

**THE STRATEGIC CHALLENGES FACED BY FIRMS IN THE
ADOPTION OF ISO 9000 QUALITY SYSTEMS MANAGEMENT
STANDARD: THE CASE OF MANUFACTURING FIRMS IN
NAIROBI'S INDUSTRIAL AREA**

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**A Management Research Project Submitted in Partial Fulfillment of the
Requirements for the Award of Master of Business Administration
(MBA) Degree of the School of Business, University of Nairobi**

NOVEMBER 2008

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DECLARATION

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

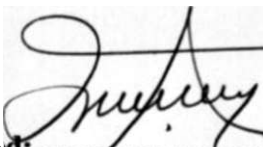
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DEDICATION

This research project is dedicated to my parents; Francis and Rith, my sisters; Hsther, Nancy, Millicent, my brother; James, my brother-in-law; Felix and to my niece; Zo2 whose encouragement and prayers made it all worthwhile.

ACKNOWLEDGMENT

I wish to recognize and thank everybody who contributed to this study. Special thanks go to my Research Project Supervisor, Dr.J.M. Munyoki for giving me invaluable guidance, support, patience and encouragement. I am truly very grateful.

My sincere thanks to all those who responded to my questionnaire and to my colleagues in the MBA programme for their advice and suggestions. Further thanks to all my MBA lecturers, family members and friends who supported me and cheered me on. Finally, thanks be to God for guidance and never-ending love.

ABSTRACT

The purpose of this study was to identify the strategic challenges that manufacturing firms based in Nairobi's Industrial Area are facing in the adoption of ISO 9001:2000. Out of the companies sampled, four manufacturing companies responded constituting a 73% response rate. The study was carried out by use of questionnaires, which consisted of both open-ended and closed questions. The data collected was analyzed using the SPSS computer based statistical program and presented in tables and other descriptive statistics.

The study shows that there are various strategic opportunities and challenges that manufacturing firms are facing following their adoption of ISO 9001:2000. The major opportunities identified are: increased efficiency and efficacy (27.5%), improved international rating (17.7%), improved customer satisfaction (15.7%) and Quality Monitoring improvement (13.7%). The major strategic challenges identified were: increase in expenditure (33.4%), conformity of manufactured products to international standards (17.7%), maintaining already set standards of operations following certification (15.9%) and heavy and costly investment in IT and machinery (13.3%).

The conclusions drawn from the study were that firms that adopted ISO 9001:2000 were firms that already had a quality system in place and therefore adoption of the standard was to enable the firm strengthen and improve its already existing quality system. The main reasons that motivated firms to adopt ISO 9001:2000 were identified as: to enable firm gain competitive advantage mainly in overseas markets (10.7%), aid the firm in increasing efficiency and productivity (13.4%). to play a role as part of the firm's larger

improvement strategy (13.4%) and to enable the firm compete more effectively in overseas markets (13.4%).

In order for the certified manufacturing firms to maximize on the opportunities and minimize on the negative effects of the strategic challenges of adopting ISO 9001:2000 they would have to ensure that the certification is being obtained for the right reasons as well as to sensitize employees as well as all other stakeholders to ensure that all are on board prior and following certification to reduce negative effects of resistance.

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LIST OF ABBREVIATIONS

OPEC-Organization of the Petroleum Exporting Countries

KAM- Kenya Association of Manufacturers

COMESA-Common Market for Eastern and Southern African States

AGOA-Africa Growth and Opportunity Act.

ISO- International Organization for Standardization

KEBS-Kenya Bureau of Standards.

KENGEN-Kenya Electricity Generating Company Limited

KENAS-Kenya Accreditation Service

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CHAPTER ONE: INTRODUCTION

1.1 Background to the study

1.1.1. The Role of strategy

In the recent past. Kenyan firms like other firms around the world are continually facing the challenges created by globalization. In today's business world, the world economy operates as an open market in that firms regardless of their geographic positioning can no longer afford to operate as if they are isolated but instead they have to pay close attention to as well as adapt to the ever-changing external environment. Koske(2003) noted that all organizations must grapple with the challenges of the changing environment. According to Pearce and Robinson (2003), in order for organizations to achieve their goals and objectives, it is necessary for them to adjust to their environment.

According to Porter (1998), there are several significant trends emerging in the international environment namely: a reduction in the differences among nations in terms of incomes, energy costs, marketing practices and channels of distribution; introduction of more aggressive industrial policies mostly initiated by governments; protection of distinctive assets that is more and more countries are determining what unique assets they possess and are using this uniqueness to their best advantage example is the formation of OPEC; freer flow of technology which makes it easier for firms from other countries to upgrade their products or production processes in order to create a competitive advantage; emerging new large scale markets such as India, Russia, and China; competition from newly developing countries.

The pressure on businesses today is greater than ever. Increasing global competition, oppressive macroeconomic conditions, greater international integration, advances in information and communications technologies and informed discerning customers mean businesses must deliver higher levels of quality and service at competitive prices (Mberia, 2006). This dynamism of the environment implies that organizations have to constantly redesign their strategies in order to remain competitive. A firm is only profitable and competitive if it is able to quickly and effectively adapt to its environment in a more superior manner than its competitors. Grundy (1995) states that responsiveness and flexibility are increasingly important factors that determine the success of an organization.

According to Hill and Jones (2001), the achievement of superior efficiency, quality, innovation and responsiveness enables an organization to create superior value and attain a competitive advantage. This all-important role of ensuring that the organization is flexible and strategically positioned to rapidly respond to changes in the environment in order to attain and sustain competitive advantage is a key role of management in any firm (Gray & Smeltzer, 1989). Management is responsible for creating competitiveness through the ability to produce ever-higher quality products and services at a low cost. The quest for productivity, quality and speed has spawned a remarkable number of management tools and techniques such as total quality management, benchmarking, time-based competition, outsourcing, and partnering, reengineering, change management among others (Porter, 1998).

In reference to Porter (1998), competition is the core to the success or failure of organizations. Competitive advantages are the significant advantages that an organization has over its competitors, which allow the organization to add more value than its competitors in the same market (Lynch, 2000). A firm can outperform its competitors if it can establish a difference that it can preserve in that the firm must deliver a greater value to customers, create comparable value at a lower cost, or do both. Customers with brand loyalty are usually willing to spend more for what they perceive to be a superior product or service; the differentiation strategy can yield larger profit margins.

A rapidly changing and turbulent economic environment characterized by phenomena such as globalization and liberalization of markets, changing customer and investor demands and ever-increasing product-market competition have meant that the strategies applied by a firm will determine its survival and competitive advantage in the industry it operates(Hill & Jones,2001)

According to Byars and Rue (1996), companies can compete on three primary features of their products /services namely quality, price and availability. The quality should be of a more superior manner to the consumer than that offered by other suppliers. In terms of pricing, is the cost to the consumer over the life of the product affordable and considered reasonable when compared to the quality of the product and other quality-to-price ratios available in the market. The availability of the product or service at the time and place when it is required will increase consumer loyalty due to time and place utility.

In reference to Porter (1998), a firm can opt for any of the following three generic competitive strategies namely differentiation, cost leadership and focus. Cost leadership is where the firm sells its products at average industry prices to earn a profit higher than that of rivals. Differentiation calls for development of a product that offers unique attributes valued by customers at a premium price. Focus applies either strategies of cost leadership or differentiation on a narrow segment with the rationale that a narrower market can be served more effectively and efficiently than competing across the board.

1.1.2 Manufacturing Firms in Kenya

Chune (1998) says that manufacturing firms are firms whose operations involve transforming or converting inputs such as raw materials, labour skills, managerial skills, capital and sales revenue into products that are finally sold to the consumer. In Kenya, according to the Kenya Association of Manufacturers website (2008), most manufacturing firms are located in Nairobi, Thika, Nyanza, Western, Nakuru, Eldoret, and Athi River among others. The firms operate in various sectors some being foods and beverages, motor vehicle assembly and accessories, leather products and foot wear, textile and apparels, building and construction, plastics and rubber. Most of the manufacturing firms are members of Kenya Association of Manufacturers (KAM) which to date has more than 600 members. KAM is charged with being the spokesperson for its members as well lobbying and representation of its members against various government initiatives that the organization deems as unfair and unproductive.

Manufacturing firms in Kenya face challenges that operate in their Macro-environment as well as in their Microenvironment that influence their efficiency, productivity and profitability.

According to Samuelson (1995), the Macro-environment or external environment consists of the following factors: Political-legal, Economic, Social-Cultural and Technological also known as P.E.S.T. analysis.

Politically, the firms have had to deal with increase in taxation by the government on certain products such as tobacco, beer and spirits, leather among others. The recent government directives such as the impending ban on plastics, as well as the ban of smoking in public areas will lead to some manufacturing firms closing down or physical relocations, retrenchment of workers to reduce on labor cost or cutting down on production in order to remain in existence (KAM Economic & Business Intelligence Report, November 2007). Most manufacturing firms were also affected by the political turbulence experienced following the December 2007 elections as some factories, plants, sources of raw materials were destroyed during the chaos.

Despite the challenges, politically opportunities abound for manufacturing firms due to government initiatives such as Vision 2030. According to the Kenya Government Vision 2030 website (2008), the specific strategies for the manufacturing sector are: restructuring of key local industries that use local raw materials but have no competitive edge (for instance in sugar and paper manufacturing), exploiting opportunities in adding value to imports and to capture the "last step" of value addition (example in metals and plastics) and increasing the level of value addition in niche exports by additional processing of local agricultural products.

Economically, the firms have had to bear higher production costs. Agricultural raw materials have been greatly affected due to prevailing adverse weather conditions, destruction of crops by diseases and poor farming methods thus making the raw materials to be highly priced as the demand is greater than the supply.

The high-energy costs is characterized by increase in oil prices all over the world as well as the increase in electricity prices in Kenya brought about by the new electricity tariff. In 2008 compared to 2007, the cost per kilowatt of electricity for manufacturing firms in Kenya was up from Kshs.8 to Kshs.15 on average (Daily Nation: 23rd September 2008). According to the COMESA website (2008), the effects of regional trade agreements such as the free trade COMESA market has greatly increased competition for Kenyan manufacturing firms who are unable to compete with cheap imports flowing into the country from member states. In addition, greater challenges have been created due to dumping from especially Asian countries of counterfeit products into the Kenyan market that sell at cheaper prices compared to those manufactured locally.

Despite the above all is not lost as Kenyan manufacturing firms also stand to gain great opportunities from initiatives such as AGOA (Africa Growth and Opportunity Act) passed into law by the US congress in May 2000. Classified as a lesser developing country under AGOA, Kenya enjoys duty free entry into the US market for clothing cut and made up in Kenya (AGOA, 2008).

Socially, the firms have had to adapt to the ever-changing consumer dimensions in terms of their needs, preferences, as well as other social factors. Chune (1998) noted that changes have occurred in the family unit namely there are more single-parent families and family size have also decreased as more couples are opting to have fewer number of children, increase of middle-income families as well as the entry of a new breed of consumer comprising of young professionals that is young adults between the age of 25-30 years old who have a high dispensable income and are willing to spend. Due to the high cost of living, increasing rates of unemployment and high rates of inflation the most common consumer in Kenya today is the one who wants products that are affordable and can serve multiple needs.

Technologically, the firms have gained from recent developments in the Information and Communications Technology (ICT) sector. The firms have been able to cut down on production costs by moving away from labour-intensive production processes towards machine oriented manufacturing processes thus reducing on labour costs as well as on wastage of time and raw materials(Daily Nation: 23rd September 2008).

Kenya Association of Manufacturers website (2008) states that the micro-environment or internal environment of manufacturing firms in Kenya is characterized by a labour force comprised of semi-skilled contractual or non-permanent workers who are paid meager wages, a bureaucratic style of management, poor and unsafe working environments, use of outdated machinery and practice of old and monotonous methods of manufacturing processes.

1.1.3 ISO 9001:2000

According to Lai (1996), a standard is defined as a document approved by a recognized body, which recommends voluntary rules and guidelines concerning the characteristics of products, processes or methods. Standards facilitate trade and commerce by transmitting information in a consistent way and permitting comparisons of products and services. Standards allow for economies of scale, promote the efficient use of parts and components in production, facilitate the diffusion of technology and promote product quality, safety, and environment cleanliness. Standards make life simpler by providing solutions to common problems.

In the recent years, many firms around the world are embracing the phenomenon of international standards and it is being viewed as a marketing tool in creating competitive advantage of firm's products over those offered by other players in the industry. In reference to Oakland(1993),firms like never before are facing the challenge created by a range of international standards, which are increasingly becoming almost a mandatory requirement for access to international and regional markets and are now being demanded by a growing number of large domestic buyers including governments. Foremost among these are international management systems standards related to quality and the environment.

International standards are able to offer local firms practical solutions to problems arising from globalization and trade liberalization and can be used as strategic tools to achieve competitiveness (Lai, 1996).

In the case of standards established by the International Organization for Standardization (ISO), the standards are ostensibly voluntary and are driven by forces in the market. The standards represent a reservoir of technological know how and of product performance, quality, safety, and environmental specifications. The standards are globally relevant as well as backed by international consensus and adoption is deemed voluntary (Schlickman. 2003)

In Kenya, the most prevalent ISO today is the latest version of quality management system standard ISO 9001:2000. In reference to Kioko(2002), it has become common today to see many Kenyan organizations from varied economic sectors registering for ISO 9001:2000 and stating on their products or through advertisements that they are "ISO 9001:2000 certified" or "ISO 9001:2000 registered" which means these firms have been able to meet the requirements set by this international standard and can use it as a marketing tool. According to Grimes(2002), ISO 9001:2000 is a generic management system which means that the standard can be applied to any organization, large or small, whatever its product or service, in any sector of activity, and whether it is a business enterprise, a public administration or a government department.

The Kenya Bureau of Standards (K.E.B.S) launched its strategic plan 2007-2012 and amongst its key objectives was the establishment of the National Quality Institute (Daily Nation: 24th June 2008). The institute was launched in July 2008 and one of its main objectives will be to promote the advancement of quality management practices to enhance the competitiveness of Kenyan goods and services in the world market.

Among the services, that the institute will provide is training on ISO 9001:2000 quality management system as well as supporting the realization of Vision 2030 by supporting the economic and social pillars through dissemination of standards as bases of knowledge technology transfer leading to movement from single production systems to quality based mass production and mass customization systems (Daily Nation: 24th July 2008).

Use of properly stated quality objectives, customer satisfaction surveys and a well-defined continual improvement program companies are using ISO 9000 processes to increase their efficiency and profitability (Murphy, 2002). In reference to Barnes (2000), ISO 9000 can also be used by companies that are not certified as a benchmark to assess the adequacy of the firm's quality programs. According to Franco (2001), proper quality management improves business often having a positive effect on Return on investment (ROI), market share, sales growth, sales margins and competitive advantage thus the importance of firms to adapt ISO 9000 Quality Management Systems.

1.2 Statement of the Problem

Various strategic advantages arise from the use of ISO 9000 quality management system standards such as creation of a more efficient value chain system, increased market access, increased customer satisfaction and retention because of production of quality products and services (Lai, 1996). In addition, being certified implies quality international standards to local and international consumers, promotes international trade, increase profits, reduce waste and increase productivity of production processes (Hoyle, 2003).

A common criticism of ISO 9001 is the amount of money, time and paperwork required for registration. According to Seddon (2000), ISO 9001 promotes specification, control and procedures rather than understanding and improvement. The standard is especially seen as a failure when a company is interested in certification rather than quality. According to O'Hanlon (2001), competition among the numerous certifying bodies is leading to a softer approach to the defects noticed in the operation of the quality system of a firm.

A previous study by Kioko (2002) concentrated on the strategic use of international standards by registered firms in Kenya. This study was general in context in that it did not narrow down to a specific ISO standard version or a specific sector and it focused on the use rather than the strategic implications of adoption of international standards by firms in Kenya. A significant gap of knowledge on the strategic challenges faced in adoption of ISO 9001:2000 by manufacturing firms therefore existed which this study aimed to bridge. This study therefore aimed at answering the question of what are the strategic challenges and opportunities that manufacturing firms in Kenya face in their adoption of ISO 9001:2000 Quality Management Systems.

1.3 Objective of the Study

The objective of the study was to determine the strategic challenges that manufacturing firms in Kenya would face in the adoption of the ISO standards specifically ISO 9001:2000 Quality Management Systems, that is the most commonly adopted in Kenya today.

1.4 Significance of the Study

The findings of this study are beneficial to various stakeholders. For instance, various Kenyan firms who are not yet certified will gain an understanding as to the challenges and opportunities of adopting ISO 9001:2000.

On the other hand, the Kenyan firms already certified will learn of the various opportunities to exploit due to their certified status. Success of firms both in the domestic and international markets will mean increased revenue for the government in terms of taxes, which will be ploughed back into the economy and assist to improve the socio-economic status of the country which will be in line with the government's Vision 2030 main objective of turning Kenya into a globally competitive nation with a high quality of life.

Through the KEBS (Kenya Bureau of Standards), the government will be able to lobby for Kenyan experts to be involved in the events that lead to the creation, modification, interpretation of ISO standards to be able to give the standards a Kenyan perspective and thus enable them be more applicable and relevant. To academicians and researchers, the findings form a basis for further research.

1.5 Organization of the study

The study is organized into five chapters. Chapter one contains the introduction of the study, statement of the problem, objectives and significance of the study. Chapter Two covers the literature review. Chapter three contains the research methodology. Chapter four deals with data analysis, findings as well as discussions while Chapter five contains the summary, conclusions and recommendations of the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

At the core of Strategic Management is the concept of strategy. According to Schendel and Hofer (1979), the purpose of strategy is to provide directional cues to the organization that enable it to achieve its objectives while responding to the opportunities and threats in the environment. Strategy is the managerial action plan for achieving objectives. It is the pattern of moves and approaches devised by management to produce the targeted outcomes (Thompson and Strickland, 1992). Strategy is therefore a management plan for achieving strategic targets.

Strategic Management is the formulation, implementation, control and evaluation of business strategies to achieve future objectives (Pearce and Robinson 2003). It includes all of the activities aimed at defining the organizational objectives, and developing programs, actions and strategies to accomplish these objectives.

According to Wortzel and Wortzel (1997), strategic Management is concerned with top management behavior and processes in developing organizational structure and in determining the efficacy of these strategies for coping with the organizational environment. This definition lays emphasis on the role of top management in the development of strategy and gives prominence to the concept of organizational structure. Many models of the strategic management process have been suggested. This study adopts the five-step model put forward by Thompson & Strickland (1992), which identified five steps in the strategic management process.

The first step of strategic management is to develop a concept of the business and form a vision of where the firm is headed. Secondly, it must convert the mission into specific performance objectives that will be used as a measure of the firm's progress. Thirdly, strategic management should design a strategy to achieve the targeted performance objectives. Next, strategic management needs to implement and execute the chosen strategy efficiently and effectively. Lastly, strategic management involves evaluating performance, reviewing the situation and initiating corrective adjustments in mission objectives, strategy, or implementation in light of actual experience, changing conditions, new ideas and new opportunities. Strategic implementation is concerned with both planning on how the choice of strategy can be put into effect and managing the changes that are deemed as required (Wang, 2000).

In the recent years, business activities have tended to cross international borders more frequently such that even firms with no international operations are experiencing the impact of globalization (Yoffie & Casseres, 1994). This trend is expected to continue necessitating the need to review the strategies that firms adopt. The choice of strategy can improve or erode the position of a firm within an industry that is the strategies applied by firms greatly influence their competitiveness within the industry that they operate (Wheelen and Hunger, 1993). According to Thompson and Strickland (1992), a company has competitive advantage when it has an edge over rivals in attracting customers and defending against competitive forces.

Competitiveness is at the core of the success or failure of firms. Competition determines the appropriateness of firm's activities that can contribute to its performance. Competitive strategy is the search for a favorable competitive position in an industry (Porter, 1998). According to Pearce and Robinson (2003); strategy is the large-scale future oriented plans for interacting with the competitive environment to optimize achievement of organization objectives.

A firm's competitiveness is the degree to which it can under free and fair market conditions produce goods and services that meet the level of international markets as well as those levels set in its local markets (Tourangeau, 1997). Competitiveness is also the sustained ability to find domestic or foreign buyers for ones goods and services at profitable prices in a competitive environment (Walker. 2004). It is a dynamic attribute of firms rather than one that is static in time and space (Porter, 1998).

According to Hough and Neuland (2000), a firm's competitive advantage often arises from one or more of the following three sources: ownership-based; proficiency-based; and access-based. This implies that a firm can gain advantage by 1) Ownership or possession of certain valuable assets or factors such as strong market position, 2) By opportunity or rights to gain superior access to inputs and markets, 3) Exclusive relationship with supplier or distribution channel, and producing quality products at lower costs and delivering the right products and services to its customers in the right place, at the right time through the right channels.

Every company's business consists of a collection of activities undertaken in the course of designing, producing, and marketing, delivering and supporting its product or service (Barett and Wilsted,1999). It should be noted therefore that each of these activities gives rise to costs and therefore the combined cost of all this activities defines the company's internal cost structure. This brings about the task of strategic cost analysis, which is aimed at comparing a company's costs activity by activity against the costs of key rivals and to learn which internal activities are a source of cost advantage and disadvantage (Porter, 1998)

The primary analytical tool of strategic cost analysis is a value chain. A company's value chain shows the linked set of activities and functions it performs internally. Therefore, differences in value chain among key players within an industry are a key source of competitive advantage. According to Certo and Peter(1995) value chain activities can be categorized into primary and support activities. Within this category, three activities play a major role in the competitive advantage; direct activities, indirect activities and quality assurance. Direct activities are those that directly result in value creations; indirect activities facilitate achieving direct activities and quality assurance ensures the quality of all the activities. Quality assurance activities are such as monitoring, inspecting, testing, reviewing, checking, adjusting and reworking (Porter. 1998).

Quality has come to mean an organization's wide commitment to enhance the value of a product or service at every stage of bringing it to the market (Mintzberg, 1991). The increased emphasis by firms to produce products and services of high quality standards can be attributed to increase in competition in the local and foreign markets, increase in consumer awareness

and the need for consumers to consume quality goods and services as well as growth in numbers of consumer activist groups (Stahl, 1995). A common understanding and vision of what is meant by quality will help the organization to focus its quality improvement efforts.

Quality is an important strategic issue facing management in this century. According to Zhang (2001), quality is multi-dimensional and thus can be viewed from different perspectives. Quality can be viewed from two main perspectives namely the customer and producers. Owuor (2007) says that consumers look at quality of a product or service to the extent to which the product does what it is supposed to do while producers view quality from conformance perspective that is was the product produced according to the design. According to Ghobadian and Jones (1994), there are five generic categories of quality namely strategic quality, product-based quality, user-based quality, value-based quality and manufacturing-based quality.

Strategic quality is based on quality as a differentiating factor between a firm's product and those offered by its competitors. A product or service that exceeds the quality of competing offerings can increase a firm's market share and improve customer perceptions of the product (Garvin, 1993). Product-based quality is a function of a specific, measurable variable and stems from product design and operation. A difference in the quality reflects differences in the quantity of some product attributes such as the number of stitches per inch on a shirt or the number of cylinders in an engine (Evans and Lindsay, 1996).

User-based quality is based on the presumption that quality is what a customer wants. This approach relies on the organizations ability to determine customer requirements and then meet these requirements. Individuals have different wants and needs hence different quality standards (Zhang, 2001).

Value-based quality stems from the value, which is the relationship of usefulness or satisfaction to price. This perspective views a quality product as being useful as a competing product but is sold at a low price that is it offers greater usefulness or satisfaction at a low price compared to that of competitors. Competition makes businesses seek to satisfy customer's needs at a lower price. According to Zeithmal (1998), the value approach to quality incorporates a firm's goal of balancing product characteristics (the customer side of quality) with internal effectiveness (the operations side).

Manufacturing-based quality is defined as the desirable outcome of engineering and manufacturing practice or conformance to specifications. Specifications are targets and tolerances determined by designers of products and services. According to Reichheld and Sasser (1990) conformance to specifications is the key definition of quality since it provides a means of measuring quality. However specifications are meaningless if they do not reflect attributes that are deemed important to the consumers thus the reason why the customer is said to be "king" as it is the customer who determines the product quality, design and packaging. It would serve no purpose for a firm to spend huge amounts of expenditure to manufacture products and yet once the products are ready they lack market (Kioko, 2002).

A firm can adopt various strategies in order to maintain its competitive advantage such as differentiation. In a differentiation strategy, a firm seeks to be unique in its industry along some dimensions that are widely valued by buyers (Porter, 1998). Due to the high levels of competition there has been a renewed focus on international standards and therefore it is important to understand what role the standards play today as a strategic tool. Firms are now adapting international standards as a differentiation tool such as quality standard ISO 9000 and it has been noted that it has been a potential source of competitive advantage (Lai, 1996). ISO 9000 as a tool is used to manage the process of quality awareness that leads to a firm attaining competitive advantage.

2.2 ISO 9000 Quality Management Standards

According to the ISO website (2008), ISO (pronounced *aizo*) is a Greek word that means equal. It is a set of international standards prepared by the International Organization for Standardization, a voluntary body founded in 1946 that has representation from more than 100 countries and whose headquarters is in Geneva, Switzerland. ISO is the leading organization for the production of consensus based international standards. ISO collaborates with more than 700 international, regional, governmental, and Non-governmental organizations.

According to Ketola and Roberts (2001) The "ISO system" maintains a collection of more than 17,000 standards covering all areas of technology and industry as well as increasingly other issues impacting the world community for which international harmonization is needed such as response to climate change and environmental protection, the tensions on energy and water supplies, the focus on nutrition and food safety, the various aspects of security, health care or the pervasiveness of information and communications technologies.

In reference to Franco (2001), ISO as an organization is not directly involved in assessing compliance to its standards. Certification is the merit of some 200 certifications bodies operating worldwide. ISO provides the standards relating to the characteristics and performance of products, processes and management systems or services and the associated measurement and test methods. ISO also provides the requirements standards for those delivering conformity services such as testing laboratories, certification and inspection bodies as well as those who accredit them.

Kenya is a member of ISO through K.E.B.S. According to Kenya Bureau of Standards website (2008), the role of KEBS is to monitor ISO activity as well as promote the implementation of ISO standards nationally as tools for assessing world markets, transferring technology and disseminating good business and conformity practices. As earlier stated ISO 9000 Quality Management system standard is, the most commonly and widely adopted standard in Kenya and will therefore be the point of focus in this study.

2.3 Origin of ISO 9000

During World War II, there were quality problems in many British high-tech industries such as Ammunitions where bombs exploded in factories during assembly due to poor working conditions. The adopted solution was to require factories to document their manufacturing procedures and to prove by record keeping that the procedures are being followed. The name of the standard was BS 5750, and it was known as a management standard because it did not specify what to manufacture, but how to manage the manufacturing process. According to Seddon (2000). in 1987 the British government persuaded International Organization for Standardization to adopt BS 5750 as an international standard thus BS 5750 became ISO 9000.

According to Hoyle (2003), a number of standards have been issued since the inception of ISO 9000. The first sets of harmonized standards on Quality Assurance were issued in the year 1987. Subsequent revisions were done in the year 1994 and 2000 making the ISO 9001:2000 the latest version of ISO 9000. ISO 9001:2000 combines three standards 9001, 9002 and 9003 into one now called 9001. This 2000 version seeks to make a radical change in thinking by actually placing the concept of process management front and centre.

Process management is the monitoring and optimizing of a company's tasks and activities instead of only focusing on the final product (Biazzo and Bernardi, 2003). The 2000 version also demands involvement by senior executives, in order to integrate quality into the business system and avoid delegation of quality functions to junior administrators. The ISO 9001:2000 also aims at improving effectiveness via process performance metrics that is numerical measurement of the effectiveness of tasks and activities continually over time.

According to Singhal (2000), ISO 9001:2000 is based on core values of excellence models. Examples of Excellence models are European Quality Award, Kenya Quality Award among others. Excellence models are result oriented in terms of the customer, financially, human resource and organizational effectiveness. The core values are incorporated as eight principles as shown in Figure 2.1 which are: Customer Focus, Leadership, Involvement of People, Process Approach, System Approach, Continual Improvement, Factual Approach to Decision Making and Mutually Beneficial Supplier Relationships.

Figure 2.1: Core Values of excellence models incorporated as eight principles of ISO 9001:2000

| CORE VALUES FROM EXCELLENCE MODELS | PRINCIPLES FROM ISO 9001:2000 |
|-------------------------------------|---|
| Visionary Leadership | |
| Customer-driven excellence | Customer Focus |
| Organizational & Personal learning | Leadership |
| Valuing employees and partners | Involvement of people |
| Agility | - N vf Process approach |
| Focus on the future | Systems approach to Management |
| Managing for innovation | Continual improvement |
| Management by Fact | J \ vf Factual approach to decision making |
| Public Responsibility & Citizenship | Mutual beneficial supplier relationships |
| Focus on results and creating value | |
| <u>Systems perspective</u> | |

Source: Singhal, Impact of Total Quality Management on Financial Performance: Evidence from Quality Award Winner, 2000.

Under Customer Focus the firm's main focus is on the customer that is determine customer needs & expectations and establish the best way to meet their desires and achieve customer satisfaction. Concerning Leadership the management in the firm who are the leaders must establish unity of purpose, direction and a conducive internal environment in which people become fully involved in the process of ensuring quality at all levels of the organization. In regards to involvement of people, people are the essence of the organization and therefore their full involvement enables them to use their abilities and expertise to the benefit of the organization at all levels. The Process Approach is such that a desired result is more efficiently achieved when resources and activities are managed as a process. The System Approach is based on identifying, understanding and managing a system of interrelated processes toward a given objective in order to improve effectiveness and efficiency within a firm.

The principle of Continual Improvement is a permanent objective of the organization in that no organization wants to remain static but instead must aim at improving itself at all levels to ensure its growth. The Factual Approach to Decision Making principle is based on the notion that effective decisions are based on the logical and intuitive analysis of data and information gathered by the various information systems available in the firm. The principle of Mutually Beneficial Supplier Relationship is important in that a mutually beneficial relationship between an organization and its suppliers enhances the ability of both organizations to create value. The organization is able to receive the materials required from suppliers on time and therefore ensure production is on time maximizing the time utility of its products.

The eight principles are woven into five main elements of ISO 9001:2000 namely Documentation, Management. Resources, Product/Services processes and improvement (Singhal, 2000). The requirements of ISO 9001:2000 are integrated with organizational capabilities to improve customer satisfaction.ISO 9001:2000 provides effective measurements for management action. Based on effective measurements, products and processes are improved to directly impact customer satisfaction.

In reference to Kioko(2002), a company or organization that has been independently audited and certified to be in conformance with ISO 9001:2000 may publicly state that it is "ISO 9001 certified" or "ISO 9001 registered." ISO does not itself certify organizations. Many countries have formed accreditation bodies to authorize certification bodies. The certification bodies then audit organizations applying for ISO 9001 compliance certification. According to Yeung and Leung (2002),the applying organization is assessed based on an extensive sample of sites, functions, products, services and processes; a list of problems ("action requests or non-compliances") is made known to the management and if there are no major problems to this list, the certification body will issue an ISO 9001 certificate for each geographical site it has visited, once it receives a satisfactory improvement plan from the management showing how any of the problems indicated on the list will be resolved. The ISO 9001:2000 is not a once-and-for-all award, but must be renewed at regular intervals recommended by the certification body, usually 3 years (Hoyle, 2003).

The adoption of ISO 9001:2000 leads to various advantages. In reference to Lai (1996), it is widely acknowledged that proper quality management improves business often having a positive effect on investment, market share, sales growth, sales margins, competitive advantage and avoidance of litigation. The quality principles of ISO 9001:2000 and its guidelines provide a comprehensive model for quality management systems that can make any company competitive (Barnes, 2000).

According to the Providence Business news (August. 2000) adoption of ISO 9001:2000 by firms creates the following advantages: creates a more efficient and effective operation, increases customer satisfaction and retention, reduces audits, enhances marketing as well as brand reputation, improves employees motivation , awareness and morale, promotes international trade, increases profits and reduces waste and increase overall organizational productivity.

The advantages that the firm will gain from adoption of ISO 9001:2000 can be analyzed from three perspectives namely the customers, company and employees (Boulter & Bendell, 2002). In the customer's perspective, the benefits are namely superior quality service and products, as well as safety of products and services being consumed. In the company's perspective the advantages are, a reduced number of defective products, increased Customer Satisfaction, Consistency in Output, assured Customer and Market Share, reduction in costs due to reduction of defects and Involvement of Personnel and consequent Higher Productivity. In the employees perspective the advantages are defined directions, improved Performance due to a common purpose, increases Motivation due to employee involvement in firm's activities, job satisfaction and pride of working in an ISO 9001:2000 compliant firm as it has become a mark of excellence.

ISO 9001:2000 as a Marketing Strategy

In reference to Hoyle (2003), in the adoption of ISO 9001:2000 the firm will in turn have adopted strategies and techniques of the business world as the requirements under the standard apply and correlate to business strategies and approaches. The standard for example has clauses 7.2 and 8 that relate to customer needs and continual improvement. Clause 7.2 focuses on responsiveness to client needs and demands. The basic idea of marketing is that responsiveness to client needs and demands is the key to success. Clause 8 focuses on the continual improvement of a firm's products which means the firm's product will be up to date and more in tune with the ever-changing needs of the market.

For a firm to say it is certified with ISO 9001:2000 it means that the firm has fulfilled the necessary requirements set by the universally accepted standard of quality. According to Wade(2002), the standard provides a structured approach to implementing effective and proven quality assurance principles, including procedure documentation and monitoring, operation traceability, error reduction, client communication and after-sales services.

Main Strategic Challenges of adopting ISO 9001:2000

According to Murphy (2002), the two main strategic challenges faced by firms in adopting ISO are: changing employees' attitudes to that of recognizing and appreciating the need for ISO certification; convincing shareholders to invest company resources towards the adoption of ISO 9001:2000 despite the benefits being futuristic and in the long-term.

ISO 9001:2000- The Kenyan Context

In Kenya, we have KENAS (Kenya Accreditation Service) as well as the quality system accreditation committee. This committee is the national accreditation committee for quality system assessors, consultants and trainers at both individual and corporate levels and administers the national scheme for registration of quality system assessors, consultants and trainers (Kenya Accreditation Service Website, 2008).

The objective of the committee is to promote quality system certification activities countrywide by ensuring orderliness, fair play, professionalism and accountability in the provision of requisite services.

Today there are four main firms listed to undertake certification activities (Kioko, 2002). The main firm of course is K.E.B.S (Kenya Bureau of Standards), Bureau Veritas (K) Limited, SGS (K) Limited and Lloyds. In the recent past many manufacturing firms in various sectors both private and public sectors have become certified. Examples of such are East African Breweries Limited. GlaxoSmithKline. Mumias Sugar Company Limited, KENGEN and Kenya Seed Company among others. This is because in Kenya being ISO 9001:2000 compliant is seen as an effective tool for facilitating regional and international trade because products and services produced by a certified firm have higher perceived quality in the market place thus creating a competitive advantage(Daily Nation: 24th July 2008).

2.4 Criticisms of ISO 9001:2000

It should be noted that ISO 9001 certification does not guarantee that the company delivers products and services of a superior quality; it just certifies that the company engages internally in paper work prescribed by the standard (Hoyle, 2003). A common criticism of ISO 9001 is the amount of money, time and paperwork required for registration (Laszlo, 2000).

According to Seddon (2000) ISO 9001 promotes specification, control and procedures rather than understanding and improvement. ISO 9001 is effective as a guideline, but promoting it as a standard misleads companies into thinking, that certification means better quality (Wade, 2002). The standard is seen as easily prone to failure when a company is interested in certification before quality.

Most organizations are driven to acquire ISO 9001:2000 certification due to customer contractual requirements rather than a desire by the firm to improve the quality of the products and services it offers (Barnes, 2000). Due to the increasing popularity of ISO 9001:2000, many certifying bodies are mushrooming in a bid to cash in on this phenomenon. This has led to competition among the now increasing number of certifying bodies leading to a softer approach to the defects noticed in the operation of the quality system of a firm. It is no longer an option for firms to be ISO 9001:2001, firms are being compelled to acquire this certification in order to remain competitive regardless of whether the firm has available resources in place for implementation and whether there will be any value added upon adoption of the standard (McAdam & Fulton, 2002).

According to Hoyle (2003), if approached unwisely adoption of ISO 9001:2000 may: create a quality bureaucracy which adds to the cost structure and slows product development, get employees to focus on paperwork instead of customers and divert management concentration and energy away from other vital management matters.

In reference to Franco (2001), adoption and implementation of the standard might take a long time to translate to benefits for the shareholders worth and investment in the firm especially in markets where the customers are not quality sensitive. Another criticism of adoption of ISO 9001:2000 in the Kenyan context is that it is seen as being based on the developed world context and therefore its relevance on a developing economy such as Kenya remains to be well documented and researched (Kioko,2002). The literature on ISO 9001:2000 based on the Kenyan environment is limited as its still a new area of research.

2.5 Summary

ISO 9001:2000 has been embraced by various economies around the world as it is seen as a sign of quality excellence amongst both small and large consumers. The standard is deemed to be globally relevant as well as backed by international consensus thus making it more applicable and easy to adopt.

In Kenya, firms are also embracing the adoption of the standard in order to remain relevant and increase competitive advantage in the understanding that both opportunities and challenges exist during and following adoption of ISO 9001:2000

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The study was a case study research. The adoption of ISO 9001:2000 by manufacturing firms, as highlighted earlier, is a growing phenomenon and therefore the case study research design was the most appropriate for this research as it an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident.

3.2 Population

There are thirty ISO 9000 certified institution in Kenya (see appendix 3-Source KEBS website). The study targeted only ISO 9001:2000 quality management systems certified manufacturing companies in Nairobi. Before settling on studying manufacturing companies, consideration was given to other institutions but it was found that those that fell within the other categories were few and hence could not provide a good sample.

3.3 Sample Size Selection

There are eight manufacturing firms in Nairobi that are ISO 9001:2000 certified. Based on this, five manufacturing companies were selected for the study using stratified purposive sampling. Selection was based on location and duration of certification that the companies have had meaning the manufacturing companies located in industrial area and those certified for over a period of one calendar year. Nairobi was selected because it has the highest concentration of manufacturing firms. The respondents had therefore to possess an understanding of the subject matter. In this, stratified purposive sampling was most effective as it allowed representativeness of the sample by reducing sampling error in this study.

3.4 Data Collection techniques

Primary data was used for the purpose of the study and references; secondary data was also used where necessary. Structured questionnaires were used to collect primary data. The questionnaire had both open and closed-ended questions administered in face to face interviews to quality assurance managers, Occupational Health and safety managers, human resources managers, Chief Executive Officers and other designated officials. The research first involved use of a pilot test where the questionnaire was pre-tested with a few respondents. This was to make necessary adjustments for precision in the whole exercise following which corrections and improvements were employed on the questionnaire.

This research being a case of five manufacturing companies in Nairobi; is a representation of all quality system standards ISO 9001:2000 certified manufacturing companies in Kenya. In each case, at least three respondents in specific key positions were interviewed to get an accurate response guided by the objectives of this research study. Emphasis was put on obtaining quantitative data.

3.5 Data Analysis

Completed questionnaires from the ISO certified manufacturing companies were coded using a standard code sheet and then entered for SPSS (Statistical Package for Social Sciences) analysis. Cross tabulations were done and tables and graphs used to identify the challenges faced by these firms in adoption of ISO 9001:2000 standard.

CHAPTER FOUR: DATA ANALYSIS & INTERPRETATIONS

4.1 Introduction

This chapter deals with analysis of the data collected. The analysis is divided into five sections; the profile of the respondent organizations, motivators towards ISO 9001: 2000 certification, analysis of strategic challenges faced following certification, opportunities that have been realized since the certification of the manufacturing companies and difficulties faced by the manufacturing firms to implementation of the various clauses of the ISO 9001: 2000 management standards.

4.2 Organizational Profile of the Respondent Companies

The study targeted five manufacturing firms located in Nairobi's Industrial Area out of which four companies responded. Within each firm a total of fifty questionnaires were issued for distribution among the various departments. Overall a total of 146 questionnaires out of the 200 issued were returned completed constituting a 73% response rate. The results of respondents per firm are shown in table 4.1.

Table 4.1: Percent of respondents per company

| Name | Percent (%) |
|----------------------------|--------------------|
| Continental Products Ltd | 35.3 |
| GlaxoSmithKline | 23.5 |
| East African Breweries Ltd | 17.6 |
| Kenya Malting Ltd | 23.5 |

The results in table 4.1 shows that Continental Products had the highest number of response rate (35.3%), followed by GlaxoSmithKline and Kenya Malting(23.5%) and lastly East African Breweries Limited at 17.6%.

The respondents were asked to indicate which department they worked in as different departments are assigned various responsibilities in their day to day work in the organization and the results are shown in table 4.2.

Table 4.2: Position of respondent

| Position | Percent (%) |
|---------------------------|--------------------|
| Human Resource | 5.9 |
| Management Representative | 17.6 |
| Supervisor | 17.6 |
| QA manager | 23.5 |
| Operator | 35.3 |
| Total | 100 |

The results in table 4.2 shows that in the organizations sampled: 35.3% were in operations department, 23.5% were in Quality Assurance Management, 17.6% were in supervisory roles and those in human resources made up 5.9%.

The respondents were asked to indicate how long they had worked in the organizations as their responses ultimately would be based on their length of experience in working for the firm and the results are as shown in table 4.3.

Table 43: Years in employment

| Years | Percent (%) |
|--------------|--------------------|
| <3 Years | 29.4 |
| 3-6 Years | 5.9 |
| 6-8 Years | 23.5 |
| >10 Years | 41.2 |

The results in table 4.3 shows that in the organizations sampled: 41.2% of the respondents had worked for the firms for more than 10 years, 23.5% had worked for between 6-8 years, and 29.4% had worked for less than 3 years while 5.9% had worked for between 3-6 years.

The companies gave the year of certification as the responses received from the firms would be based on the length of time or experience they have had following certification. The results are shown in table 4.4.

Table 4.4: Year of ISO 9000 certification

| Name | Year |
|----------------------------|-------------|
| Continental Products Ltd | 2007 |
| GlaxoSmithKiine | 2006 |
| East African Breweries Ltd | 2005 |
| Kenya Malting Ltd | 2006 |

The results in table 4.4 shows that EABL(formerly Kenya Breweries) was the earliest to be certified in 2005, followed by GlaxoSmithKiine .Kenya Malting and Continental Products being the youngest in to join the ISO family.

To be able to understand the business nature of the firms', management was asked to provide the main scope of business and the results are shown in table 4.5.

Table 4.5: Scope of Business / product manufactured

| Name | Percent (%) |
|--|--------------------|
| Flexible packaging material | 35.3 |
| Manufacture of pharmaceutical nutritional liquids and oral care products | 23.5 |
| Manufacture of alcoholic beverages and non-packaging spirits | 17.6 |
| Production of barley and barley malt | 23.5 |

The research findings as shown in table 4.5 show that 35.3% of those companies ISO 9000 certified are involved in flexible packaging material. 23.5% are manufacturers of pharmaceutical nutritional liquids and oral care products, 17.6% manufacture alcoholic and non-alcoholic beverages and spirits while 23.5% engage in production of barley and barley malt.

Absolutely all the ISO 9000 manufacturing companies that were interviewed operate in international level scope. They also operate in bigger percentages in terms of doing business at local, regional, continental and international levels.

4.2.1 Number of permanent staff

The nature of manufacturing employees in the past was more of contractual, semi-skilled staff. It was however established in the study that now staffs in most manufacturing firms are more of permanent and skilled staff as shown in table 4.6.

Table 4.6: Number of permanent employees

| Number of Permanent Staff | Percent (%) |
|----------------------------------|--------------------|
| 50-100 | 12 |
| 151-300 | 41 |
| 301-500 | 6 |
| >500 | 41 |

As shown in table 4.6, the demographics on number of permanent employees were rather even amongst the manufacturing companies in spite of differences in area of operation and scope. 41% of the interviewees said they have more than 500 permanent employees, another 41% of the interviewees said they have employees numbering between 151-300, 12% of the respondents have between 50-100 employees while only 6% of the respondents said their manufacturing companies have between 301-500 employees. In all the cases; it is outstanding that the numbers of permanent employees is huge.

4.2.2 Average Annual Turnover Before and After Certification

The study sought to compare the average annual turnover of the ISO 9000 certified manufacturing companies in Nairobi before attainment and after attainment of certification.

The findings are given in table 4.7.

Table 4.7: Average turnover before and after attainment of ISO 9001:2000 Certification

| AVERAGE ANNUAL TURNOVER | BEFORE ISO 9001:2000 | AFTER ISO 9001:2000 |
|-------------------------|----------------------|---------------------|
| | PERCENT (%) | PERCENT (%) |
| <Kshs.100M | 6 | 6 |
| Kshs.101M-500M | 18 | 29 |
| Kshs.501M-1 B | 35 | 36 |
| Kshs. 1 B> | 6 | 20 |
| Not applicable | 35 | 9 |

The research findings as shown in table 4.7 show that; before certification 18% of the firms were earning Kshs.101M-500M, the percentage increased to 29% following attainment; 35% were earning between 501M-1B ,the percentage increased to 36%; the greatest increase in percent was for firms who were earning 1B> from 6% before attainment to 20% after attainment. The above clearly indicates that the certification does lead to increase in revenues and improvement in profit margins for the firms.

4.23 Other Certifications Possessed by the Firms

The case study noted that manufacturing companies apart from currently holding ISO 9001:2000 they also hold/ held other management systems including ISO 1400: 2004 [BCBV] (35%), HACCP [SG] (17.6%) and OHSAS 1800:2007 [BCBV](17.6%), 29.4% of the respondents were not aware of any systems. For several reasons these companies try hard to comply with standards to their advantage in the long run.

4.3 Motivators towards ISO 9001:2000 Certification

Asked to identify the factors that motivated their companies to seek ISO 9001:2000 certifications, the respondents gave various reasons as given in table 4.8:

Table 4.8: Motivators for manufacturing companies to seek ISO 9000 quality systems management

| Reasons for seeking ISO 9001: 2000 certification by Manufacturing companies in Nairobi | Percent (%) |
|---|--------------------|
| 1. As part of a larger improvement strategy | 13.4 |
| 2. To compete more effectively for overseas markets | 13.4 |
| 3. To gain a competitive advantage | 10.7 |
| 4. To improve the quality of work done | 3.9 |
| 5. To increase efficiency and productivity in all areas of operations | 13.4 |
| 6. To meet customer expectations | 7.9 |
| 7. To qualify to tender for public projects | 11.4 |
| 8. To satisfy top management's corporate directives | 3.9 |
| 9. To reduce costs of operations | 7.8 |
| 10. Missing data/ refused | 14.2 |

As shown in table 4.8, the biggest motivators for certification of ISO 9001:2000 are to enable firms compete more effectively overseas (13.4%), certification forms part of a larger improvement strategy (13.4%), to increase efficiency and productivity in all areas of operations (13.4%) and to meet customer expectations (11.4%) as customer loyalty of the present day is based on high standards with regards to product quality and performance.

4.4 Opportunities realized following ISO 9001:2000 Certification

The respondents were also asked to list some of the opportunities that have been realized by their companies since they were ISO 9001:2000 certified and most respondents identified several factors as shown in table 4.9:

Table 4.9: Opportunities realized following ISO 9001:2000 Certification

| Opportunities that have been realized since the company got ISO 9001: 2000 certification | Percent (%) |
|---|--------------------|
| 1. Quality monitoring and improvement | 13.7 |
| 2. Customer satisfaction | 15.7 |
| 3. Improved international rating | 17.7 |
| 4. Improved on compliance systems | 5.9 |
| 5. Increased efficiency and efficacy | 27.5 |
| 6. Conducive working environment | 3.9 |
| 7. Missing data/ refused | 15.7 |

As shown in table 4.9, various opportunities have been realized following ISO 9001:2000 certification. The study noted that the most common were: The firms reported increased efficiency and efficacy (27.5%) in their operations as certification requires documentation of all processes which enable the firm note the weak points and correct them, the international rating of the companies improved (17.7%) as they were held in higher regard by customers in the international markets who are quality sensitive and are more aware of the value added in a firm that is ISO certified. The other opportunities observed were increase in customer satisfaction (15.7%) and Quality monitoring and improvement is upgraded (13.7%).

4.5 Strategic Challenges faced following adoption of ISO 9001:2000

In the endeavor to adopt ISO quality management systems after certifications the findings were clear that all the manufacturing companies have faced several challenges, readjustments, costs and operations have to be changed to suit to international standards and competed effectively while realizing profits. Table 4.10 shows the strategic challenges that the respondents identified as being faced following certification.

Table 4.10: Challenges faced since certification

| Challenges faced since certification | Percent (%) |
|--|--------------------|
| ISO 9001: 2000 certification | |
| 1. Conformity of manufactured products to international standards | 17.7 |
| 2. Due to overloads, standards are relaxed | 5.9 |
| 3. Heavy investment in IT and machinery which is costly | 13.3 |
| 4. Having readily accessible markets means more spending on employees, material and maintenances | 33.4 |
| 5. Maintaining of already set standards | 15.9 |
| 6. Increased bureaucracy | 3.5 |
| 7. Missing data/ refused/ NA | 10.4 |

From the above findings in table 4.10, it emerged clearly that manufacturing companies face a lot of challenges in implementation and adoption of ISO standards but the biggest challenge was the increase in expenditure (33.4%) as more spending was required by the firms to meet the requirements of certification. It was also noted that once the firms acquired satisfaction there occurred laxity in employees and management to maintain the high standards already set subsequent to certification. The other challenges were heavy investment in IT and machinery (13.3%), overloads leading to lack of motivation (5.9%) and increased bureaucracy (3.5).

4.6 Difficulties Experienced by manufacturing firms in the implementation of the clauses in ISO 9001:2000

Respondents were asked to what extent it has been easy for their manufacturing companies to implement various clauses of the ISO 9000 systems management clauses. It is often very difficult to quantify such outcomes, hence the four point scale used to part five as shown in the table below. This subjective assessment was used to get responses views by either on whether adoption of the clauses and practices was easy, very easy, difficult or very difficult. The outcomes were ranked and listed in table 4.11:

Table 4.11s ISO 9000, Clauses

| | Very Easy (%) | Easy (%) | DK/NA (%) | Difficult (%) | Very Difficult (%) |
|--|----------------------|-----------------|------------------|----------------------|---------------------------|
| 4.1 Management Responsibility | 5.9 | 94.1 | | | |
| 4.2 Quality System | 23.1 | 70.1 | | 6.8 | |
| 4.3 Contract Review | 5.9 | 64.7 | 29.4 | | |
| 4.4 Design Control | 35.3 | 58.8 | | 5.9 | |
| 4.5 Document and Data Control | 35.3 | 64.7 | | | |
| 4.6 Purchasing | 10.9 | 84.1 | 5.0 | | |
| 4.7 Control of Customer-Supplied Product | 49.4 | 50.6 | | | |
| 4.8 Product Identification and Traceability | 29.4 | 70.6 | | | |
| 4.9 Process Control | 24.4 | 64.7 | 10.9 | | |
| 4.10 Inspection and Testing | 35.3 | 64.7 | | | |
| 4.11 Control of Inspection, Measuring and Test Equipment | 45.1 | 54.9 | | | |
| 4.12 Inspection and Test Status | 25.4 | 71.6 | 2.8 | 0.2 | |
| 4.13 Control of Nonconforming Product | 85 | 15 | | | |
| 4.14 Corrective and Preventive Action | 80 | 10.8 | 0.2 | 3.5 | 5.5 |
| 4.15 Handling, Storage, Packaging, Preservation and Delivery | 5.9 | 88.2 | 5.5 | 0.4 | |
| 4.16 Control of Quality Records | 35.3 | 64.7 | | | |
| 4.17 Internal Quality Audits | 29.4 | 64.7 | | 5.9 | |
| 4.18 Training | 23.5 | 50.1 | 6.0 | 20.4 | |

| | | | | | |
|-----------------------------|----|------|-----|------|------|
| 4.19 Servicing | 44 | 24.8 | | 20.1 | 11.1 |
| 4.20 Statistical Techniques | 72 | 9.8 | 1.2 | 12.9 | 4.1 |

Source: Study Respondents:

Notes: 1-**VE**=Very easy; 2-**E**= Easy; 3-**D**=Difficult; 4-**VD**=Very difficult; **NA**/**DK**=Not applicable/ don't know

According to the results in Table 4.11. respondents said that in terms of adoption of clauses like: management responsibility (100%-very easy / easy), quality system (93.2%-very easy or easy), contract review (70.6%-very easy / easy), design control (94.1%), document and data control (100%-very easy / easy), purchasing (100%-very easy / easy), control of customer-supplied (100%-very easy / easy), inspection and test status (97%-very easy / easy), control of nonconforming product (100%-very easy / easy), corrective and preventive action (90.1%-very easy or easy), handling, storage, packaging, preservation and delivery (94.1%-very easy / easy), control of quality records (100%-very easy / easy), internal quality audits (94.1%-very easy / easy), training (73.6%-very easy / easy), servicing (68.8%-very easy / easy), statistical techniques (81.8%-very easy / easy)

This suggests that ISO 9000-certified manufacturing companies are gaining additional /indirect benefits in addition to the increased profits through better turnovers. Previous studies have also reported on a number of benefits derived from ISO 9000-certified quality systems for example, Kwok (1997) identified the perceived benefits to be better documentation. On the other hand, training (20.4%-difficult), servicing (31.8%-very difficult / difficult) and statistical techniques (31.8%-very difficult / difficult) seemed to be the significant challenges in adoption of the ISO quality systems management which the respondents found either difficult or very difficult to adopt to within their manufacturing companies after certification..

CHAPTER FIVE: SUMMARY, CONCLUSION & RECOMMENDATIONS

5.1 Summary

This study reveals that manufacturing companies derive the benefits of implementing ISO 9000-certified quality systems management despite some perceived drawbacks. For example, all the firms agreed that the benefits of having ISO 9001:2000 certifications outweigh its disadvantages; 100 % were positive; none of the companies has faced any challenges from the government or other bodies in regard to ISO 9001:2000 implementation.

On a balance, the benefits of adoption of ISO 9001:2000 certification outweigh its negative outcomes/drawbacks. All the interviewed respondents from the surveyed companies agreed to this. The survey further found out that there is a positive relationship between ISO 9000-quality systems management and financial performance of the surveyed companies (94.1% said were positive)

5.2 Conclusions

The major benefits of ISO 9000-certification and adoption in the manufacturing industries are seen to be less repair work, less problems in defects liability, improved internal communication, improved external communication, the client perceives higher quality of the product, improvement in internal performance appraisal systems, enhanced competitiveness of company and continual improvement of operations as well as a valuable marketing tool.

On the other hand, the major drawbacks of ISO 9000-certified quality systems are seen to be more paperwork as all the processes of the firm have to be documented step by step, more time

spent in management to ensure the quality gained is maintained, increased bureaucracy and higher overall project cost. Based on the literature reviewed and the sample surveyed, it is observed that the majority of ISO 9000-certified manufacturing companies are in general agreement as to the net benefits, as well as on many of the positive and negative outcomes that may emerge from the implementation of the ISO 9000-certified quality systems.

Strategies therefore need to be formulated to boost the net benefits, by strengthening the potential for commonly identified positive outcomes and addressing/ameliorating issues that have led to commonly cited negative outcomes (such as more paperwork). For example, one approach may involve reducing paperwork in some of the general ISO 9000 categories (from among the 20 categories of standard items applicable to all industries in general) that may not be particularly relevant to the manufacturing industry, for instance in packaging' a manufacturing -specific toolkit may also be developed to provide guidelines for orienting ISO 9000 system requirements towards particular manufacturing industry processes and productivity needs.

5.3 Limitations of the Study

The study was conducted efficiently apart from certain set backs and hiccups. Many respondents were unwilling to divulge information for fear of reprisals in case of disclosure. They only agreed to conform on condition of anonymity. Furthermore, the bureaucratic and lengthy process of obtaining information from most firms provided a bottleneck, which delayed the project considerably. Some firms also have policies in place that only certain officials in the organization are allowed to disclose information regarding the firm to members of the public: thus those without authority could not answer the questionnaire thus reducing

response rate. The data collection also incurred very high costs of telephone calls, stationery and transport costs as well as the time taken.

5.4 Recommendations

5.4.1 Recommendations for policy implications

It is clear from the findings of the study that the phenomenon of ISO 9001:2000 requires more research and more understanding for firms to grasp the opportunities and challenges that accrue from certification. Future areas of study can focus on the strategic challenges faced in the adoption and implementation of ISO 9001:2000 and whether they differ from industry to industry.

It is also recommended that before firms acquire certification the management should ensure that the certification is being acquired based on the right strategic objectives and that staff as well as shareholders are sensitized on the importance of certification beforehand to avoid wastage of resources namely time and money.

5.4.2 Recommendations for further research

Finally, it is recommended that further research be done expand this study to cover more manufacturing industries and other manufacturing organizations (consultants, regulatory bodies and clients) and to make further comparisons after results have been obtained from similar surveys in other sectors, particularly industrial, building and agriculture sectors.

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APPENDICES

APPENDIX 1: Letter of Introduction

Ms. Winfred Gatimu
University of Nairobi
School of Business
P.O. Box 30197
NAIROBI

Date

Dear Sirs.

RE: COLLECTION OF SURVEY DATA

My name is Winfred Gatimu. a Masters in business administration(MBA) student at University of Nairobi. As a partial fulfillment for the MBA degree, I am currently conducting a study on **"Strategic Challenges faced by firms in the adoption of ISO 9000 Quality Systems Management Standard: Case Study of manufacturing firms in Nairobi."**

Your company has been selected to participate in the study. I kindly request you to fill in the questionnaire attached in order to provide better understanding of the strategic challenges faced by your firm following your certification. I will also appreciate any additional information you may want to provide for a better study. Please note that the results of the study will be used solely for academic purposes and a copy of the same will be availed to your organization on request.

Thanks in advance for your valuable time.

Yours faithfully,

MS. WINFRED GATIMU

DRJUSTUS.M.MUNYOKI
RESEARCH SUPERVISOR

APPENDIX 2: QUESTIONNAIRE

1.0 Person completing questionnaire

1.1 Please state your position in the firm

1.2 How long have you worked with this company (in years):

[a] <3 [b] 3-6 [c] 6-8 [d] 8-10 [e] >10

2.0 Company Profile

2.1 Company name (*optional*)

2.2 Year of ISO 9001:2000 certification?

2.3 Scope of business /products manufactured (*if more than one category: indicate approximate percentage in each*):

1

2

3.

2.4 Area of operation (*if more than one category, indicate approximate percentage in each*):

[a] Local [b] Regional (EAC, COMESA) [c] Continental (Africa) [d] International

2.5 Number of permanent staff

[a] <50 [b] 50-150 [c] 150-300 [d] 300-500 [e] >500

2.6 Average annual turnover before attainment of ISO 9001:2000

[a] < Kshs 100 M [b] Between 101M-500M [c] Between Kshs 501M-1 B
[d] >Kshs 1B

2.7 Average annual turnover after ISO 9001:2000 certification

[a] < Kshs 100 M [b] Between 101M-500M [c] Between Kshs 501M-1 B
[d] >Kshs 1B

3.0 Management system certificates already held by the your manufacturing company apart from ISO 9001:2000

| Certificate Number | Standard Certification Body | Valid until |
|--------------------|-----------------------------|-------------|
| | | |
| | | |
| | | |

3.1 Which of the following motivated your company to seek for ISO 9001:2000 certification? *{More than one item may be circled}*

- [a] As part of a larger improvement strategy,
- [b] To compete more effectively for overseas markets,
- [c] To gain competitive advantage,
- [d] To improve the quality of work done,
- [e] To increase efficiency and productivity in all areas of manufacturing and operation,
- [f] To meet customer expectations,
- [g] To qualify to tender for public projects,
- [h] To reduce costs of operation,
- [i] To satisfy top management's corporate directive,
- [j] Others *{please specify}*

3.2 Since your company achieved the ISO 9001:2000 certification, what opportunities has your company had?

- [a]
- [b]
- [c]

3.3 Since your company got ISO 9001:2000 certification, what challenges if any have been faced in implementation and maintenance of the standards?

- [a]

4.0 To what extent has it been easy for your company to implement these standards? (*Tick appropriately in the boxes*)

| Table 1: ISO 9000, Clause | Very Easy | Easy | Don't know/ NA | Difficult | Very difficult |
|--|-----------|------|-------------------|-----------|----------------|
| 4.1 Management Responsibility | | | | | |
| 4.2 Quality System | | | | | |
| 4.3 Contract Review | | | | | |
| 4.4 Design Control | | | | | |
| 4.5 Document and Data Control | | | | | |
| 4.6 Purchasing | | | | | |
| 4.7 Control of Customer-Supplied Product | | | | | |
| 4.8 Product Identification and Traceability | | | | | |
| 4.9 Process Control | | | | | |
| 4.10 Inspection and Testing | | | | | |
| 4.11 Control of Inspection, Measuring and Test Equipment | | | | | |
| 4.12 Inspection and Test Status | | | | | |
| 4.13 Control of Nonconforming Product | | | | | |
| 4.14 Corrective and Preventive Action | | | | | |
| 4.15 Handling, Storage, Packaging, Preservation and Delivery | | | | | |
| 4.16 Control of Quality Records | | | | | |
| 4.17 Internal Quality Audits | | | | | |
| 4.18 Training | | | | | |
| 4.19 Servicing | | | | | |
| 4.20 Statistical Techniques | | | | | |

5.0 The *table 2* below shows some possible outcomes of implementing ISO 9001:2000 Based on your experience or perception, indicate your agreement or disagreement to each. (Tick appropriately in the boxes)

| able 2: Outcome | Strongly agree | Agree | Indifferent | Disagree | Strongly disagree |
|--|-----------------------|--------------|--------------------|-----------------|--------------------------|
|) Less rework or repair | | | | | |
|) More paperwork | | | | | |
|) Better access to domestic markets | | | | | |
|) Better risk management | | | | | |
|) Increased bureaucracy | | | | | |
| Stronger customer focus | | | | | |
|) Higher efficiency in operation | | | | | |
|) Continual improvement of operation | | | | | |
| Less problems in defects liability period | | | | | |
| Higher overall processing/manufacturing costs | | | | | |
| l Improved internal communication | | | | | |
| Improved external communication | | | | | |
|) Increased staff discontent | | | | | |
| Better access to overseas markets | | | | | |
| Having a valuable marketing tool | | | | | |
| Lower productivity | | | | | |
| i More systematic record keeping | | | | | |
| Less flexibility in operation | | | | | |
| Enhanced competitiveness of company | | | | | |
| More time spent in management | | | | | |
| i Client perceives higher quality of final product | | | | | |
| i Improved supplier relations | | | | | |

6.0 Is there a positive relation between ISO 9001:2000 and financial performance of your company
[a] Yes [b] No

7.0 On balance, do the benefits of having ISO 9001:2000 certification outweigh its disadvantages associated with this certification?
[a] Yes [b] No

8.0 What challenges if any, has your company faced from any the government or other bodies e.g., KEBS, KAM, KRA, Ministry of Trade and Industry etc in regard ISO 9001:2000 implementation, and if so, from which bodies?

| Challenges faced by the company from the government institutions in regard to ISO 9000 implementation | Institution |
|--|--------------------|
| 1. | 1. |
| 2. | 2. |

End of Interview. Thanks for your participation

APPENDIX 3: LIST OF POPULATION

| NO. | NAME OF FIRM | DATE OF CERTIFICATION | INDUSTRY | GEOGRAPHIC LOCATION |
|------------|--------------------------------|------------------------------|--------------------|----------------------------|
| 1 | Kenya Breweries Ltd | 1-Apr-05 | Manufacturing | Nairobi |
| 2 | GlaxoSmithkline | 20-Jul-06 | Manufacturing | Nairobi |
| 3 | African Marine & General | 1-May-07 | Service | Mombasa |
| 4 | SGS Labs | 1-Dec-05 | Service | Mombasa |
| 5 | General Motors Limited | 20-Jun-06 | Assembly & Service | Nairobi |
| 6 | Coastal Bottlers Ltd | 1-Feb-07 | Manufacturing | Mombasa |
| 7 | Kenya Malting Ltd | 20-Jul-06 | Manufacturing | Nairobi |
| 8 | Central Glass Industries | 20-Jun-06 | Manufacturing | Nairobi |
| 9 | Southern Engineering Ltd | 1-Mar-07 | Service | Mombasa |
| 10 | Intertek Testing Services | 1-Dec-05 | Service | Mombasa |
| 11 | ASP Company | 16-May-05 | Manufacturing | Nairobi |
| 12 | Kengen | 10-Dec-04 | Manufacturing | Nairobi |
| 13 | Strathmore University | 1-Feb-07 | Service | Nairobi |
| 14 | Mumias Sugar Co. | 1-Nov-05 | Manufacturing | Mumias |
| 15 | Telkom Kenya | 23-Jul-07 | Service | Nairobi |
| 16 | Mater Hospital | 18-Nov-06 | Service | Nairobi |
| 17 | Mbaraki Port Warehouse | 1-Dec-05 | Service | Mombasa |
| 18 | Polucon Services Limited | 1-Feb-06 | Service | Mombasa |
| 19 | Kenya Ordinace | 4-Jul-06 | Manufacturing | Eldoret |
| 20 | Sondhi Trading Company | 18-Oct-06 | Service | Mombasa |
| 21 | Retirements Benefits Authority | 19-Feb-07 | Service | Nairobi |
| 22 | Riccati Business College | 1-Oct-07 | Service | Nairobi |
| 23 | Continental Products Limited | 19-Feb-07 | Manufacturing | Nairobi |
| 24 | Nakumatt Holdings | 20-Feb-07 | Service | Nairobi |
| 25 | Rosavie(EPZ) Limited | 1-Aug-07 | Manufacturing | Nairobi |
| 26 | Kenya Seed Company | 1-Jul-07 | Service | Kitale |
| 27 | Corn Products Limited | 23-Jul-07 | Manufacturing | Eldoret |
| 28 | Kenya Literature Bureau | 29-Oct-07 | Service | Nairobi |
| 29 | Athi Water Services | 23-Oct-07 | Service | Nairobi |
| 30 | Color Creations Limited | 20-Aug-07 | Service | Nairobi |