the active participation and involvement of top management of the organization. Leaders establish unity of purpose and direction in organizations. They create an environment in which people can become fully involved in achieving organization's objectives (Crosby, 1985).

Top management provide the range of required resources and support infrastructure, perform system planning, create an enabling environment for system implementation, develop quality policies, objectives and work procedures. Management also lead and facilitate staff training, awareness, lead both internal and external communication, and conduct management review meetings system improvement. Management take a leading role in system planning and management control besides provision of resources (Dale, Wu, Zairi, Williams, & Van Der Wiele, 2001).

2.3.2 Leaders Involvement and Training

Effective implementation of quality standards places more emphasis on behavioral or organizational issues, such as leadership, empowerment, and people involvement. The heart of quality systems establishment, implementation and maintenance is the people as the practices involve extensive use of procedures, tools and techniques in solving quality

problems and improving product and service quality to satisfy customers' needs and expectations. People involvement in system implementation increases information sharing which in turn improves the decision making process, and greatly enhances employee motivation and participation. People involvement facilitates multi-disciplinary solutions to management problems (Dale et al., 2001).

According to Barasa (2007), quality systems require that all key staff should be trained in problem solving techniques, process dynamics and communication skills. A trained worker is a better informed worker who will improve on quality. Training increases the level of performance and productivity. Training helps workers implement new technique that requires new skills. Training addresses a performance gaps at the work place. Training reduces waste and improves on quality. It reduces accidents and makes workers multitasked hence making them a cushion for the organization in case of staff separations.

Mangal (2009), emphasizes that training improves performance of the learner. Accountability on performance of designated personnel is important and period reports should be submitted to line supervisors for evaluation of performance. This helps in capacity building and identification of training needs. Well defined decision procedures which are effective, acceptable and timely have to be made by the management system and communicated for implementation. Personnel should have enough resources in terms of funding, time and tools to perform as expected. People empowerment is critical for successful system implementation.

2.3.3 PRPs and Infrastructure

The key to quality systems in a food handling environment is ensuring high hygiene standards to safeguard product integrity. Hazards must be controlled by any means possible. The most important example of the application of a mandatory quality control system is the adoption of the HACCP approach to assuring food safety. Its use has increased rapidly in the 1990s with significant mandatory requirements in place in the US, Canada, Australia, and the European Union (Kheradia & Warriner, 2013).

HACCP as a system, is based on seven general principles. These principles focus on identifying human health hazards that may arise in food production, processing, or distribution; establishing critical control points (CCP) for each of these hazards; instituting preventative measures to be taken at each CCP to keep hazards within required limits; establishing monitoring procedures and clear actions to be taken in the case of a violation of the critical limit at each CCP; keeping records of all activities that influence the safety of the product; and continually validating and updating the system (Bartolini et al., 2007).

2.3.4 Measurement and Continual Improvement

Quality systems are implemented through standards, which most often define a process to be undertaken by a company to assure quality on an ongoing basis. They require periodic validation and verification by an unbiased third party that certifies the company is in compliance with the system requirements. For mandatory programs, the unbiased third party is an enforcement agency of government. For voluntary programs, the third party is a private agent or company. This may also take the option of internal audits by duly trained

parties to keep the system in check. Internal auditors do not audit own process. Verification of quasi voluntary systems is often controlled by an industry group or a particular customer as a certification body or regulator (Sodano, 2006).

Continual Improvement principle involves constantly refining processes that enables an organization to become more efficient. The true realization of world class status is facilitated by incremental improvements. Firms need to focus on their long term goals by continuously improving their processes. Quality systems emphasize on continuous improvement of processes by requiring that management should improve the effectiveness of the system through the use of quality policies, quality objectives, audit results, data analysis, corrective and preventive actions and management review system appraisal aimed at continual improvement (Hoyle, 2009).

2.4 Challenges of Implementing Quality Systems

Organizations incur significant costs to obtain quality systems certification. Customer requirements which in essence drive the management of organizations, have become increasingly complex and highly dynamic. Individual tastes and preferences are ever changing. Quality systems implementation provides impetus to the scanning and analysis of customer requirements, clear mapping of processes including the process interaction steps that contribute to the quality of products and services (Gotzameni & Tsiotran, 2001). Training on quality standards has been linked with direct benefits like, reduction of complaints from customers, reduction in cost of the products, reduction of production time,

increased system efficiency, increased morale of workmen and increased customer satisfaction(Dale et al., 2001).

According to Hoyle (2009), there are barriers to effective implementation of quality systems. Besides iterative volumes of written documentation required, there is a problem in understanding the ISO quality standards terminology, as the requirements of the standard are too general and near vague. He proposes that the ISO global organization should prepare a guide both for the firms and for the certification bodies and auditors in order to apply quality standards more effectively. Communication to both internal and external customers must also be well coordinated by quality system leaders as a key stakeholder requirement for wide acceptance.

Today the majority of food products meet consumer expectations. However, there are still cases of reported consumer related food incidents. For those organizations involved in any reported incident, it can mean costly product recalls, market withdrawals or safety alerts. Some food related incidents harm consumers. According to the US center for Disease Control and Prevention (DCP), about 48 million people (1-in -6 Americans) get sick annually; and of this 128000 are hospitalized, where about 3000 die due to food related diseases. This is a significant public health burden which can be prevented. According the UK Health Protection Agency, one million cases of food related illnesses are reported in UK yearly. Of this, more than 20000 are hospitalized with around 500 deaths (ASQ, 2007).

2.5 Empirical Review

A number of related studies touching on factors influencing the implementation of quality systems have been undertaken. In one study, Rohitrahana and Boon-itt (2001) studied quality standards implementation in Thai seafood processing industry. The purpose was to describe the current situation in ISO 9000 implementation, the characteristics, strength, weaknesses, and problems of implementing a quality system. The findings were that about 94 % of companies had obtained at least one quality standard. HACCP was preferred to ISO 9000 because HACCP is directly responsible for the quality of the food itself. The study concluded that integrating the two systems was preferred.

In Kenya, Muasya (2013) researched on the influence of management on implementation of total quality management in an organization; a case of Rai plywood (K) Limited, Eldoret, Kenya. He sought to analyze the effect of management commitment in total quality systems implementation at Rai plywood in Uasin Gishu County. The specific objectives were the influence of planning, the role of management control, and the influence of staffing on the implementation of total quality systems at Rai plywood. The findings were that top management commitment determined the success of quality systems implementation. The study also concluded that factors like people involvement and training play a critical role in quality systems implementation.

In another study by Kigotho (2012), employee related factors influencing their perception on implementation of quality management system at Nairobi City Water and Sewage

Company (NCWSC) was investigated. The objectives of the study were to investigate how demographic characteristics, the extent to which training, the level to which job status, and the level of motivation of employees influences their perception on the implementation of QMS at NCWSC. The conclusions were that some of the demographic characteristics like age and academic qualifications influence perception. It is important to encourage employees to improve on their academic qualifications. Attending training and level of motivation also influence perception of employees thus making motivation an important consideration for the employer.

Kamau (2012), carried out a study on factors influencing implementation of quality standards (Kaizen) in flower industry with specific focus on Kariki Limited in Kiambu County. This study sought to establish the factors that influence the implementation of the Kaizen standard in the flower industry using Kariki Limited as a case study. The objectives of the study were to establish if training of workers on Kaizen requirements, management commitment and support, the level of education of workers, and team work among the workers had any effect on the implementation of the Kaizen quality standard. The research established that team work across all cadres of staff played a critical role while education level of the workers had little influence on the implementation of the Kaizen standard.

Food safety and assurance of safe handling along the supply chain is of critical importance. This objective can only be realized through the implementation of quality systems. The researcher is not aware any study in Kenya that has investigated factors affecting the

implementation of quality systems in tea handling warehouses. Tea exports have a substantial contribution to the stability of the Kenyan economy.

2.6 Summary of Literature Review

From the literature reviewed, a combination of factors have an effect on the implementation of quality systems. Quality systems are people driven. The direct involvement of top management in quality systems awareness, policy formulation and allocation of resources required, play a vital role. Quality systems are about continuous improvement. This is facilitated by training the staff and rallying employees to appreciate system culture that is sustainable (Richards, 2004).

The main threat to systems is the cash outlay cost of investment required. An overview of the literature on critical factors affecting the implementation of quality systems show that team leaders' involvement and leading to top-down training, policy and management support, the level of systems awareness, the level of cooperation among departments, and the degree of resistance from employees are critical factors affecting the quality systems implementation (Hoyle, 2009).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the methodology that was employed in the research project. It provides an insight into the research design, target population, data collection methods and data analysis techniques that were used in the study. This chapter also explains methods and tools that have been employed to present data for analysis in order to ensure proper and maximum information related to the subject under study.

3.2 Research Design

Descriptive research design was used. The descriptive research was devoted to the gathering of information about prevailing conditions or situations for the purpose of description and interpretation (Creswell, 2013). The study was undertaken through a census survey research to determine, establish and attempt to evaluate factors affecting the implementation of quality systems by the tea handling warehouses in Mombasa County. This design was appropriate since the context did not change over the period of the study and there were no variables that could be manipulated.

3.3 Population of the Study

The population of the study was all the 29 EATTA member tea handling warehouse sites within Mombasa (Appendix 3). Since this population was small, data was obtained from the entire population hence making this a census study.

3.4 Data Collection

The study used primary data that was collected using a structured questionnaire that was administered using drop and pick method. The questionnaire had three sections. Section A captured general background information that established the extent to which quality systems have been implemented. Section B sought to determine the factors affecting quality system implementation, while section C determined the benefits of implementing quality systems by tea handling warehouses. There was one respondent per warehouse site. The respondents were warehousemen in charge of warehouse operations.

3.5 Data Analysis

The completed questionnaires were checked for accuracy, consistency and completeness. Each of the variables was allocated points on a one to five scale. These points were used to measure the importance the respondents attach to the variables. Data was analyzed based on the research questions and objectives. The data was presented using tables which were used to summarize responses for further analysis and facilitate comparison. Data was analyzed by use of quantitative data analysis procedures.

Quantitative data on the range of factors affecting quality systems implementation was analyzed using descriptive statistics such as distribution tables, frequencies and percentages. The mean of the points was computed by adding all the points and dividing by the number of questions while the standard deviation was computed to reflect the deviation from the average mean.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

The chapter presents the findings, analysis, interpretation and discussion of the study from the data collected. The study established the extent to which quality systems have been implemented, the factors affecting implementation, and the benefits of implementing quality systems by the tea handling warehouses in Mombasa County. This was a census study of 29 tea handling warehouse sites. Data analysis and report of findings were done using descriptive statistics in the form of tables, frequencies and percentages. The data was gathered exclusively from the questionnaire, as the research instrument, which was designed in line with the research objectives.

4.2 Response Rate

The study had a sample size of 29 respondents who are warehousemen in charge of managing the warehouse sites. The questionnaires were given out to the targeted 29 respondents. Only 24 questionnaires were collected back from the respondents. A total of 5 respondents were not available to fill the questionnaire. As a result, the study used a response rate of (24/29*100) 82.8% which is good for the study according to Creswell (2013).

4.3 Functional Position of Respondents

The researcher sought to establish the functional position held by the respondents. Table 4.1 shows responses given by respondents.

Table 4.1: Functional Position of Respondents

Functional position	Frequency	Percent
Supervisor	4	16.7
Warehouse Manager	9	37.5
Warehouse Officer	3	12.5
General manager	5	20.8
Quality assurance representative	3	12.5
Total	24	100.0

Source: Research data, (2014)

From the analysis, it is evident that all the respondents were warehousemen in top management or middle management. In this regard, it can be deduced that they have an impact in decision making and policy formulation in the management of tea handling warehouses.

4.4 Quality System Implementation and Certification

The researcher sought to establish which quality standard/guidelines have been implemented with the following findings; 54.17% (13) of the respondents indicated that ISO 22000:2005 has been implemented, 58.33 % (14) reported that ISO 9001:2005 has been implemented, a further 16.67% (4) reported that HACCP has been implemented, 4.17% (1) said ISO 14001:2004 has been implemented, 12.5% said OHSA18001 has been implemented while 16.67% (4) said none has been implemented. A similar trend emerged for quality system certification. The study established that 20 warehouse sites had at least a quality system implemented while 4 had no quality system implemented. Tables 4.2 and 4.3 detail the results.

Table 4.2: Quality Systems Implementation

Implementation	Frequency	Percent
SO 22000:2005	13	54.17
ISO 90I01: 2008	14	58.33
HACCP	4	16.67
ISO 14001: 2004	1	4.17
OHSAS: 18001	4	16.67
UTZ	0	0
BRC	0	0
IFS	0	0
SQF :2000	0	0
National Standards	0	0
Other	0	0
None	4	16.67

Source: Research data, (2014)

Table 4.3: Quality Systems Certification

Certification	Frequency	Percent
ISO 22000:2005	13	54.17
ISO 9001: 2008	14	58.33
HACCP	4	16.67
ISO 14001: 2004	1	4.17
OHSAS: 18001	4	16.67
UTZ	0	0
BRC	0	0
IFS	0	0
SQF :2000	0	0
National Standards	0	0
Other	1	4.17
None	4	16.670

Source: Research data, (2014)

4.4.1 Certification Period

Regarding on how long the company had been under certification from the time of obtaining the first quality standard certification, 50% of the respondents indicated 1-5 years while, 6-10 year period was 16.7%. However, 33.3% indicated that the company has not certified.

Table 4.4: Certification Period

Period certified	Frequency	Percent
1-5 Years	12	50
6-10 Years	4	16.70
Not certified	8	33.30
Total	24	100

Source: Research data, (2014)

4.4.2 Certification Cycle

The study sought to establish how many re-certification cycles the company has undergone since acquiring the initial quality standard certification. The results were that none was 37.5%, 1-3 cycles 58.3%, 4-6 cycles 4.2% as per Table 4.5.

Table 4.5: Certification Cycle

Certification cycles	Frequency	Percent
Non	9	37.50
1-3 cycles	14	58.3
4-6 cycles	1	4.2
Total		100
	24	

Source: Research data, (2014)

Asked whether food safety was considered as either a major priority, minor or not a priority, the responses were as below Table 4.6.

Table 4.6: Food Safety Priority

Food safety	Frequency	Percent
Major priority	22	91.70
Minor priority	2	8.30
Total	24	100

Source: Research data, (2014)

4.5 Factors Affecting System Implementation

Factors affecting the implementation of quality systems were studied in four aspects; top management commitment, people involvement and training, PRPs and infrastructure, and system measurement and continuous improvement.

4.5.1 Policy and Management Commitment

The respondents' opinions on top management commitment as shown in Table 4.7, 4.2% felt that top management commitment affected to no extent, 8.3% indicated little extent, and 20.8% said to moderate extent, 23.3% felt to a large extent while 43.3 % were convinced that system implementation is affected by top management commitment.

Table 4.7: Top Management Commitment Results

Responses	Frequency	Percent
No extent	1	4.2
Little extent	2	8.3
Moderate extent	5	20.8
Large extent	8	23.3
Very large extent	8	43.3
Total	24	100.0

Source: Research data, (2014)

The key areas where top management commitment were affecting system implementation include; communication of quality system requirements to stakeholders both internally and externally as shown by a mean score of 4.04 with a standard deviation of 0.806, top management should also ensure the availability of resources and the required infrastructure to support the system as shown by mean score of 3.46 with a standard deviation of 1.179, top management should conduct system management reviews, implement output, train staff, set system objectives, and update the system for the realization of company objectives as shown by a mean score of 3.46 with a standard deviation of 1.250, and management review and quality system awareness meetings are routinely held with full participation of senior managers as shown by mean score of 3.79 with a standard deviation of 1.062. The mean score attained by these aspects are more than 3.00 which is the maximum average implying that the aspects of top management commitment and support are paramount to successful implementation of quality systems. Findings as per Table 4.8.

Table 4.8: Top Management Commitment Analysis

Policy and management commitment	Mean	Std. Deviation
Internal and external quality system requirements are communicated by top management and the quality system leader L	4.04	.806
Top management has ensured the availability of resources and infrastructure required by the system.	3.46	1.179
Management review and quality system awareness meetings are routinely held with full participation of senior managers	3.79	1.062
Management review output and, staff trainings and updating of system objectives have shaped the realization of the company's strategic goals and competiveness	3.46	1.250

Source: Research data, (2014)

4.5.2 People Involvement and Training

The researcher sought to determine the opinion on Leadership involvement and training based on the research statements. According to Table 4.9,12.5 % felt that system implementation is affected by leadership involvement and training to no extent, 12.5% said little extent, 20.8% said to moderate extent, 16.7% said to a large extent while 37.5 % said that system implementation is affected by leadership involvement and training.

Table 4.9: People Involvement Results

Responses	Frequency	Percent
No extent	3	12.5
Little extent	3	12.5
Moderate extent	5	20.8
Large extent	4	16.7
Very large extent	9	37.5
Total	24	100.0

Source: Research data, (2014)

The respondents were in agreement that people involvement and training affects quality system implementation to a large extent. The respondents agreed that the quality system is coordinated and led by employees who are continually trained and contribute in key decision making, first line employees receive quality system training, the organization has identified the necessary competencies for personnel whose activities have an impact on quality system, the staff training annual calendar comprehensively covers quality system requirements and the quality system has put a training program into practice. These aspects scored mean score of 3.79 with a standard deviation of 1.062, 3.46 with a standard deviation of 1.250, 3.83 with a standard deviation of 1.090, 3.79 with a standard deviation of 1.474, and 4.71 with a standard deviation of 1.690 respectively. The highest score was that, quality systems have put training programs into practice as shown in Table 4.10.

Table 4.10: People Involvement and Training Analysis

Leadership involvement and training	Mean	Std. Deviation
The quality system is coordinated and led by employees who are continually trained and contribute in key decision making.	3.79	1.062
First line employees receive quality system training	3.46	1.250
The organization has identified the necessary competencies for personnel whose activities have an impact on quality system	3.83	1.090
The staff training annual calendar comprehensively covers quality system requirements	3.79	1.474
The quality system has put a training program into practice	4.71	.690

Source: Research data, (2014)

4.5.3 PRPs and Infrastructure

In the study, respondents' opinion were sought on effect of PRPs and infrastructure on the implementation of quality systems in food handling organizations. According to Table 4.11, 4.2 % the response was that system implementation is affected by PRPs and infrastructure to no extent, 12.5% said little extent, and 12.5% said to moderate extent, 33.3% said to a large extent while 37.5 % said that system implementation is affected by PRPs and Infrastructure.

Table 4.11: PRPs and Infrastructure Results

Responses	Frequency	Percent
No extent	1	4.2
Little extent	3	12.5
Moderate extent	3	12.5
Large extent	8	33.3
Very large extent	9	37.5
Total	24	100.0

Source: Research data, (2014)

Respondents were in agreement that tea handling warehouses, have established and applied traceability mechanisms that enables the identification of all handled tea lots to the extent of 4.75 mean score with a standard deviation of 0.442, emergency situations procedures have been established and are routinely tested to establish the effectiveness to the extent of a mean score of 3.88 with a standard deviation of 0.741, all reasonably possible hazards likely to affect the handling of tea have been identified and control measures assessed to the extent of 4.08 mean score with a standard deviation of 0.654, a hygiene regime covering personnel and the premises is enforced as top priority to the extent of 4.04 mean score with a standard deviation of 0.751, and employees working in rework areas are subjected to routine medical certification by the County public health to the extent of 3.79 mean score with a standard deviation of 1.474. Product traceability mechanisms scored highest as analyzed in Table 4.12.

Table 4.12: PRPs and Infrastructure Analysis

PRPs and Infrastructure	Mean	Std. Deviation
The organization has established and applied a traceability that enables the identification of all handled tea lots	4.75	.442
Emergency situations procedures have been established and are routinely tested to establish the effectiveness.	3.88	.741
All reasonably possible hazards likely to affect the handling of tea have been identified and control measures assessed	4.08	.654
A hygiene regime covering personnel and the premises is enforced as top priority.	4.04	.751
Employees working in rework areas are subjected to routine medical certification by the county public health.	3.79	1.474

Source: Research data, (2014)

4.5.4 Measurement and Continual Improvement

Respondents were also required to provide opinion on measurement and continual improvement on the research statements. The responses were as captured in Table 4.13, where 4.2 % felt that system implementation is affected by system measurement and continual improvement to no extent, 12.5% said little extent, 12.5% said to moderate extent, 33.3% said to a large extent while 37.5 % said that system implementation is affected by system measurement and continual improvement.

Table 4.13: Measurement and Improvement Results

Responses	Frequency	Percent
No extent	1	4.2
Little extent	2	8.3
Moderate extent	4	16.7
Large extent	8	33.3
Very large extent	9	37.5
Total	24	100.0

Source: Research data, (2014)

The respondents agreed that measurement and continual improvement affects the implementation of quality systems. Internal auditing is continuous in all divisions to the extent of 4.25 mean score, the quality system carries out planned internal audits to check conformance to the extent of 3.83 mean score, second party audits on quality systems are sometimes carried out to the extent of 3.46 mean score and certification and surveillance audits are carried out at planned intervals by the certification body to the extent of 3.79 mean score. Table 4.14 contains details.

Table 4.14: Measurement and Improvement Analysis

Statements	Mean	Std. Deviation
Internal auditing is continuous in all divisions	4.25	.608
The quality system carries out planned internal audits to check conformance	3.83	1.090
Second party audits on the quality systems are sometimes carried out	3.46	1.179
Certification and surveillance audits are carried out at planned intervals by the certification body	3.79	1.062

Source: Research data, (2014)

4.6 Benefits of Quality Systems

The researcher sought to determine the benefits of implementing quality systems by the tea handling warehouses in Mombasa County. The researcher established that quality system implementation comes with a number of benefits such as improved customer confidence, prevention of food contamination, compliance with legislation, promoting company's image, motivating employees, reducing operation cost and reducing product defects as shown by a mean score of 4.71 with a standard deviation of 0.690, 4.75 with a standard deviation of 0.442, 3.88 with a standard deviation of 0.741, 4.08 with a standard deviation of 0.654, 4.04 with a standard deviation of 0.751, 4.21 with a standard deviation of 0.588, and 4.25 with a standard deviation of 0.608 for each of the benefits respectively. Details of the findings analysis are as captured under Table 4.15.

Table 4.15: Benefits of Quality Systems Implementation Analysis

Benefits of quality systems implementation	Mean	Std. Deviation	Ranking
Prevent food contamination	4.75	.442	1
Improved customer confidence in the safety and quality of products hence protect our market share	4.71	.690	2
Products defects have reduced with implementation of the system	4.25	.608	3
Quality system have reduced operation cost	4.21	.588	4
Quality system implementation has assisted to promote the image of the company	4.08	.654	5
Motivates employees	4.04	.751	6
Ensures compliance with legislation	3.88	.741	7

Source: Research data, (2014)

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presented the summary of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on addressing the purpose of this study which was to analyze the factors affecting quality system implementation in tea handling warehouses in Mombasa County. From the analysis and data collected, the following summary, conclusions and recommendations were made.

5.2 Summary

5.2.1 Quality Systems Implementation

On the extent to which quality systems have been implemented by the tea handling warehouses in Mombasa County, the study established that 20 warehouse sites had at least a quality system implemented while 4 had no quality system implemented. The same trend was established on quality systems certifications. It was further established that , 50% (12) of the respondents indicated that their companies are both ISO 22000:2005 and ISO 9001:2008 certified while 12.5% of the respondents said that they are ISO 22000: 2005, ISO 9001:2008 and HACCP certified. This implies that ISO 22000:2005 and ISO 9001:2008 being sector and entry certifications are the preferred quality systems by the tea handling warehouses.

5.2.2 Factors Affecting Quality System Implementation

The study sought to determine respondents' opinion on factors affecting the implementation of quality systems in tea handling warehouses. Factors affecting the implementation of quality systems were studied in four aspects; top management commitment, people involvement and training, PRPs and infrastructure, and system measurement and continuous improvement.

On top management commitment and support, the researcher sought the opinion of respondents on key areas that have fundamental effect to the implementation of quality systems. The findings were that top management handle communication to both internal and external stakeholders on quality system requirements and general system awareness. Respondents also confirmed that resources and the required infrastructure have been adequately provided by top management. It was determined that top management routinely convene management review meetings and make follow up on the output to ensure that the quality system conforms to all requirements. The respondents were in agreement that top management have ensured that system objectives have been established and are continually monitored and that the systems are regularly updated in line with any changes that are likely occur with impact on the system.

The respondents indicated that leadership involvement and training affects quality system implementation to a large extent. The respondents agreed that the quality system is coordinated and led by employees who are continually trained and contribute in key

decision making, first line employees receive quality system training, the organization has identified the necessary competencies for personnel whose activities have an impact on quality system, the staff training annual calendar comprehensively covers quality system requirements and the quality system has put a training program into practice for continual capacity building.

The researcher, similarly sought to determine if PRPs and the required infrastructure for food handling environments have been established. Respondents were in agreement that robust product traceability mechanisms have been implemented to ensure that in the event of recall, the tea handling warehouses are well equipped for precise tracing and identity of their tea lots. It was also established that mechanisms for emergency preparedness are in place. Respondents confirmed that all reasonably possible hazards likely to affect the product have been identified, analyzed and control mechanisms put in place to ensure the product safety and integrity. They also confirmed that strict hygiene regimes covering personnel and premises have been put in place. It was also agreed that employees deployed to perform their duties at rework areas are duly certified food handlers by the County public health office.

The respondents agreed that measurement and continual improvement affects the implementation of quality system. System from internal, second party and certification audits are routinely carried to asses conformance levels. Other system measurement activities like management review meetings, setting and monitoring objectives, and calibration of measuring equipment were also confirmed to be in place. The quality

systems are regularly updated to meet changing requirements for continual conformance and improvement.

5.2.3 Benefits of Quality Systems

The study also deduced that implementation of quality system comes with a number of benefits that include improved customer confidence in the safety and quality of products, prevention of food contamination, ensures compliance with legislation, promotes company's image, motivates employees, increases operation efficiencies, helps reducing operations costs, and reduces product defects.

5.3 Conclusions

The primary aim of this study was to determine factors affecting the implementation of quality systems in tea handling warehouses in Mombasa County.

The first objective was to establish the extent to which quality systems have been implemented by tea handling warehouses in Mombasa County. The study concluded that the tea handling warehouses have implemented quality systems with up to 83.33 % of the tea handling warehouses found to have implemented quality systems and were duly certified by the respective certification bodies, a confirmation that these warehouses conform to the criteria of the various quality systems. Only 16.67 % of the tea handling warehouses had not implemented quality systems.

This findings are comparable to a similar study that was carried out by Rohitrahana and Boon-itt (2001) in Thai seafood processing industry. The purpose was to describe the current situation in ISO 9000 implementation, the characteristics, strength, weaknesses, and problems of implementing a quality system. The findings were that about 94 % of companies had obtained at least one quality standard. HACCP was preferred to ISO 9000 because HACCP is directly responsible for the quality of the food itself.

The second objective of this study was to determine the factors that affect quality systems implementation by the tea handling warehouses in Mombasa County. Factors affecting the implementation of quality systems were studied in four aspects; top management commitment, people involvement and training, PRPs and infrastructure, and system measurement and continuous improvement. The study concluded that all the four factors were paramount in the successful implementation of any quality system. It can be concluded that the findings of this study are in line with Taylor and Wright (2003), who observed that a combination of factors will determine the success or failure in the establishment and failure of quality systems in an organization. The key factors are; team leaders' involvement and management commitment, the level of quality systems awareness across all levels of the organization, people involvement and top –down training, the degree of resistance from employees, and system measurement and improvement.

In a related study, Kamau (2012), researched on factors influencing the implementation of the Kaizen standard in the flower industry, where the study established that people

involvement and training played a critical role in successful quality systems implementation. In another study, Muasya (2013), sought to determine the influence of management on implementation of quality systems in organizations. The findings were that top management commitment determined the success or failure of quality systems implementation.

The third and final objective of this study was to determine the benefits of implementing quality systems by tea handling warehouses in Mombasa County. The findings confirmed that the implementation of quality systems comes with a number of benefits such as improved customer confidence, prevention of food contamination, compliance with legislation, promoting company's image, motivating employees, reduction of operating costs and reducing product defects. The research findings are consistent with McAdam (1999), who observed that there are many benefits that can accrue from quality systems that include system efficiency, customer satisfaction, morale of workmen, reduced complaints and costs, and reduced time for finishing tasks.

5.4 Recommendations of the Study

This study recommends that all the tea handling warehouses should continue with the implementation of quality systems and particularly the HACCP based food safety standards. All companies implementing quality systems should ensure that top management commitment, involvement of the people with continuous training, system measurement and continuous improvement are in place. For food handling organizations,

PRPs and the infrastructure requirements are critical for successful system implementation. An integrated approach to quality systems implementation has greater value to the organizations. The establishment, implementation, and maintenance of quality systems has focus on continual improvement which forms a strategic approach to a practical and realistic actualization of the mission and vision of an organization if adequately structured.

5.5 Limitations of Study

In this study, a number of challenges were encountered. The ideal approach to ascertain quality systems implementation would have been observation of the work practices, random staff interviews, inspection of the sites to witness infrastructure status, and inspection of quality system records and documents to ascertain actual system implementation. Time required to carry out the study and related mobilization resources were also limited. Some respondents with limited quality systems awareness could not provide informed and relevant information. There were also concerns of confidentiality with respondents fearing that the information provided might not be used for the intended purpose. Lastly, the researcher found that some respondents were unwilling to share information for unexplained reasons.

5.6 Suggestions for Further Research

It is suggested that warehouse design and layout can pose challenges in the effective monitoring and control of food safety hazards. Further research can be carried out to establish if there is any relationship in warehouse design and lay out with effective control of food safety hazards. Some respondents pointed out that the implementation of multiple

quality systems can be cumbersome. It is suggested that there is need to develop one master integrated standard that covers the requirements of food safety, documentation, occupational health and safety, environment conservation, fair trade issues, and social accountability all in one. Further research can be undertaken to determine the opinion across other sectors keen on quality systems implantation.

The opportunity cost of implementing these quality systems can also be a consideration against the associated benefits. A comparison in terms of overall performance, market share, and the customer satisfaction levels between organizations that have adopted, implemented, and acquired quality systems against industry players who have not incorporated or implemented quality systems to demonstrate and draw the trends.

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APPENDICES

Appendix 1: Questionnaire

SECTION A: BACKGROUND INFORMATION

Kindly answer the following questions. Your answers shall be treated with confidentiality and used for academic purpose only.

1. Name of your company ……..
2. Name of Warehouse site and location……
3. What is your functional position? .....
4. Which Quality Standard/Guidelines have been implemented ?(please tick all implemented Standards)

    ( ) ISO 22000:2005
    ( ) ISO 9001:2008
    ( ) HACCP
    ( ) 1SO 14001:2004
    ( ) OHSAS 18001
    ( ) UTZ
    ( ) BRC
    ( ) IFS
    ( ) SQF 2000
    ( ) National Standard, please specify ……
    ( ) Other ……
    ( ) None
5. For which Quality Standard is your Company certified ?(please tick all applicable Standards)

    ( ) ISO 22000:2005
    ( ) ISO 9001:2008
    ( ) HACCP

( ) 1SO 14001:2004

( ) OHSAS 18001

( ) UTZ

( ) BRC

( ) IFS

( ) SQF 2000

( ) National Standard, please specify ……

( ) Other ……

( ) None

6. For how long has your company been certified since it obtain the first Quality Standard certification?

   ( ) 1 -5

   ( ) 6- 10

   ( ) 11- 15

   ( ) Over 15

   ( ) Not certified

7. How many re-certification cycles has your company undergone since obtaining the first Quality standards certification?

   ( ) none

   ( ) 1 - 3

   ( ) 4- 6

   ( ) Over 6

8. The organization has documented Quality System policies, objectives, process flow diagrams and work procedures.

   ( ) Yes

   ( ) No

9. An organization structure and Job descriptions covering all employees is well documented and communicated to staff.

   ( ) Yes

   ( ) No

10. Would you say that food safety is a major priority, a minor priority or not a priority for your business/organization?

    ( ) major priority
    ( ) minor priority
    ( ) not a priority

11. Do you have a Quality Assurance Manager/Officer?

    ( ) Yes
    ( ) No

12. Do you have a Quality Assurance department?

    ( ) Yes
    ( ) No

    If Yes, how many people are working in the Quality Assurance department?

13. A multi-disciplinary Food safety team that champions Quality requirements has been appointed and is led by a Quality System leader.

    ( ) Yes
    ( ) No

14. System PRPs have been documented and implemented to enhance hygiene and avoid possible cross contamination.

    ( ) Yes
    ( ) No

15. The organization maintains a list of prequalified suppliers and periodically evaluates their performance.

    ( ) Yes
    ( ) No

16. Our Quality system has CCPs and oPRPs

    ( ) Yes
    ( ) No

PART B. FACTORS AFFECTING SYSTEM IMPEMENTATION

Rate the following statements indicating the extent they apply to your company by ticking in the appropriate box: strongly agree (Very large extent), agree (Large extent), neutral (moderate extent), disagree (little extent) and strongly disagree (no extent)

Statement	**Very large extent**	**Large extent**	**Moderate extent**	**Little extent**	**No extent**
Top Management Commitment					
1. Internal and external quality system requirements are communicated by top management and the quality system leader					
2. Top management has ensured the availability of resources and infrastructure required by the system.					
3. The quality system leader can resolve conflicts efficiently					
4. Preparations for the quality system's external audits are normally made at the last minute					
5. Management review and quality system awareness meetings are routinely held with full participation of senior managers					
6. Management review output and, staff trainings and updating of system objectives have shaped the realization of the company's strategic goals and competiveness					

Measurement and Improvement					
7. Internal auditing is continuous in all divisions					
8. The quality system carries out planned internal audits to check conformance					
9. Second party audits on the quality systems are sometimes carried out					
10. Certification and surveillance audits are carried out at planned intervals by the certification body					
11. Monitoring and measuring equipment that are likely to impact on Quality Standards are routinely calibrated.					
12. Employees operate based on documented procedures, work instructions and manuals.					
13. The quality system is based on an analysis of internal processes and performance					
14. The quality system practices have integrated with practices already in place.					
15. The establishment, implementation and maintenance of quality system is very costly					
16. The quality system practices have integrated with practices already in place					

People Involvement and Training					
17. The quality system is coordinated and led by employees who are continually trained and contribute in key decision making.					
18. Consultants are required and necessary for quality systems implementation					
19. First line employees receive quality system training					
20. Employees accommodate work with quality system requirements					
21. The organization has identified the necessary competencies for personnel whose activities have an impact on quality system					
22. All employees are aware and understand how their activities impact on the quality system					
23. The staff training annual calendar comprehensively covers quality system requirements					
24. The quality system has put a training program into practice					
PRPs and Infrastructure					
25. The organization has established and applied a traceability that enables the identification of all handled tea lots					

26. The traceability records are maintained for a defined period for system assessment to enable the handling of potentially unsafe teas and in the event of a withdrawal					
27. Emergency situations procedures have been established and are routinely tested to establish the effectiveness.					
28. All reasonably possible hazards likely to affect the handling of tea have been identified and control measures assessed					
29. A hygiene regime covering personnel and the premises is enforced as top priority.					
30. All product contact materials including packaging materials and glue have been analyzed and relevant MSDS submitted by suppliers					
31. Employees working in rework areas are subjected to routine medical certification by the county public health.					
32. Effective control of some hazards is a challenge because of warehouse construction design and layout.					

33. Others (please specify)

……

……

……

……

Appendix 2: Introduction Letter

UNIVERSITY OF NAIROBI
MOMBASA CAMPUS

Telephone: 020-8095398
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsities

Tel: 020 8095398
Mombasa, Kenya

DATE: 9th OCTOBER, 2014

TO WHOM IT MAY CONCERN

The bearer of this letter, **Kizito Shivachi** of Registration Number **D61/73724/2012** is a Master of Business Administration (MBA) student of the University of Nairobi, Mombasa Campus.

He is required to submit as part of his coursework assessment a research project report. We would like the student to do his project on ***The Implementation of Quality Systems by the Tea Handling Warehouses in Mombasa County, Kenya.*** We would, therefore, appreciate if you assist him by allowing him to collect data within your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organization on request.

Thank you.

09 OCT 2014

Joseph Aranga
Assistant Coordinator, School of Business-Mombasa Campus

Appendix3: List of Tea Handling Warehouses in Mombasa

1	WAREHOUSE BUSINESS NAMES AND SITES	INDUSTRY CODES	POSTAL ADRESSES
	Bahari (T) Company Ltd	BCL	Box 81829, Mombasa
	Bahari (T) Company Ltd Mwatate Street Transit Warehouse No. 61	BCL061	
	Bahari (T) Company Ltd Mashundu Street Transit Warehouse No. 82	BCL082	
2	Bryson Express Ltd	BEL	Box 99556-80100, Mombasa
	Bryson Express Ltd Unga St. Bonded Warehouse No. 475 and No. 122	BEL475 BEL122	
3	Cargill Kenya Ltd	CKL	Box 90403-80100, Mombasa
	Cargill Kenya Ltd Godown No.5, 7, 8, Transit No. 66, 92 and 109, and Bonded No.444	CKL003 CKL005 CKL007 CKL008 CKL066 CKL092 CKL109 CKL444	
4	Chai Trading Company Ltd	CTC	Box 93324-80102, Mombasa
	Chai Trading Company Ltd Miritini Complex	CTCMTI	
	Chai Trading Company Ltd Shimanzi Complex	CTCSHZ	
	Chai Trading Company Ltd Farmers Complex Changamwe	CTCFMR	

	Chai Trading Company Ltd Farmers Complex Annex	CTCANX	
	Chai Trading Company Ltd Miritini Annex	CTCJMV	
	Chai Trading Company Ltd Miritini Annex 2	CTCJM2	
	Chai Trading Company Ltd Mengo Road Changamwe Complex	CTCMRD	
	Chai Trading Company Ltd Chai Miritini Annex 3	CTCJM3	
	Chai Trading Company Ltd Liwatoni Warehouse	CTCLWN	
	Chai Trading Company Ltd Mengo Road Annex	CTCMRA	
5	James Finlay Mombasa Ltd	JFL	Box 84619 - 80100, Mombasa
	James Finlay Mombasa Mashundu St. Godown No.1, 2, 3, 4, and 5	JFL001 JFL002 JFL003 JFL004 JFL005	
	James Finlay Mombasa Chai St. Godown No. 7, Transit Warehouse No. 110 and Bonded Warehouse No. 456	JFL007 JFL110 JFL456	
6	Mitchell Cotts Freight Kenya Ltd	MCK	

	Mitchell Cotts Freight Kenya Voi St. Godown No.1, Transit Warehouse No. 58, and Bonded Warehouse No. 63	MCK001 MCK058 MCK063	Box 42485-80100, Mombasa
	Mitchell Cotts Freight Kenya Zanzibar Road. Warehouse No. 2 and 4.	MCK002 MCK004	
	Mitchell Cotts Freight Kenya MakupaCourseway	MCK003	
7	Peerless Tea Services Ltd MwinyiMpate St. Transit Warehouse No. 106	PTS106	Box 80058, Mombasa
8	Risala Limited Mozambique Road,Shimanzi,TTW No.140.	RIL140	Box 90212-80100
9	Bollore Africa Logistics Kenya	BAL	Box 90263, Mombasa
	Bollore Africa Logistics Kenya Changamwe Tea Complex Transit Warehouse No. 7	BAL078	
10	Siginon Freight Ltd	SFL	Box 99646-80107, Mombasa
	Siginon Freight Ltd Shimanzi	SFL001	
	Siginon Freight Ltd Changamwe	SFL003	
11	Tea Warehouses Ltd	TWL	Box 98066-80100 Mombasa

	Tea Warehouses Ltd Mahindi St. Godown No.1, 2, Transit Warehouse No. 105, and Bonded Warehouse No. 372.	TWL001 TWL002 TWL105 TWL372	
	Tea Warehouses Ltd Mbaraki Warf Godown	TWL003	
1	Ufanisi Freighters (K) Ltd	UFK	Box 980-80100,
2	Ufanisi Freighters (K) Ltd Transit Warehouse No. 77, and Bonded Warehouse No. 197	UFK077 UFK197	Mombasa
1	United (EA) Warehouses Ltd	UWL	Box 99350 - 80107,
3	United (EA) Warehouses Ltd Mashundu St. Godown No. 420	UWL420	Mombasa
	United (EA) Warehouses Ltd Mwatate St. Transit Whse No. 72	UWL072	