INFLUENCE OF QUALITY MANAGEMENT SYSTEMS IMPLEMENTATION ON ORGANIZATIONAL PERFORMANCE:
(CASE STUDY OF SOUTH NYANZA SUGAR COMPANY LIMITED MIGORI COUNTY, KENYA)

BY:

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NOVEMBER 2013
DECLARATION

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

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DEDICATION

I dedicate this research project to the glory and honour of God, to my dad Chris, children- Chris, Joy and Stella, siblings Julie and Grace and to all my relatives and friends for their support, prayers and encouragement throughout my studies.
ACKNOWLEDGEMENT

With sincere thanks and utmost gratitude, I acknowledge the crucial contribution, support and commitment of my supervisor Mrs. Lucy Kavinda to whom I greatly am indebted. She has invested her time and effort in perfecting my work by giving me the necessary guidance and professional advice throughout this entire research proposal writing process.

I thank the former and current Managing Director of Sonysugar, Mr. Paul Odola and Ms. Jane Pamela Odhiambo respectively for giving me authority to obtain and use data that is normally restricted to support this project.

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Finally, I thank God Almighty for His grace, wisdom and strength that has enabled me to do this project to the end. To God be the glory!
ABSTRACT

The Sugar industry in Kenya has been experiencing a lot of challenges ranging from high costs of production, dwindling cane yields, low sugar production volumes, use of outdated technology and stiff competition from cheap sugar imports, a trend that has led to poor organizational performance. To reverse this trend, most sugar firms in Kenya have adopted Total Quality Management concept of Quality Management Systems (QMS) by becoming ISO certified in an effort to enhance efficiency in their operations with the aim of improving overall organizational performance. QMS is defined as a set of coordinated activities to direct and control an organization in order to improve effectiveness and efficiency of its performance. This project set to find out the influence of QMS implementation by sugar firms in Kenya on organizational performance with respect to financial performance, market share and sugar production volumes. This was a case study of South Nyanza Sugar Company Ltd. but the findings can be a representation of all Sugar Corporations in Kenya. The study was guided by the following objectives: to determine the effect of top management commitment to quality management systems implementation on organizational performance of Sonysugar; to establish the influence of resource management on organizational performance at Sonysugar; to assess the effect of development and realization of products based on customer and statutory requirements on organizational performance of Sonysugar and to examine the effect of measurement, analysis and improvement through corrective and preventive actions on organizational performance of Sonysugar. The study used structured questionnaires and interviews with the target respondents being a sample of eight (8) top management staff, ten (10) QMS lead auditors, twenty (20) middle management employees, twenty (20) farmers and twenty (20) customers of Sonysugar. The researcher also used secondary data for the study. The data was analyzed using both descriptive and inferential statistical analysis. The findings of the study revealed that 92.16% of the respondents are of the opinion that implementation of quality management systems has had a positive influence on organizational performance. A study of the secondary data revealed that profits increased significantly from a loss of Ksh.60 million before ISO certification in 2009 to Ksh.1 billion in 2012; sugar sales increased from Ksh.2.5 billion in 2009 to Ksh.5.7 billion in 2012 while sugar production volumes remained a constant at 52,379 metric tones in 2009 compared to 52,470 metric tones in 2012 after ISO certification. Marginal costs of production based on income versus expenses remained the same at a constant ratio of 1 before and after ISO certification. The study concluded that quality management systems has had a positive impact on organizational performance in financial and sales returns but minimal effect on sugar production volumes and minimization of costs of production The researcher recommends that organizations must ensure that top management is committed to quality management systems, that there is proper resource management at all organizational levels, that organization’s products conform to customer requirements and that organization finds other means of minimizing costs and enhancing sugar production volumes. Other researchers can use this study as a basis to expand the scope to other sugar companies for purposes of comparison and generalization for the industry. This study can also form basis for research on what other factors affect organizational performance other than quality management systems.
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LIST OF ABBREVIATIONS

SDF: Sugar Development Fund
COMESA: Common Market of East and Central Africa
TCD: Tones Crushed per Day
T/HA: Tones per hectare
SDL: Sugar Development Levy
KSB: Kenya Sugar Board
IDB: Industrial Development Bank
WTO: World Trade Organization
EAC: East Africa Community
OECD: Organization for Economic Co-operation and Development
FAO: Food and Agriculture Organization of the United Nations
ICDC: Industrial & Commercial Development Corporation
TQM: Total Quality Management
PDCA: Plan - Do- Check – Act circle
ISO: International Organization for Standardization
QMS: Quality Management System
KPI: Key Performance Indicators
GoK: Government of Kenya
SPSS: Statistical Packages of Social Sciences
ROI: Return on Investment
SUCAM: Sugar Campaign for Change on Sugar Industry Crisis
MT: Metric Tones
KGS: Kilograms
GMS: Grams

SONYSUGAR: South Nyanza Sugar Company Limited
OPERATIONAL DEFINITION OF TERMS

Quality: Degree to which a set of inherent characteristics fulfills requirements (ISO9000:2005, clause 3.1.1).

Total Quality Management: Application of quantitative methods and human resources to improve all the processes within an organization and exceed customer needs now and in the future (Kenya Institute of Management [KIM], 2009).

Quality Management Systems: Set of coordinated activities to direct and control an organization in order to continually improve the effectiveness and efficiency of its performance (ISO 9000:2005, clause 3.2.8).

ISO 9001 Standards: One of the series of quality management standards that represent an international consensus on excellent management practices which is aimed at ensuring that organizations deliver products and services that meet and exceed customer expectations (KIM, 2009).

PDCA Cycle: Quality management system based on Deming’s cycle wherein management need to Plan what to do, Do what is planned, Check whether things have happened according to plan and finally Act to ensure things will continually improve(KIM, 2009).
Financial Performance: This refers to trends of financial performance in terms of average price for raw sugar per tone, gross turnover and profit (loss) after tax realized at Sonysugar before and after QMS implementation at Sonysugar (Kenya Sugar Board [KSB], 2012).

Market Share: This refers to the total sugar sales made by Sonysugar in the Kenyan market and the percentage of market share that the company occupies in comparison to other sugar factories. It shows a trend of sugar sales and market share before and after QMS implementation (KSB, 2012).

Sugar Production Volumes: This refers to sugar production volumes in terms of tones crushed per day (tcd) and sugar made before and after QMS implementation at Sonysugar (KSB, 2012).
CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Industrial sugarcane farming was introduced in Kenya in 1902. The first sugarcane factory was set-up at Miwani 10km north of Kisumu in 1922 and later at Ramisi in the Coast Province in 1927. After independence, the Government explicitly expanded its vision of the role and importance of the sugar industry as set out in Sessional Paper No 10 of 1965 which sought, inter alia, to accelerate socio-economic development, redress regional economic imbalances, promote indigenous entrepreneurship and promote foreign investment through joint ventures (Kenya Sugar Industry Strategic Plan, 2010-2014).

In pursuit of the above goals, the Government established five additional factories in the 1960s and 1970s: Muhoroni (1966), Chemelil (1968), Mumias (1973), Nzoia (1978), and South Nyanza (1979). Later, several more were to come on stream: West Kenya (1981), Soin Sugar Factory (2006) and Kibos Sugar & Allied Industries (2007), bringing the total number of milling companies to ten (10). The two older factories ceased operations: Ramisi sugar factory collapsed in 1988 and Miwani sugar factory was put under receivership. Kenya Sugar Board (KSB) recently registered four new mill white sugar factories, namely: Butali, Kwale, Trans Mara and Sukari Sugar Companies with a combined potential capacity of 5,000 tones crushed per day (tcd). The establishment of the publicly owned factories was predicated on the need to achieve self-sufficiency in sugar with a surplus for export in a globally competitive market, generate gainful employment, create wealth and promote economic development in the rural economy and beyond through activities linked to the sugar industry (Kenya Sugar Board [KSB], 2008).
A study by Kenya LAPSETT Corridor Sugarcane Production Report (2012), the Kenyan sugar industry is currently a major employer and contributor to the national economy and is just as important alongside tea, coffee, horticulture and maize. The sub-sector accounts for about 15% of the agricultural Gross Domestic Product (GDP). It is the dominant employer and supports the livelihoods of at least 25% of the Kenyan population especially in Western Kenya. It saves Kenya in excess of USD 250 million in foreign exchange annually and contributes tax revenues to the exchequer. In the sugar belt zones it contributes to infrastructure development and to social amenities. Besides socio-economic contributions, the industry also provides raw materials for other industries such as bagasse for power cogeneration and molasses for a wide range of industrial products (beverages, confectionery and pharmaceuticals) including ethanol.

In spite of the above gains, the sugar industry in Kenya is currently facing several challenges such as high costs of production, capacity under utilization, lack of regular factory maintenance, poor transport infrastructure and weak corporate governance thus most factories have accumulated huge debts amounting to Kshs.58 billion (Kenya Sugar Industry Strategic Plan, 2010-2014). Due to the problems identified above, the Government of Kenya (GoK) decided to carry out structural reforms in the sugar industry by implementing the AmayoSugar Task Force (2003) recommendations through Kenya Sugar Board: to make changes in the management of all publicly owned milling companies with a view to improving corporate governance and to negotiate for a four-year COMESA safeguard to give the industry time to restructure and become globally competitive (KSB, 2008). Kenya Sugar Board encouraged sugar firms in Kenya to adopt Total Quality Management Practices by becoming ISO certified through implementation of Quality Management Systems. This was
seen as one of the ways of enhancing industry effectiveness and efficiency thus improving
corporate governance and improving organizational performance in the industry.

Quality Management Systems (QMS) is defined as a set of coordinated activities to direct and
control an organization in order to improve effectiveness and efficiency of its performance
(Kenya Institute of Management [KIM], 2009). It is a process oriented approach that focuses
on identification and interactions of various activities that translate inputs into outputs, and
the management of these processes to produce desired outcome. An advantage of process
approach is the ongoing control that it provides over the linkage between individual processes
which emphasizes the importance of understanding and meeting requirements, the need to
consider processes in terms of added value, obtaining results of process performance and
effectiveness and finally continual improvement of processes based on objective
measurement.

QMS is implemented through the ISO (the International Organization for Standardization)
9001 concept which represents an international consensus on good management practices for
a systematic and generic application of principles and practices based on quality. It is a
written standard that defines basic elements of quality management systems that
organizations should use to ensure that their products and/or services meet or exceed
customer expectations and is applicable to any organization regardless of its size whether in
the public or private sector (KIM, 2009).

The benefits of implementing quality management systems can be reflected on increased
organizational effectiveness and enhanced efficiency in operational systems. This in turn
leads to improved organizational performance and gaining of competitive advantage over
competitors. The culture of continuous improvement embedded in quality management
systems ensures that the firm is always striving to better itself on all fronts, leading to improved corporate performance (Terlaak and King, 2006).

According to Business Dictionary (2011), performance is defined as the degree to which a given task has been accomplished measured against preset known standards of accuracy, completeness, cost and speed. For the purpose of this study, the term organizational performance will be used to refer to the degree to which the firm has attained its set objectives and targets with respect to the following variables: Financial performance based on costs of production and profitability, Market share levels determined by sugar sales and Sugar production volumes based on tones of cane crushed per day (tcd).

Sonysugar was established in 1976. Its major shareholder is the Government of Kenya (GoK), which owns ninety eight percent (98%) of the shares. Industrial Development Bank (IDB) and Industrial & Commercial Development Corporation (ICDC) together hold the other two percent (2%) of the remaining shares. The key mandate of the company is to mill white sugar from sugar cane, establish and manage sugar cane plantations and assist others to do so, create employment and thereby improve the economy of the South Western part of Kenya. In an attempt to fulfill that mandate, the Company has overtime recruited farmers within its zone covering a radius of about forty kilometers from the factory and installed a cane milling plant with a capacity to mill 3000 tcd. Sonysugar’s main product has remained sugar since inception and it has now diversified to producing brown sugar as well. Molasses which is a by-product of sugar processing is produced by default and is sold to alcohol producing firms such as Kenya Breweries. Electrical energy generation is basically produced for domestic use in running the plant and has not been commercialized. However opportunities exist for other products through diversification to fuel business development, (Kenya Sugar Industry Strategic Plan, 2010-2014).
1.2 Statement of the Problem

The Kenyan sugar industry is currently a major employer and contributor to the national economy. However, the industry is currently facing several challenges such as high costs of production, low cane yields among others. The greatest problem identified by the Amayo Sugar Task Force (2003) set up by the Government of Kenya (GoK) is high cost of production with an average cost of US $ 700 per tone relative to countries in the regions such as Zambia and Malawi, who fall in the category of low cost producers with an average cost of US$ 250 per tone (See Appendix III, pp.69). High cost of production makes Kenya an attractive destination for cheap sugar global imports.

To implement recommendations given by the Amayo Sugar Task Force (2003) of restructuring management of sugar companies as a means to enhance efficiency in organizational performance, the sugar industry in Kenya adopted QMS by attaining ISO certification. Although many results of prior studies support the positive effects of QMS on organizational performance (Kaynak, 2003), secondary data collected in the Yearbook of Sugar Statistics (KSB, 2012) reflect that the expected gains of implementing QMS in management of sugar firms have not been realized as anticipated. Average cost of production in Kenya is still high at US $ 650 – 700 per tone compared to US $ 250 in Malawi and Zambia, the national cane yield stands at 75 tones per hectare (t/ha) far below the potential yield of 100 t/ha. Lack of cane leads to low milling capacity hence most factories are still under utilized. The study therefore sought to establish the influence of Quality Management Systems implementation on organizational performance of Sonysugar with a view to improving its efficiency and effectiveness that can lead to reduced cost of production, increase in markets share and profitability.
1.3 Research Objectives

The study sought to establish the influence of Quality Management Systems implementation on organizational performance of Sonysugar.

The study specifically sought to:

i. To determine the effect of top management commitment to quality management systems implementation on organizational performance of Sonysugar.

ii. To establish the influence of resource management on organizational performance at Sonysugar.

iii. To assess the effect of development and realization of products based on customer and statutory requirements on organizational performance of Sonysugar.

iv. To examine the effect of measurement and analysis of processes and subsequent corrective and preventive actions on organizational performance of Sonysugar.

1.4 Research Questions

This research sought to answer the following questions:

i. What is the effect of top management commitment to QMS on organizational performance of Sonysugar?

ii. How does resource management affect organizational performance of Sonysugar?

iii. To what extent has development and realization of products based on customer and statutory requirements affected organizational performance at Sonysugar?

iv. What is the role of measurement and analysis of processes and subsequent corrective and preventive actions on organizational performance of Sonysugar?
1.5 Significance of the Study

The result of the study is expected to enable Sonysugar management to know exactly how QMS implementation has influenced organizational performance in terms of financial performance, market share and sugar production volumes. It will enable management to find out the extent to which the anticipated results have been realized or not and if not, find out why and give recommendations on how efficiency can be attained leading to overall improved organizational performance.

It will also enable management assess the level of return on investment (ROI) to the company since QMS implementation requires a lot of capital outlay in terms of finances, human resource training, development of infrastructure and conducive work environment.

It is worth noting that this study will not only benefit Sonysugar but will also assist other companies in the sugar industry in realizing the impact of quality management systems in their organizational performance with a view to improving efficiency, effectiveness and improved organizational performance. Other researchers interested in the problem under this study will also benefit, as the research will lay a platform on which further research on the topic can be undertaken less strenuously since the more needed direction and insight is in the foundation of this study.

1.6 Limitations of the Study

This proposed study was restricted to Sonysugar located in Migori County in Kenya. The study anticipated the likelihood of respondents not giving information considered sensitive and the researcher went ahead and sought authority from the organization’s Managing Director to grant authority to obtain such information. Other limitations included financial and time constraints which hindered the possibility of obtaining information from more respondents.
The study assumed that the questionnaires would be fully completed, the information given would be accurate and questionnaire returned on time. It was further assumed that time would be well managed throughout the research period and that the respondents would all be willing to fully co-operate with the researcher.

1.7 Scope of the Study

The study was confined, generally and specifically, to organizational performance of South Nyanza Sugar Company Limited which became ISO certified on QMS 9001:2008 in 2009. The researcher identified Sonysugar because it is the sugar firm that became ISO certified on the most current version of QMS which is perceived to be very effective in improving organizational performance. The researcher assessed data and records and consulted with Top Management, Lead QMS Auditors, Employees, Farmers and Customers of Sonysugar in order to obtain information on how QMS implementation has influenced organizational performance in areas of financial performance, market share and sugar production volumes. The study was completed in three months from the date of inception.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction to Literature Review

This chapter reviews relevant literature on the influence of quality management systems implementation on organizational performance. Specific focus is dedicated to theoretical and empirical literature on quality management systems implementation and its effect on organizational performance of Sonysugar with respect to organization’s cost of production and profitability, market share and sugar production volumes. The chapter gives a critical review on major issues, expounds on the summary and gaps to be filled by the research and concludes with the conceptual framework.

2.2 Theoretical Review

This study was based on total quality management theories.

2.2.1 The Deming Quality Theory

Deming’s theory of quality management rests upon fourteen points of management, the systematic approach to problem solving, the Shewart Cycle (Plan-Do-Check-Act), system of profound knowledge and psychology knowledge. Deming’s system of profound knowledge consists of four main areas: Systems appreciation which is an understanding of the way that companies processes and systems work, variation knowledge which is an understanding of the variation occurring and the causes of variation, knowledge theory which is an understanding of what can be and psychology knowledge which is an understanding of the human nature (Deming, 1986).

According to KIM (2009), the adoption and action on the fourteen points of management are a signal that management intends to stay in business. Deming’s fourteen points to management include: constancy of purpose towards improvement of product and service,
adopt a new philosophy for economic stability, cease dependence on mass inspection to achieve quality, end the practice of awarding business on the basis of price, improve constantly and forever the system of production and service, institute modern methods of job related training, institute modern methods of leadership, drive out fear, breakdown barriers between departments and individuals, eliminate the use of slogans, posters and exhortations, eliminate numerical quotas, work standards and management by objective or numerical goals, remove barriers that rob workers of the right to pride in workmanship, institute educational and retraining programmes and take action to accomplish the transformation.

The Plan-Do-Check-Act (Cycle) is created for continuous improvement. The Planstage entails identifying and recognizing opportunities for improvement in respect to customer satisfaction. The Do stage involves implementing the course of action that is intended to satisfy the customer needs. Check stage will involve auditing the do stage to confirm the performance of the system vis-à-vis customer satisfaction. Act stage entails making a decision regarding the implementation (ISO 9001:2008 (E) International Standard).

2.2.2 Juran Trilogy Theory

Joseph Juran developed the idea of quality trilogy: quality planning, quality improvement and quality control. According to Juran, quality planning involves all the affected parties related to the products and services and provides a road map consisting of the following steps: identify who your customers are, determine the needs of these customers, translate those needs into common language, develop a product that can respond to those needs, optimize the product features so as to meet customer needs. Quality improvement involves developing a process which is able to produce the product and optimize the process. Quality control involves developing processes that can produce the product under operating conditions and transferring the process to operation (Juran, 1992).
2.2.3 Feigenbaum Theory

Feigenbaum sees quality control as a business and believes that quality is the single most important force leading to organizational success and growth. He emphasized the administrative viewpoint and considered human relations as a basic issue in quality control activities. Feigenbaum stressed that quality does not mean best but best for customers and selling price. Quality control represents four steps namely setting quality standards, appraising conformance to these standards, acting when standards are exceeded and planning for improvement in the standards (KIM, 2009).

2.3 Empirical Review

2.3.1 Quality Management Systems and Organizational Performance

There are plenty of studies that have investigated the relationship between QMS concepts and firm’s performance. Among the most rigorous empirical studies that examine how implementation of the ISO 9001:2008 quality management standard affects organizational performance, most were conducted in the United States of America in manufacturing settings. According to Terlaak and King (2006), firms that adopt quality management systems typically increase their rate of production growth. Others find quality management systems implementation to be associated with subsequent abnormal returns along a host of financial metrics including stock prices (Corbett, Luca, and Pan 2003; Sharma 2005).

Kaynak (2003) indicated that quality improvement had positive effects on improving a firm’s financial and market performance. It is further noted that quality management can improve operating efficiency by reducing defect rate, scrap rate, and the occurrence of rework. The benefits of quality improvement can not only be reflected on decreasing costs but also on
maximizing business profits. What really counts for a firm is not just cost minimization, but the effects of superior quality has on maximizing profits (Freiesleben, 2005).

The improvement of operating efficiency will improve customers’ satisfaction and eventually the company’s financial performance. In addition, the improvement of customers’ satisfaction and loyalty may sustain or enlarge market share, which can be eventually transformed into better firm’s financial performance (Ahire and Dreyfus, 2000). Thus, the authors propose that operating performance resulting from QMS implementation will increase customers’ satisfaction and improve financial performance, respectively. In the meantime, the improvement of customers’ satisfaction will also have positive effect on improving financial performance.

The benefits of an effective QMS implementation can be analyzed in three different perspectives. Firstly from the operating angle, it can be applied to improve and enhance global competitiveness (Samson and Terzirovski, 1999). Firms with effective quality management systems can accomplish internal benefits such as improving quality, enhancing productivity and realization of better operating income (Corbett et al., 2005). Secondly, from the financial performance perspective, careful design and implementation of consistent and documented quality management systems can contribute significantly to superior performance (Corbett et al., 2005). Thirdly from the knowledge management (KM) viewpoint, the implementation of QMS can also increase and enhance organizational knowledge which in turn helps more understanding of how quality management practices can affect firm performance (Linderman et al., 2004).

Although many results of prior studies supported the positive effects of TQM on organizational performance, there are several researches which found the implementation of
TQM might lead to ineffectiveness of firm performance (Choi and Eboch, 1998; Dale et al., 1998). Kaynak (2003) indicated the reasons that the results of these aforementioned studies have different outcomes probably resulted from the nature of the research design such as using TQM practices or business performance as a single construct.

In this study, the author examined the influence of four key QMS implementation requirements on three areas of organizational performance indicators at Sonysugar namely, financial performance, market share and sugar production volumes.

2.3.2 Quality Management Systems Implementation Requirements

The ISO 9001:2008 (E) International Standard on QMS specifies the requirements for quality management system that should be used by organizations for internal application and certification or contractual purposes. According to KIM (2009), the QMS implementation process is structured under four key requirements known as management responsibility, resource management, product realization, measurement, analysis and improvement through quality audits.

2.3.2.1 Management Responsibility

According to Idris and Ali (2008), the role of leadership is a key factor in effective quality management in organizations thus leaders must have the ability to realize formulated vision by managing quality elements to transform the firm into using quality managerial practices. Moreover, authors have found that top management support is essential for quality improvement. Salaheldin (2009) concurred to this notion based on exploratory study conducted on Qatar Steel Company that revealed that lack of support from top management is essential to quality management systems implementation. Management leadership is
considered a major driver of quality management systems implementation process (Soltani, 2005).

The ISO 9001:2008 (E) International Standard requires that top management must provide evidence for its commitment to the development of quality management system, implementation of quality management system and continually improving its effectiveness. The standard identifies the following management responsibilities, customer focus, quality policy, planning, responsibility, authority, communication and management review.

### 2.3.2.2 Resource Management

Proper resource management is key to the success of QMS implementation and without an appropriate and empowering budgetary process, many quality management objectives are difficult to realize as they lack the relevant driving mechanism. Unless the institution’s own resource allocation mechanisms parallel the responsibilities to match quality management programs, quality management will be just a slogan (Sallys2002). According to Vouzas(2006), resources in an institution go beyond finances and physical resources to compass human resources. A fruitful cooperation between human resource management and quality management produce better organizational results. The study of Hoet.al.(2001) indicated that human resource, which includes employee relations was positively related to quality improvement.

The ISO 9001:2008 (E) International Standard emphasizes the requirement for organizations to determine and provide the resources needed to implement and maintain the quality’s management system and continually improve its effectiveness and enhance customer satisfaction. The standard emphasizes the following key issues under resource management: Human resources, Infrastructure and work environment.
2.3.2.3 Product Realization

According to Oakland (2005), quality starts with understanding of customer needs and ends when those needs are satisfied. Products should be developed based on customer’s needs and specifications. The study of Ahire and Drefus (2000) showed that the design management has positive impacts on process management, internal quality and external quality. An effective suppliers management will enforce the cooperation between suppliers and firms by allowing suppliers involvement and/or participation not only in the design process but also in the production process and help the procurement of materials or parts that meet firms requirements and be efficiently utilized (Shin et al. 2000). According to Kannan and Tah (2005), suppliers management can be used to streamline the suppliers cooperating with suppliers to ensure meeting customer expectations, involving suppliers early in the product development process and enhancing process management.

The ISO 9001:2008 (E) International Standard requires organizations are required to plan and develop processes needed for product realization and determine the quality objectives and requirements for the product. The organization needs to establish processes, documents and resources and criteria for product acceptance. The standard emphasizes the following under product realization, customer related product design, purchasing of supplies and product and service operations:

2.3.2.4 Measurement, Analysis and Improvement

Employees must be able to measure, analyze and utilize quality data efficiently and effectively (Ahire and Dreyfus, 2000). The data and reporting of quality control can be used to correct quality flaws or mistakes immediately and effectively. An effective quality data
and reporting system will have positive impacts on enforcing suppliers management, design management and process management (Kaynak, 2003).

According to ISO 9001:2008(E) International Standard, measurements and analysis requires that an appropriate performance measurement system is put in place. The organization needs to define, plan and implement measurement activities for improvement, for instance through statistical methods. The standard emphasizes the following key issues under measurements, analysis and improvement, monitoring and measurement, control of non conforming products and quality Audit.

2.4 Critical Review of Major Issues

The increased popularity of ISO certification on QMS in Kenyan firms has led sugar firms to become ISO certified as well. This is in the belief that effective implementation of QMS will lead to improved organizational performance. However, in some areas, the adoption of QMS in sugar firms in Kenya has not ushered in the anticipated improvement in organizational performance by enhancing effectiveness and efficiency. Costs of sugar production is still the highest in the region, market share has not grown as anticipated nor has sugar production volumes increased significantly even after implementation of QMS by most sugar firms as shown in the Yearbook of Sugar Statistics for the Year 2012 (KSB, 2012).

International competition from low cost Sugar producers is a challenge and Kenya needs to bring its cost structure, productivity and quality control to levels comparable to those of its competitors in order to exploit the opportunities availed by the global market. According to The Sugar Industry Strategic Plan for 2010-2014 (KSB, 2009) sugar prices will need to drop by at least 39% to be in line with COMESA levels. Kenya is a signatory to WTO, COMESA, EAC and free Trade Agreement thus sugar imports and exports are affected by what happens in these regimes. Furthermore, informal cross Border Trade poses unfair
competition to the local sugar producers and transshipment of sugar via other COMESA countries from non COMESA countries. This puts forth the question of whether implementation of QMS alone is sufficient to address the challenges facing the sugar industry in Kenya.

2.5 Summary and Gaps

Not much has been done on establishing the influence of QMS implementation on organizational performance of sugar firms in Kenya and this study will bridge the gap on the issues as regards the dependent variable. In Kenya, current literature on the sugar industry is numerous because the government recognizes the sector as a major contributor to national development. However, among the available studies, none takes a broad comprehensive perspective on effect of quality management systems implementation on organizational performance. Most sugar firms that are ISO certified have spent valuable time and resources to implement QMS and need to know if their investment was worthwhile.

According to KSB (2012) the main challenge is still how to enhance efficiency and effectiveness in the sugar industry in Kenya by reducing costs of production, increasing utilization of factory capacity and increasing sugar factory production volumes. It is because of these gaps that the research on influence of QMS implementation on organizational performance of sugar firms in Kenya is important.

2.7 Conceptual Framework

The conceptual framework was based on quality management systems requirements as the independent variables and includes management responsibility, resource management, product realization and measurement, analysis and improvement of processes. These influence the dependent variable which is organizational performance measured in terms of
financial performance, market share and sugar production volumes. Intervening variables that affect performance were identified as environmental factors namely political, economic, social, technological and legal factors.

**Independent Variables**

**QMS Implementation**

**Management Responsibility**

Customer focus, Quality policy, Planning, Responsibility, Authority, Communication & Management

**Resource Management**

Provision of resources, Human resources, Infrastructure, Work environment

**Product Realization**

Customer related process, Purchasing of supplies, Product and service operations

**Measurement, Analysis & Improvement**

Monitoring and measurement, Control of non conforming products, Quality Audits

**Dependent Variable**

**Organizational Performance**

- Financial Performance
- Market Share
- Sugar production volumes

**Environmental factors**

Political, economical, social, technological and legal

**Intervening variables**

Figure 2.3 Conceptual Framework

Source; Researcher(2013)
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes methodology which was adopted by the study. It includes research design, target population, sample design and sample size, data collection sources and collection instruments, data collection procedure, reliability and validity of data collection instruments and data analysis and presentation techniques.

3.2 Research Design

This study adopted descriptive research design which is concerned with subjective assessment of attitudes, opinions and behavior. The research also provides an understanding of how or why things are as they are. Saunders et al, (2009) says that, descriptive research portrays an accurate profile of persons, events or situations from an individual, organizational and industry oriented perspective. It presents data in a meaningful form that helps the researchers to understand characteristics of a group in a given situation, to think systematically about aspects in a given situation, offer ideas for further research and helps to make certain simple decisions. Miller, (1991)

3.3 Target Population

Mugenda and Mugenda, (2003), described population as, the entire group of individuals or items under consideration in any field of inquiry and have a common attribute. Target population is the population this study would desire to make generalized result statement about. The target population for the study were eight (8) top management at Sonysugar, ten (10) QMS Lead Auditors, four hundred (400) middle management employees of Sonysugar,
thirty thousand (30,000) sugar cane farmers and two hundred (200) direct customers who purchase sugar in bulk from Sonysugar.

3.4 Sample Design and Sample Size

According to Sigel, (2003), a sample is a set of entities drawn from a population with the aim of estimating characteristics of the population; it is a fraction of population selected such that selected portion represents the population adequately. This study adopted stratified random sampling to put my target population into various categories and then used non proportionate random sampling to select sample size of Top Management, QMS Lead Auditors, Middle management, Sugar cane farmers and Direct Customers who purchase sugar in bulk directly from Sonysugar.

Table 3.1 Sample frame, Size and Sampling techniques

<table>
<thead>
<tr>
<th>Category</th>
<th>Universe</th>
<th>Sample</th>
<th>Sampling Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Top Management</td>
<td>8</td>
<td>8</td>
<td>Census</td>
</tr>
<tr>
<td>2 QMS Lead Auditors</td>
<td>10</td>
<td>10</td>
<td>Census</td>
</tr>
<tr>
<td>3 Middle Management</td>
<td>400</td>
<td>20</td>
<td>Purposive</td>
</tr>
<tr>
<td>4 Direct Customers</td>
<td>200</td>
<td>20</td>
<td>Purposive</td>
</tr>
<tr>
<td>5 Sugar Cane Farmers</td>
<td>30,000</td>
<td>20</td>
<td>Purposive</td>
</tr>
</tbody>
</table>

Source; Sonysugar records (2013)

3.5 Data Collection Instruments

The study used structured questionnaires and interviews to collect the primary data due to their ease of recording, coding, classifying, reconciliation and analysis. The data collection instruments were pre-tested prior to administration purposely to determine their effectiveness.
in terms of question format, wording and order. The secondary data was collected through the scrutiny of existing literature mostly from the public institutions on data relevant to organizational performance such as financial records, sales records, customer and employee satisfaction records.

3.6 Data Collection Procedure

The study relied on primary data obtained using self administered questionnaire, which was administered on the sample population by the researcher. The questionnaires were simplified as much as possible so that all respondents have a clear meaning of each of the questions. The questionnaires were emailed as well as hand dropped to the respondents depending on the preference of the respondent. The researcher also used structured interviews to get in depth information on matters relating to quality management systems and organizational performance.

3.7 Reliability and Validity of Data Collection Instrument

According to Mugenda and Mugenda (2003), reliability ensures the degree of consistency or stability is high and hence will involve examining the research instrument several times for reliability in relevance, clarity and ambiguity of items. In this study, the Cronbach alpha reliability coefficients for the pre-tested questionnaires will be computed for all the variables of the study. Cronbach’s alpha reliability coefficient normally ranges between 0 and 1. The closer the coefficient is to 1.0 the greater the internal consistency of the items hence the higher the reliability of the study instruments and vice versa.

A test is valid if it measures what it claims to measure. The research instruments were validated by exposing them to various groups and conducting a pilot study among the respondents who did not form part of the real study so as to detect any weaknesses on the
data collection instruments and adjust them accordingly depending on the outcome of the pretesting. A total number of two (2) respondents for each category was used for pre-testing. It was discussed with peers, classmates, supervisors, experts and other lecturers not directly involved in the study.

3.8 Data Analysis and Presentation Techniques

After data collection, data collection was done to remove irrelevant data. The remaining data was then coded, classified and reconciled to derive the relevance. The data collected was analyzed mainly by use of descriptive statistics which include; frequencies, percentages, mean scores and standard deviations. Analysis of data was done using Statistical Package for Social Sciences (SPSS). According to Kothari, (2004), tables, bar graphs, pie charts, frequencies and percentages are important statistical methods of organizing and summarizing data into a meaningful way for the ease of interpretation. The results will be presented in graphs, tables, charts and percentages.
CHAPTER FOUR
DATA ANALYSIS

4.1 Introduction

This study set out to establish the influence of quality management systems implementation on organizational performance of Sonysugar and this chapter presents findings from the study based on processed and analyzed primary data obtained from respondents comprising of top management, lead auditor, middle management, farmers and direct customers who purchase sugar in bulk directly from the company and secondary data obtained from company records. The findings are presented using tables and graphs in addition to textual explanations. The first section of this chapter gives a description of the demographic characteristics of the sample population followed by a more focused analysis of the influence of QMS implementation on organizational performance. The study findings are presented by use of descriptive statistics.

4.2 Demographic Information

4.2.1 Gender Distribution of Sonysugar respondents

An analysis of the gender distribution of all the respondents revealed that majority were male compared to females as shown in the chart below:
Figure 4.1: Gender distribution of respondents

Source: Research Data (2013)

Male respondents comprised a percentage of 73.1% compared to females who comprised of 26.9% only.

4.2.2 Number of years respondents have been affiliated with Sonysugar

The study sought to find out the duration for which the respondents had been affiliated with Sonysugar Company and the results of the findings were as shown in the table below.

Table 4.1: No of years respondents have been affiliated with Sonysugar

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>0-5yrs</td>
<td>21</td>
<td>26.6</td>
<td>26.9</td>
</tr>
<tr>
<td></td>
<td>6-10</td>
<td>57</td>
<td>72.2</td>
<td>73.1</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>98.7</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Data (2013)

21 out of the 78 respondents have been affiliated with Sonysugar for five years and below whereas 57 respondents have been affiliated with Sonysugar for a period ranging from six to ten years.
4.2.3 Educational level

The study sought to establish the highest level of educational attained by all respondents and the findings are as shown below.

![Diagram showing the percentage of respondents at different educational levels: 1.28% primary, 21.79% secondary, 42.31% medium level college, 34.62% university.]

**Figure 4.2: Highest educational level of respondents**  
Source: Research Data (2013)

42.31% of the respondents attained middle level college education as the highest level, 34.62% attained University education, 21.79% attained secondary education while 1.28% attained primary as the highest level of education.

4.3 Influence of quality management systems implementation on organizational performance

The study sought to find answers to specific research questions on quality management systems requirements which include management responsibility, resource management, product realization and measurement, analysis and improvement of processes and how these
influence organizational performance measured in terms of financial performance, market share and sugar production volumes.

4.3.1 Management commitment and organizational performance

Top management has the responsibility to develop and implement quality management systems and continually improve on its effectiveness by creating awareness of ISO, develop quality policy, operationalize quality initiatives and ensure continuous improvements needed in the organizational performance.

4.3.1.1 Awareness if the company is ISO certified on QMS

The analysis of the results of the study revealed that almost all of the respondents were aware of the fact that Sonysugar Company is ISO certified on QMS as shown in the table below.

Table 4.2: Awareness if Sonysugar is ISO certified

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Yes</td>
<td>77</td>
<td>98.7</td>
<td>98.7</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>78</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Research Data (2013)

The results of the study show that 77 out of 78 respondents were aware that the company is ISO certified on QMS while only 1 was not aware.

4.3.1.2 Awareness of the year of ISO Certification

The study sought to establish from the respondents the year in which Sonysugar became ISO certified. Results are presented in table 4.3 below:
Table 4.3: Year when Sonysugar become ISO certified

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>2009</td>
<td>78</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Research Data (2013)

All the 78 respondents were aware of the year when Sonysugar Company became ISO certified.

4.3.1.3 Top management commitment to QMS implementation in Sonysugar Company

The study sought the opinion of the respondents comprising of top management, QMS lead auditors, middle management, farmers and direct customers on top management commitment to QMS implementation in Sonysugar. Areas under consideration were creating awareness and communication of QMS by top management, availing of resources by top management for QMS implementation and participation by top management on QMS issues. The bar graph below shows the different levels of responses obtained.

Figure 4.3: Respondents opinion on top management commitment on QMS

Source: Research Data (2013)
The results of the study revealed that most of the respondents were of the opinion that the top management consider QMS as an integral and essential part of the company system and participate fully at all times with 59.95% agreeing and 33.77% strongly agreeing.

**4.3.1.4 Effect of top management commitment to QMS on organizational performance**

The researcher further sought to establish the respondents’ opinion on the effect of top level management commitment to QMS on organizational performance at Sonysugar. Areas under consideration were financial performance, market share and sugar production volumes. The results were as shown in the bar chart below:

![Figure 4.4: Effect of top management commitment to QMS on organizational performance.](image)

Source: Research Data (2013)

The findings reveal that 88.16% of the respondents believe that top management commitment to QMS in Sonysugar had a positive effect on organizational performance, 5.26% were of the
opinion that this has no effect while 6.58% had no idea on the effect on organizational performance. The frequency table below further details distribution of responses obtained.

Table 4.4: Effect of top management commitment to QMS on organizational performance

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No effect</td>
<td>4</td>
<td>5.1</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Positive</td>
<td>67</td>
<td>85.9</td>
<td>88.2</td>
<td>93.4</td>
</tr>
<tr>
<td>No idea</td>
<td>5</td>
<td>6.4</td>
<td>6.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>97.4</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>2.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Data (2013)

A detailed analysis of the results of the opinion on top management commitment to QMS and its effect on organizational performance through crosstabulation is shown in table 4.5 below:

Table 4.5: Opinion on top management commitment on QMS and its effect on organizational performance: Crosstabulation

<table>
<thead>
<tr>
<th>Opinion on top management commitment on QMS</th>
<th>Effect of top management commitment to QMS on organizational performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No effect</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
</tr>
<tr>
<td>Unsere</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>3</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Research Data (2013)
The study revealed that most of the respondents either agreed or strongly agreed that top management was committed to QMS in Sonysugar and that this commitment had a positive effect on organizational performance.

4.3.2 Resource management and organizational performance

4.3.2.1 Availability of resources

The research sought to establish whether the company had enough resources in terms of finances, competent human resources, infrastructure such as computers, transport machinery, plant equipment to operate effectively and efficiently. Respondents in this area comprised of top management, QMS lead auditors and middle management employees only. The results were as shown in the figure 4.5 below.

![Figure 4.5: Responses on whether the company has sufficient resources for its operations](image)

Source: Research Data (2013)

It was established that a higher percentage of 71.05% believe that the organization has sufficient resources to operate efficiently and effectively while 28.95% thought otherwise.
The respondents who believe the organization has enough resources mainly come from service departments such as Human Resource, Company Secretariat, Procurement and Marketing and General Administration. The respondents that disagree that there are sufficient resources came from the core technical departments comprising of Agriculture and Manufacturing. In an interview with the top management in these two departments, they noted that Sonysugar does not have sufficient tractors to haul cane required to meet the daily target of crushing 3000 tones of cane per day. The use of old and outdated machinery and technology at the factory to crush cane also hinders performance hence in their opinion, the organization lacks sufficient resources to operate efficiently and effectively.

4.3.2.2 Work environment

The study further sought to establish whether the work environment in terms of health and safety, hygiene, cleanliness and noise pollution among others, were conducive. The results were as shown in the figure 4.6 below.

![Figure 4.6: Responses on the work environment](source: Research Data (2013))
The results established that according to most of the respondents, the work environment was conducive with a percentage of 89.74% while 10.25% thought it was not conducive. Those that considered work environment was conducive stated that availability of the company hospital with qualified doctors and nurses within the company premises, the mandatory requirement to issue staff with protective clothing such as rubber boots, nose masks, helmets and gloves, ear plugs especially in accident prone areas such as the factory, availability of water distillers in all office pools, improved sanitary facilities, training of all staff on emergency safety procedures etc. An interview with top management at the quality control division revealed that since Sonysugar got ISO certification in 2011 on Environmental Management Systems (EMS 14001:2004) as well, it is a mandatory requirement to ensure the work environment is conducive at all times prior to and after certification and in order to comply and avoid non conformities there has been a great improvement on work environment. This has impacted on QMS implementation in respect to resource management as well.

Analysis of secondary data on Sonysugar Company Workplace Satisfaction Exit Survey conducted by Strategic Africa (Research & Communication Consultants) for the year 2008-2012 established the overall satisfaction indices as outlined below based on the following parameters: physical environment, social and mental environment, human resource management, recognition, communication and staff development.

Table 4.6 Workplace environment satisfaction survey

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace overall environmental satisfaction index</td>
<td>55.9%</td>
<td>68.9%</td>
<td>71.7%</td>
</tr>
</tbody>
</table>

Source: Sonysugar company workplace exit survey 2012
The survey findings show that there has been an increase in overall satisfaction index from 55.9% before ISO certification compared to 71.7% after ISO certification. The fraction of respondents that believe the work environment is not conductive comprised of employees who feel the office space is limited, there is limited medical cover for unionizable staff.

### 4.3.2.3 Resource management at Sonysugar.

The study sought the opinion of the respondents on the management of resources at Sonysugar. The areas under consideration were whether resource management is directed to other areas as well and not finances only, whether company resources are deployed to meet agreed policies and strategies and whether training of staff is undertaken and aligned to company goals. Respondents consisted of top management, lead auditors and middle management. The results were as shown in the figure 4.7 below.

![Figure 4.7: Respondents opinion on resource management at Sony sugar](image)

**Source:** Research Data (2013)
From the results, most of the respondents were of the opinion that the management team recognizes that success comes from employees and that skill training is encouraged and training plans are agreed and aligned to the company goals. Majority were also of the view that all the company’s resources are deployed to meet agreed policies and strategies. 57.89% of the respondents agreed while 23.68% strongly agreed with the above views. The frequency table below further details the distribution of responses obtained.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>2.6</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>5.3</td>
<td>5.3</td>
<td>7.9</td>
</tr>
<tr>
<td>Unsure</td>
<td>4</td>
<td>10.5</td>
<td>10.5</td>
<td>18.4</td>
</tr>
<tr>
<td>Agree</td>
<td>22</td>
<td>57.9</td>
<td>57.9</td>
<td>76.3</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>9</td>
<td>23.7</td>
<td>23.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Source: Research Data (2013)**

Out of the 38 respondents, 22 are of the opinion that there is proper resource management at Sonysugar, 9 strongly agree, 4 are unsure while 2 disagree and 1 strongly disagree there is proper resource management at Sonysugar. The respondents who disagreed noted that they had not been selected to go for any training in the last year training plan because management declared there was no budget for these trainings. Others felt there was a lot of wastage of resources in terms of fuel siphoning by tractor drivers and careless driving leading to a lot of road accidents.
4.3.2.4 Effect of resource management on organizational performance

The study further sought to establish the respondents’ opinion on the effect of the level of resource management on the organizational performance. The results were as shown in the figure 4.8 below.

![Figure 4.8: Effect of resource management at Sonysugar Company.](image)

Source: Research Data (2013)

92.21% of the respondents were of the opinion that resource management at Sonysugar has a positive effect on organizational performance. This was based on the following observations from the respondents: that there is strict budgetary controls such that only activities budgeted for are implemented and this has had a positive impact on organizational performance, work environment is conducive thus motivating staff and increasing productivity, there is regular training of staff leading to increase in skills and knowledge implemented at the workplace and impacting positively on performance.
4.3.3 Product Realization and organizational performance

The study sought to establish whether organization’s products meet customer requirements, if product development is based on research and meet statutory requirements and if there are channels of communication on product information, enquiries and customer feedback. Respondents consisted of top management, middle management and lead auditors.

4.3.3.1 Products based on customer requirements

The study sought to establish whether the respondents who consisted of direct customers only who purchase sugar in bulk directly from the company thought the company products were based on customer requirements and the results were as shown in the figure 4.8 below.

![Figure 4.9: Opinion on product conformation to customer requirements](source: Research Data (2013))
From the findings, 97.37% of the respondents support the fact that Sonysugar products are based on customer requirements. The requirements here refer to the level of refinement of sugar crystals, the colour (white and brown), the packaging in different varieties from sachets to various packages from 0.5 kg, 1kg, 2kgs,5kgs and 50kgs and the sucrose content in terms of sweetness. 2.6% of the customers were dissatisfied because the prices were relatively high and they wanted extension of credit terms which the company has not addressed.

Analysis of secondary data based on customer satisfaction survey for Sonysugar carried out by Strategic Africa (Research & Communications Consultants) for the year 2011/2012 established that overall direct customer satisfaction index stood at 71.1%. This rating is attributed to the high satisfaction ratings with products and branding of Sonysugar at 83.6%, the Sonysugar brand at 81.9%, Sonysugar packaging at 79.8% and Sonysugar visits and calls at an average of 79.1%. This highlights significant improvement from the 2010 index which rested at 65.5%. The direct customers who were dissatisfied noted the areas of pricing and terms as unfavorable and attributes in service offerings as low.

4.3.3.2 Channels of communication for obtaining feedback

The respondents consisting of direct customers and farmers only were further required to confirm whether there were channels of communication between Sonysugar and customers/farmers for making inquiries and obtaining feedback. The figure 4.10 below shows the results obtained.
From the findings 95.00% of the respondents agreed that there were channels of communication between the company and customers as well as farmers. This was based on the fact that there are weekly forums held at the company to meet with farmers and monthly forums to meet with direct customers who purchase sugar from the company in bulk. There is also an interactive company website (www.sonysugar.co.ke) where customers/farmers log in and make enquiries and obtain feedback.

**4.3.3.3 Processes put in place to ensure product realization at Sonysugar**

The research sought to establish the opinion of the respondents who consisted of top management, middle management and lead auditors on the processes put in place to ensure product realization at Sonysugar. The processes under consideration were; whether continuous research exists to identify and meet individual customers/farmers needs, whether research findings fully integrated into business plans and product development, whether
inputs and product composition, design, packaging etc meet the required legal and statutory requirements. The results are shown in the figure 4.11 below.

Figure 4.11: Opinion on processes put in place to ensure product realization

Source: Research Data (2013)

From the findings it was established that 63.16% of the respondents agreed that there are processes put in place to ensure quality product realization at Sonysugar, 15.79% strongly agreed, 13.16% were not sure and 7.89% disagreed.

4.3.3.4 Effect of product realization on organizational performance

The study further sought the opinion of the various respondents on the effect of product realization aspects mentioned on organizational performance and the results were as shown in the figure 4.12 below.
The findings revealed that 97.37% of the respondents were of the opinion that the product realization aspects mentioned had a positive effect on organizational performance while 2.63% had no idea.

A comparison of the responses on the product realization and its effect on organizational performance is seen in the cross tabulation below:
Table 4.8: Opinion on processes put in place to ensure product realization and effect on organizational performance - Cross tabulation

<table>
<thead>
<tr>
<th>Opinion on processes put in place to ensure product realization</th>
<th>Effect of product realization aspects on organizational performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive effect</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
</tr>
<tr>
<td>Unsure</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>24</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
</tr>
</tbody>
</table>

Out of the 38 respondents, 24 strongly agreed that product realization aspects had a positive effect on organizational performance, 6 strongly agreed on the same. 3 respondents that disagreed that there were processes put in place to realize the desired product and 4 who were unsure had the opinion that product realization aspects in the company had a positive effect on performance.

4.3.4 Monitoring and measurement through Quality audits and organizational performance

4.3.4.1 Quality audits in the organization

The study sought to establish whether the respondents comprising of top management, QMS lead auditors, middle management, farmers and direct customers who purchase sugar directly from the company were aware of any quality audits carried out by the organization and the results were as shown in the figure 4.13 below.
From the findings, 92.21% of the respondents were aware of quality audits carried out in the organization to ensure effective operation of processes and systems in the company while 7.79% were not aware.

4.3.4.2 Nature of quality Audits

The study further sought to establish whether the respondents were aware of the nature of quality audits carried out in the organization. The results were as shown in the figure 4.14 below:
Figure 4.14: Nature of quality audits carried out in the organization

Source: Research Data (2013)

The findings established that 59.72% of the respondents identified with external certification audits while 40.28% identified with internal audits.

4.3.4.3 Carrying out of corrective/preventive action

The study also sought to establish whether the organization carries out corrective/preventive actions in an effort to correct non conformities the results were as shown in the figure 4.15 below.
Figure 4.15: Corrective/preventive actions carried out for continuous improvement

Source: Research Data (2013)

The findings revealed that the organization carries out corrective/preventive actions with all respondents agreeing with this fact. In an interview with the departmental lead auditors to verify these findings, it was established that all non-conformities raised during audits are not closed until corrective/preventive action is taken and this is stipulated in the Company’s mandatory procedures hence it must be observed. It was also established that in Management Review meetings held quarterly in the organization, evidence of carrying out preventive/corrective measures must be presented by every department failure to which a show cause will be issued to the respective person assigned with the responsibility of carrying it out.

4.3.4.4 Opinion in respect to measurement, analysis and improvement of processes through quality audits at Sonysugar.

The study sought to establish the respondents’ opinion with respect to measurement, analysis and improvement of processes through quality audits. Areas under consideration were whether organization carries out quality audits, whether corrective and preventive actions are
taking place, whether there are measurement and monitoring systems in place and whether organization has experienced any improvements from the time it was ISO certified. The results are shown in figure 4.16 below:

Figure 4.16: Measurement, analysis and improvement of processes through quality audits.
Source: Research Data (2013)

From the findings, 53.25% of the respondents agreed that there is measurement, analysis and improvement processes in the organization, 32.47% strongly agreed, 11.69% were not sure and 1.3% disagreed.

The frequency table below shows the distribution of the various responses among the respondents in the sample population.
Out of the 78 respondents comprising of top management, lead auditors, middle management, direct customers and farmers, 41 agree that there is measurement, analysis and improvement through quality audits in the company while 21 strongly agree. 9 are unsure, 1 disagrees and 1 strongly disagrees.

### 4.3.4.5 Effect of measurement, analysis and improvement on organizational performance

The study further sought to establish the different respondents’ opinion on the effect of measurement, analysis and improvement of processes through quality audits on organizational performance. The results of the findings were as shown in the figure 4.17 below:
Figure 4.17: Effect of measurement, analysis and improvement of processes on organizational performance

Source: Research Data (2013)

From the findings of the study, 90.91% of the respondents were of the opinion that measurement, analysis and improvement of processes had a positive effect on the organizational performance while 9.09% had no idea.

4.4 Analysis of secondary data on effect of quality management systems on organizational performance.

The study sought to establish effect of quality management systems on organizational performance based on financial, sales and sugar production volumes. Secondary data was obtained from Yearbook of Sugar Statistics published by Kenya Sugar Board from 2008 - 2012 and the audited financial report of South Nyanza Sugar Company Ltd from 2008-2012.
4.5.1 Financial trends before and after ISO certification

Table 4.10: Summary of Financial Trends (Profit & Loss Account) for Sonysugar from 2008-2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Description/Amount</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
</tr>
<tr>
<td>Total income</td>
<td>2,757,149</td>
<td>3,023,112</td>
<td>3,480,094</td>
<td>4,973,923</td>
<td>5,888,966</td>
</tr>
<tr>
<td>Total expenses</td>
<td>2,755,588</td>
<td>2,941,438</td>
<td>3,211,006</td>
<td>4,338,816</td>
<td>4,888,910</td>
</tr>
<tr>
<td>Trading profit</td>
<td>1,561</td>
<td>81,673</td>
<td>269,088</td>
<td>635,107</td>
<td>998,056</td>
</tr>
<tr>
<td>Add/(deduct) extra charges</td>
<td>(70,669)</td>
<td>(57,813)</td>
<td>(64,164)</td>
<td>(72,012)</td>
<td>25,557</td>
</tr>
<tr>
<td>Net profit (loss)</td>
<td>(69,108)</td>
<td>23,860</td>
<td>204,924</td>
<td>563,095</td>
<td>1,023,613</td>
</tr>
</tbody>
</table>

Source: Yearbook of Sugar Statistics, KSB (2012)

The study revealed that the year before Sonysugar implemented quality management systems by becoming ISO certified in 2009, the company made a loss of Ksh.69,108,000.00 in 2008 but from the year the company implemented quality management systems, the company began making steady financial profits, rising from 23,860,000.00 to over 1 billion in 2012.

4.5.2 Sugar Sales before and after ISO certification

Table 4.11: Summary of Sugar Sales from 2008 -2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Description/Amount</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
<td>Ksh.000</td>
</tr>
<tr>
<td>Sugar Sales (Net)</td>
<td>2,501,412</td>
<td>3,067,679</td>
<td>3,389,035</td>
<td>4,855,984</td>
<td>5,796,351</td>
</tr>
</tbody>
</table>

Source: Yearbook of Sugar Statistics, KSB (2012)

The study showed that the sugar sales volume in 2008 before ISO certification was over Ksh.2.5 million but after implementation on quality management system in 2009, the sales steadily increased to the point of doubling in 2012.
4.5.3 Sugar production volumes before and after ISO certification

Table 4.12: Summary of Sugar Production Volumes from 2008 -2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume in metric tonnes (MT)</td>
<td>MT</td>
<td>MT</td>
<td>MT</td>
<td>MT</td>
<td>MT</td>
</tr>
<tr>
<td>Sugar Production Volumes</td>
<td>52,379</td>
<td>63,137</td>
<td>55,001</td>
<td>72,346</td>
<td>52,470</td>
</tr>
</tbody>
</table>

Source: Yearbook of Sugar Statistics, KSB (2012)

The study of secondary data revealed that sugar production volumes in 2008 before implementation on quality management systems was 52,379 metric tones. The year Sonysugar implemented quality management systems in 2009, volume rose up to 63,137 metric tones then went down again the following year to 55,001 metric tones. In 2010 the sugar production volumes went up again to 72,346 then went down again to 52,470 metric tones in 2012.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This study set out to establish the influence of quality management systems implementation on organizational performance. Specific objectives were to determine the effect of top management commitment on organizational performance at Sonysugar, to establish the influence of resource management on organizational performance at Sonysugar, to assess the effect of development and realization of products based on customer and statutory requirements on organizational performance and to examine the effect of measurement, analysis and improvement through corrective and preventive actions on organizational performance of Sonysugar. This was done by establishing the effect of four key quality management systems implementation requirements on financial, sales and sugar production volumes as indicated in the study objectives enumerated below. This chapter therefore presents the summary of findings, conclusions drawn from the findings, recommendations and suggestions for further research.

5.2 Summary of Findings

5.2.1 Effect of top management commitment to organizational performance
The study established that majority of the respondents believe that Sonysugar top management is committed to QMS implementation with 59.95% agreeing and 33.77% strongly agreeing. 88.16% of the respondents believe that top management commitment has had a positive effect on organizational performance. This means that quality management systems will be successful to the extent to which top management support its implementation in terms of creating awareness, developing policies and considering QMS as an integral part of the organization by fully participating. These findings support the total quality guru
theories by Edward Deming and Joseph Juran who argued that top management support and commitment is crucial for improved organizational performance. However, the findings contradict the report contained in the Kenya Sugar Industry Strategic Plan, 2010-2014 that states the Sugar industry is currently riddled with weak corporate governance from top management. The findings show that in the case of Sonysugar, top management commitment to quality management systems implementation process has led to improved performance.

5.2.2 Influence of resource management on organizational performance

The study found out that 71.05% of the respondents are of the opinion that Sonysugar has sufficient resources to operate effectively and efficiently whereas 28.95% think otherwise. Respondents from Agriculture and Manufacturing Departments recorded the highest dissatisfaction on availability of resources naming shortage of cane haulage tractors and use of old machinery and technology as hindrances to effectiveness and efficiency that subsequently impacts negatively on sugar production volumes. 89.74% of the respondents further noted that work environment at Sonysugar is conducive. The findings of secondary data on Sonysugar Workplace Satisfaction Exit Survey conducted by Strategic Africa for the year 2008-2012 established the overall satisfaction indices had grown from 55.9% in 2008 before implementation of QMS to 71.7% in 2012 after ISO certification. 57.89% of the respondents were of the opinion that there is proper resource management at Sonysugar while 23.68% strongly agree on the same. 92.21% of the respondents were of the opinion that proper resource management at Sonysugar has had a positive effect on organizational performance. In as much as there are positive findings in the area of resource management, it is also true that the company still lacks key resources especially availability of tractors and use of outdated technology and in this regard, the findings coincide with the
report by Kenya Sugar Board that lack of sufficient resources in terms of low cane yields, lack of sufficient infrastructure, use of outdated technology has impacted negatively on organizational performance especially on sugar production volumes with production being 52,379 MT (metric tones) in 2008 compared to 52,470 MT in 2012 before and after ISO certification respectively.

5.2.3 Effect of product realization aspects on organizational performance

The study established that 97.3% of the respondents consisting of Direct Customers only who purchase sugar in bulk from Sonysugar are of the opinion that the products are based on customer requirements. The findings of secondary data based on Customer Satisfaction Survey for Sonysugar carried out by Strategic Africa for the year 2012 established the overall direct satisfaction index stood at 71.1%.

63.16% of the respondents agreed that the company had put systems in place to ensure the desired product is realized. 97.37% of the respondents were of the opinion that Sonysugar’s commitment to develop and produce the desired product has had a positive effect on organizational performance.

5.2.4 Effect of measurement, analysis and improvement of processes through quality audits on organizational performance.

The study found out that 59.72% of stakeholders were aware of external certification audits whereas 40.28% were aware of internal audits taking place at the company. 100% of the respondents agree that the company carries out corrective and preventive actions. 90.91% of the respondents agree that measurement, analysis and improvement of processes at the company has had a positive effect on organizational performance. Measurement, analysis and carrying out of corrective and preventive action ensures that the organization identifies areas of deviations and corrects them, leading to continual improvement in organizational
performance. These findings are in agreement with the TQM gurus findings that monitoring measurement, analysis and carrying out of corrective actions leads to improved organizational performance. However they challenge the bleak future and general public opinion given to the Sugar industry based on statements made by recently by politicians, the Permanent Secretary in the Ministry of Agriculture and the press that the Sugar industry is performing so poorly and is on the verge of collapse due to inefficiency in operations. The findings show that in as much the industry is struggling to survive in view of eminent problems, there are exceptions such as the case of Sonysugar that has had significant improvement in its operations and processes inspite of the numerous challenges faced by the industry.

5.2.5 Summary of secondary data on organizational performance

The study of secondary data from Audited Accounts of Sonysugar from 2008-2012 and Yearbook of Sugar statistics from Kenya Sugar Board for the year 2008-2012 established that financial performance of Sonysugar increased from a loss of Ksh.69 million in 2008 before ISO certification to a profit of Ksh.1 billion in 2012 after ISO certification. Costs of production have also increased significantly from Ksh.2.5 billion in 2008 to 4.89 billion in 2012 in spite of implementing quality management systems. The ratio of total income to total expenses is 1 in 2008 before ISO certification and is still 1 in 2012 after ISO certification, meaning there has been no marginal decrease in costs of production even after implementation of quality management systems.

Sales increased from Ksh.2.5 billion in 2008 before ISO certification to Ksh.5.7 billion in 2012 after ISO certification. Sugar production volumes increased from 52,379 metric tones in 2008 before ISO certification to 72,346 metric tones in 2011 and dropped again significantly to 52,470 tones in 2012. The only new factor that was introduced to the
organization in 2009 is implementation of quality management systems therefore it can be interpreted that the increase in financial and sales figures was as a result of this. However, sugar production volumes went on a downward trend two years after being on the rise. It is evident that there are other factors that affect sugar production volumes other than implementation of quality management systems such as lack of sufficient resources in terms of tractors for hauling cane and use of old and outdated machinery and technology at the plant.

5.3 Conclusion

Based on the findings of the study outlined herein, the study concluded that implementation of quality management systems has had a positive influence on organizational performance at Sonysugar. Top management commitment to develop, implement and continually improve on its effectiveness has led to positive effect on organizational performance.

It can also be concluded that proper resource management has had a positive influence on organizational performance at Sonysugar. However there is still a challenge in availability of resources especially tractors and use of old machinery and technology that impact negatively on sugar production volumes at Sonysugar. It can be concluded that there is a conducive work environment in respect to health, safety, hygiene and cleanliness and this has had a positive effect on organizational performance at Sonysugar.

From the study, we can also conclude that to a large extent, Sonysugar is committed to developing the desired product based on customer and statutory requirements and this has had a positive impact on organizational performance. The carrying out of constant research to improve on cane quality, the refining of sugar to desired standards and producing white and brown brands has boosted the product quality thus increasing sugar sales.
It can also be concluded that continual measurement, analysis and improvement of organizational systems at Sonysugar has led to improved organizational performance. Through quality audits and carrying out of corrective actions, deviations from expectations are dealt with to eliminate occurrences of non-conformity.

From the findings of this study, we finally conclude that implementation of quality management systems at Sonysugar has had a positive influence on organizational performance. However not all aspects of performance can be improved by quality management systems implementation alone. Environmental factors such as competition, technology, politics, economical and social issues affect performance. The use of outdated technology at Sonysugar came out so strongly as a hindrance to performance. Competition from cheaper imports from the low cost producers such as Zambia and Sudan is a major threat to the Kenyan sugar industry. The study therefore observes that these environmental factors must be addressed alongside implementation of quality management systems to enhance efficiency and effectiveness in the Sugar industry in Kenya. The findings of the study further lead to the drawing of the conclusion that the sugar industry in Kenya still has a future and the industry should not be condemned.

5.4 Recommendations

The main objective of the study was to establish the influence of quality management systems on organizational performance. Based on the findings, the researcher recommends that top management need to continue offering full support to quality management systems implementation process if positive results are to be obtained.

The researcher also recommends that proper resource management must be put in place to realize positive increase in organizational performance. Organizations should do this by
ensuring provision of adequate resources, training of human resource and ensuring there is conducive work environment.

Organizations should ensure that their products and services are based on customer requirements and that there are proper channels of communication and feedback with all stakeholders. The researcher recommends that measurement, analysis and improvement of processes should be continually carried out and corrective and preventive actions taken up.

The researcher recommends that organizations should find means of reducing marginal costs of production such as investing in new machinery and equipment and use modern technology in production among others. This should be done together with implementation of quality management systems to enhance efficiency.

The researcher finally recommends that organizations should take note of environmental factors that influence performance such as political, economical, social, technological and legal factors and exploit them depending on the strengths they offer to the organization and control and minimize them depending on the threats they pose to organizational performance.

5.5 Suggestions for Further Studies

The study only examined the influence of quality management systems on organizational performance of Sonysugar. Further research can be carried out to expand the research scope to other sugar companies for the purpose of comparison and allow for generalization of findings which can be applied by Sugar industry to enhance efficiency in operations.

Implementation of quality management systems has had no or minimal influence on marginal costs of production and sugar production volumes. Further study should be carried out to establish what other factors can reduce costs of production and enhance and improve organizational performance other than quality management systems.
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Preamble

This study is being carried out in order to evaluate the influence of Quality Management Systems (QMS) implementation on organizational performance of South Nyanza Sugar Co. Ltd.(Sonysugar) and is strictly for academic purposes only. I request that you fill the questionnaire below as honestly as possible below and assure you that data generated shall be kept confidential. Your opinion will represent the opinion of other stakeholders like yourself and you will not be identified whatsoever with the information you provide. In case of any difficulty in responding to the questionnaires, kindly contact the designer of the questionnaire on cell phone no. 0722818719.

SECTION A: GENERAL INFORMATION (To be completed by all respondents)

(Tick ✓ as appropriate)

1. Specify your relationship with Sonysugar
   a) Top Management
   b) Lead Auditor
   c) Middle Management
   d) Farmer
   e) Customer

2. What gender are you?
   a) Male
   b) Female

3. How long have you been affiliated with Sonysugar
   a) 0-5 years
   b) 6-10 years

4. What is your level of education?
   a) Primary
   b) Secondary
   c) Medium level college
   d) University
SECTION B: (To be completed by all respondents)
Management Commitment and Organizational Performance

1. Are you aware if Sonysugar is ISO certified on QMS or not?
   A-Yes ( )  B- No ( )

2. If Yes, which year did Sonysugar become ISO certified
   A-2005 ( )  B- 2009 ( )

3. Please tick the area that best describes your opinion as far as Top management commitment to QMS implementation in Sonysugar is concerned using the following scale: (1) Strongly disagree, (2) Disagree, (3) Unsure (4) Agree (5) Strongly Agree

<table>
<thead>
<tr>
<th>No</th>
<th>Level of Top Management commitment to QMS at Sonysugar</th>
<th>Strongly Disagree (1)</th>
<th>Disagree (2)</th>
<th>Unsure (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Top Management has no comprehension of QMS as a management tool.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Top Management recognizes that QMS may be of value but are not willing to provide resources in terms of money, time, training to support the process.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Top management participates and understands absolutes of QMS when called upon. However they leave most of QMS issues to Quality Assurance Department to handle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Consider QMS as an integral and essential part of company system and participate fully at all times.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. In your opinion, what effect has level of top management commitment to QMS had on the following areas of organizational performance at Sonysugar: (please tick as appropriate)
5. Explain your answer in the space provided below.

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

SECTION C (To be completed by top and middle management and lead auditors only)

Resource Management and organizational Performance

6. Does the company have sufficient resources in terms of finances, competent human resources, infrastructure such as computers, transport machinery, plant equipment to operate effectively and efficiently?

A - Yes ( )  B - No ( )

7. Explain your answer in (7) above in the space provided below

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

8. (i) How conducive is the work environment in terms of health and safety, hygiene, cleanliness and noise pollution among others?

A – Conducive ( )  B - Not conducive ( )

9. Please tick as appropriate the area that best describes your opinion in respect to resource management at Sonysugar using the following scale: (1) Strongly disagree, (2) Disagree, (3) Unsure (4) Agree (5) Strongly Agree
<table>
<thead>
<tr>
<th>No</th>
<th>Resource Management at Sonysugar</th>
<th>Strongly Disagree (1)</th>
<th>Disagree (2)</th>
<th>Unsure (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Resource management tends to be directed solely at financial areas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>All the company’s resources are deployed to meet agreed policies &amp; strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Training is considered as a cost and people are employed to work, not to be trained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>The management team recognizes that success comes from employees. Skill training is encouraged &amp; training plans are agreed &amp; aligned to the company’s goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. In your opinion, what effect has the level of resource management had on the following areas of organizational performance at Sonysugar: (please tick as appropriate)

<table>
<thead>
<tr>
<th>Area of performance</th>
<th>Negative effect (1)</th>
<th>No effect (2)</th>
<th>Positive effect (3)</th>
<th>No idea (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Financial Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Market Share</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Sugar production volumes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Explain your answer in the space provided below.

..........................................................................................................................................................
..........................................................................................................................................................
..........................................................................................................................................................
SECTION D (Qn 12 for customers only, qn 13 for customers & farmers, qn 14 & 15 for top and middle management and lead auditors only.)

Product Realization and Organizational Performance

12. (i) Are Sonysugar products (white & brown milled sugar) based on customer requirements? (To be)
   A – Yes ( ) B – No ( )
   
   (ii) Explain your answer in 11(i) above in the space provided below
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

13. (i) Are there any channels of communication between Sonysugar and customers/farmers for making enquiries and obtaining customer/farmers feedback?
   A – Yes ( ) B – No ( )

14. Please tick as appropriate the area that best describes your opinion in respect to processes put in place to ensure product realization at Sonysugar using the following scale: (1) Strongly disagree, (2) Disagree, (3) Unsue (4) Agree (5) Strongly Agree

<table>
<thead>
<tr>
<th>No</th>
<th>Processes to ensure quality product realization at Sonysugar</th>
<th>Strongly Disagree (1)</th>
<th>Disagree (2)</th>
<th>Unsue (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Continuous research exists to identify &amp; meet individual customers/ farmers needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Research findings are fully integrated into business plans and product development for continuous improvement &amp; innovation purposes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>There are processes in place that ensure that customers and farmers have a total quality experience not only in respect to quality of the inputs/ products but also proper delivery channels and proper servicing of customers &amp; farmers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>The inputs and product composition, designs, packaging etc. meet the required legal and statutory requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
15. (i) In your opinion, what effect has product realization aspects mentioned above had on the following areas of organizational performance at Sonysugar: (please tick as appropriate)

<table>
<thead>
<tr>
<th>Area of performance</th>
<th>Negative effect (1)</th>
<th>No effect (2)</th>
<th>Positive effect (3)</th>
<th>No idea (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Financial Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Market Share</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Sugar production volumes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(ii) Explain your answer in the space provided below

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

SECTION E (To be completed by all respondents)

Monitoring and Measurement through Quality Audits & Organizational Performance

16. (i) Are you aware of any quality audits of processes carried out in the organization to ensure effective operation of processes and systems in the company?

(ii) What is the nature of the audits carried out in the organization within the past one year?
A - Internal audits ( ) B - Supplier audits ( ) C - External certification audits

17. Does the organization carry out corrective / preventive actions in an effort to continually improve its processes and systems?
A – Yes B – No

18. Please tick as appropriate the area that best describes your opinion in respect to Measurement, Analysis and Improvement of processes through quality audits at Sonysugar using the following scale: (1) Strongly disagree, (2) Disagree, (3) Unsure (4) Agree (5) Strongly Agree
<table>
<thead>
<tr>
<th>No</th>
<th>Measurement, Analysis &amp; Improvement through quality audits at Sonysugar</th>
<th>Strongly Disagree (1)</th>
<th>Disagree (2)</th>
<th>Unsure (3)</th>
<th>Agree (4)</th>
<th>Strongly Agree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>There is an appropriate performance measurement and monitoring system in place for every key process in the organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>The organization conducts periodic internal and surveillance quality audits to determine suitability and effectiveness of the system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Corrective and preventive actions are carried out to ensure that any deviation from expectation is corrected to eliminate non conformity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>The organization has experienced continuous improvement in its processes as a result of carrying out corrective and preventive actions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. (i) In your opinion, what effect has measurement, analysis and improvement of processes through quality audits had on the following areas of organizational performance at Sonysugar: (please tick as appropriate)

<table>
<thead>
<tr>
<th>Area of performance</th>
<th>Negative effect (1)</th>
<th>No effect (2)</th>
<th>Positive effect (3)</th>
<th>No idea (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Financial Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Market Share</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Sugar production volumes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. (ii) Explain your answer in the space provided below

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...............................................................
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APPENDIX II

PERMISSION LETTER TO THE MANAGING DIRECTOR OF SONYSUGAR

This is a letter requesting the South Nyanza Sugar Company Managing Director to grant me authority to obtain relevant information that may normally be controlled or restricted in respect to Quality Management Systems and Corporate Performance records for the company.

SOUTH NYANZA SUGAR COMPANY LIMITED

“Internal Memorandum”

From: Joyce Ogoye (Staff No. 5114)
To: Managing Director

Subject: Permission to obtain relevant information for Research Project

Date: 1st August, 2013

Ref : SNSC/CS/INS/M/175/2013

I am a final year MBA Student specializing in Strategic Management at Kenyatta University. Currently am carrying out a project research on the influence quality management systems implementation on organizational performance of Sonysugar.

This will require that I obtain relevant information from the company records that may be normally restricted. I also need to obtain relevant information through use questionnaires and conduct interviews with the relevant officers.

Your assistance in obtaining the relevant information is likely to generate data that will benefit the Sugar Industry, future researchers and other service industries at large. The information given will be treated confidentially.

Kindly grant me authority and thank you in advance for your co-operation.

Kind regards,

Joyce A. Ogoye (Ms)
APPENDIX III

SUGAR PRODUCTION COST COMPARISON TABLES

Table 1: Sugar Production Cost Table as at 2005

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>COST PER TONNE - 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>300 US $</td>
</tr>
<tr>
<td>Malawi</td>
<td>230 US $</td>
</tr>
<tr>
<td>Swaziland</td>
<td>265 US $</td>
</tr>
<tr>
<td>Kenya</td>
<td>700 US $</td>
</tr>
<tr>
<td>Brazil</td>
<td>200 US $</td>
</tr>
<tr>
<td>Sudan</td>
<td>345 US $</td>
</tr>
<tr>
<td>Zambia</td>
<td>275 US $</td>
</tr>
</tbody>
</table>


Table 2: Sugar Production Cost Table as at 2011

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>COST PER TONNE – 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>650–700US$</td>
</tr>
<tr>
<td>Sudan</td>
<td>250–340 US$</td>
</tr>
<tr>
<td>Egypt</td>
<td>250–300 US$</td>
</tr>
<tr>
<td>Swaziland</td>
<td>250–300 US$</td>
</tr>
<tr>
<td>Zambia</td>
<td>230–260 US$</td>
</tr>
<tr>
<td>Malawi</td>
<td>200–230 US $</td>
</tr>
<tr>
<td>Tanzania</td>
<td>180–190 US $</td>
</tr>
<tr>
<td>Uganda</td>
<td>140–180 US $</td>
</tr>
<tr>
<td>World</td>
<td>250–300US$</td>
</tr>
</tbody>
</table>

### APPENDIX IV

#### TIME SCHEDULE

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>WEEKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pretesting and validation of research tools</td>
<td></td>
</tr>
<tr>
<td>Training of research assistants</td>
<td></td>
</tr>
<tr>
<td>Instrument administration</td>
<td></td>
</tr>
<tr>
<td>Data preparation</td>
<td></td>
</tr>
<tr>
<td>Data entry</td>
<td></td>
</tr>
<tr>
<td>Data analysis</td>
<td></td>
</tr>
<tr>
<td>Report writing</td>
<td></td>
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</tbody>
</table>