EFFECT OF ISO 9000 CERTIFICATION ON OPERATIONS PERFORMANCE: CASE OF JOHNSONDIVERSEY

BY

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DECLARATION

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

Signature: ..... Date: 20/11/06

MWIHAKI NJEHU

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

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DEDICATION

This research work is dedicated firstly to God Almighty through whom I have been able to come this far. Secondly to my Husband Njehu who stood by me throughout the research

AKNOWLEDGEMENT

Special thanks to my Husband Njehu for all the support he accorded me. He walked with me through the whole journey. I can never thank him enough.

Thanks to our Daughters Nyathioma, Wambui, and Woki, were very understanding even when I had to spent time away from them at odd hours in order to complete the project.

Special Appreciation to my Mum Josphine and my Dad Walter who instilled in me the ambition to excel and inspired me to go on even when it seemed very tough by their constant prayers.

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Finally I thank the Management and Staff of JohnsonDiversey for taking time off their busy schedules to answer the questionnaires and for all other support accorded to me.

ABSTRACT

Quality is indisputably one of the weapons for competitiveness. It has become the cornerstones for companies' reputation. Many organizations have implemented Quality Management Systems for competitive advantage. ISO 9001 is one such system.

The strategy to implement a quality management system enhances the operation management in an organization and ensures it focus on the customer. Several companies in Kenya have implemented ISO 9001 quality management systems for various benefits. JohnsonDiversey is one of such companies, which has implemented ISO with the objective of providing the customer with a quality solution to their cleaning needs.

The Objectives of the research project was: To identify the benefits realized by JohnsonDiversey since the adoption and implementation of ISO 9001. And To identify the challenges experienced since the implementation.

The research took a case study approach in identifying the benefits realized by ISO certification. The Organization chosen, JohnsonDiversey has been operating ISO 9001 for seven years. The target population was all the staff of the company in the departments that are directly covered by ISO i.e. Census.

The study revealed the importance ISO certified firms attached to ISO implementation. The study further revealed that ISO 9001 is necessitated among other factors, meeting customers' requirements.

The study concluded that ISO is strategy for performance improvement. ISO is relevant in achieving efficiency in all operations processes. It is also relevant in fulfilling customers' requirements to their satisfaction. ISO definitely gives a company competitive advantages.

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CHAPTER 1: INTRODUCTION

1. 1 Background

Quality is indisputably one of the weapons for competitiveness. It is one of the elements that have become the cornerstone for companies' reputation (Oakland, 1993). Many organizations have implemented various quality management systems upon the understanding that good quality gives an organization a considerable competitive edge (Slack et. al., 2001). One of this is ISO 9000 series. ISO 9000 series quality management system was first published in 1987 by the International Organisation for Standardization. Since then the worldwide take up of quality certification to the ISO 9000 standard has been increasing rapidly. ISO 9000 is a family of standards composed of various 'models' for quality management systems, the selection of which is based on the scope of activities of the organization. One such models is ISO 9001.

The popularity and rate of adoption/implementation of ISO 9000 can well be demonstrated by ISO 9001. By the end of 2004 the worldwide total of certificates to the ISO 9001 quality management systems stood at 670,399, spread in 154 countries compared to 149 a year earlier. This was an increase of 35 % over the previous year and 64 % over 2000 (ISO survey, 2005). The reason for this phenomenal growth can probably be traced to the perception of ISO 9000 as being the most influential standard of its kind in the world (Simmons & White (1999: 330). In addition, once an organization has implemented the quality management system, it is argued that: staff get motivated because it defines their key roles and responsibilities; cost savings can be made through improved efficiency and productivity and product or service deficiencies will be highlighted. From this, improvements can be developed, resulting in less waste, inappropriate or rejected work and fewer complaints. Customers will notice that orders are met consistently, on time and to the correct specification. This in turn can open up the market place to increased opportunities as well as giving a competitive edge to an organization's marketing (Naveh et al, 1999). It is also argued that ISO certification improves overall business performance (Wenmoth & Dobbin, 1994). From a theoretical perspective, certification to the ISO 9000 series is expected to improve business

performance by streamlining processes and increasing process consistency (Benner & Tushman, 2001). Taking this idea one step further, some scholars propose that ISO 9000 may also improve the environmental performance of certified companies (King & Lenox, 2001). ISO certification is as well touted to promote organization growth. This was the conclusion arrived at by Ann Terlaak (2001) whose survey led to a conclusion that ISO certified facilities grow faster after certification.

The strategy to implement a quality management system enhances the Operation Management in an organization and ensures it focus on the customers. All the processes within the companies operations are focused towards meeting the customers' needs. Operations Management can be improved through various approaches. The realization that quality is critical to operational performance and general competitiveness has prompted several firms to engage in the search and adoption of several quality management systems. One of such Quality management systems (QMS) is ISO certifications, particularly the 9000 family series and now the 14000 series.

Quality means different things to different people. This is the argument put forward by various students of quality. For instance, Lysons and Gillingham (2003: 204 &205), point out that there are numerous definitions of quality. These writers further say, "These alternative definitions often overlap and may conflict" According to the American Society for Quality, quality is a matter of relationship management. The society defines quality as the ongoing process of building and sustaining relationships by assessing, anticipating, and fulfilling stated and implied needs. The society argues that even those quality definitions which are not expressly relational have an implicit relational character, hence the reason why people and organizations try to do the right thing right, on time, every time; build and sustain relationships; seek zero defects and conformance to requirements; seek to structure features or characteristics of a product or service that bear on their ability to satisfy stated and implied needs. Winder et al. (1996) concurs with the society. According to these scholars, the focus of continuous improvement is the building and sustaining of relationships.

It well argued that ISO certification leads to operational performance. Operational performance is a multi-dimensional concept that refers to the measurable aspects of an organization's processes (Voss, Ahlstrom & Blackmon, 1997). It most commonly encompasses production reliability and defect rates, production cycle time and on-time delivery, cost of quality and scrap minimization, productivity, and inventory turns (Naveh & Marcus, 2000; Samson & Terziovski; 1999, Voss et al, 1997; Youndt, Snell, Dean et al, 1996).

From a theoretical perspective, ISO 9000 is expected to improve operational performance by streamlining processes and increasing process consistency (Benner & Tushman, 2001). Focusing on a selection or combination of the different dimensions of operational performance, some studies find that certification reduces the cost of quality (Naveh et al, 1999) and improves overall operational performance (e.g., Wenmoth & Dobbin, 1994).

Taking this idea one step further, some scholars propose that ISO 9000 may also improve the environmental performance of certified companies (King and Lenox, 2001), which according to King & Lenox (2002) is measured in terms of scrap generation. Studies suggest that organizations with better processes generate less scrap (Klassen & Whybark, 1999; Rothenberg, 1999). This argument is supported by Slack et. al. (2001 p553) who argue that good quality management reduces the costs of rework, scrap and returns, and more importantly, generates satisfied customers.

Many of the organization that have had ISO certification, do so for various perceived benefits. In their study of ISO certified public organizations in Taiwan, Chu and Wang, (2001) found out that ISO certified organizations have done so for the following perceived benefits: it promotes organization image; improves customers' satisfaction; improve overall service and product quality; promotes better organization design and enhance administration efficiency.

According to Benner & Tushman (2001) ISO certification improves operational performance. Naveh et al (1999) also found that, certification reduces and improves

overall operational performance. ISO 9000 may improve the environmental performance of certified companies, which according to King & Lenox (2002) is measured in terms of scrap generation. Slack et. al. (2001 p553) also support the conclusion by saying that, "good quality management reduces the costs of rework, scrap and returns, and more importantly, generates satisfied customers".

Eicher, (1992) observes that ISO 9000 is not a total quality system and that its adoption will not ensure leading edge quality has merit, but misses two important points. First, while it is fundamentally concerned with providing purchasers with a standardized way to require that *all* suppliers have in place good quality assurance systems other quality systems are fundamentally concerned with competitive advantage. Second, firms that go beyond just compliance with ISO 9001, 9002, and 9003, and follow the guidelines in ISO 9004, may well put into place much of what is found in leading-edge quality systems (ibid, p53). The criticisms leveled against this system, actually seems to negate its acclaimed benefits.

Despite the criticisms several companies in Kenya have implemented the ISO 9000 series quality management systems and others could be in the process of being assessed for certification. Among those that are already certified to various models of ISO 9000 are: Kenya Breweries Ltd; Kenya Maltings Ltd; Africa Marine and General Engineering Services; SGS laboratories; GlaxoSmithKline; General Motors Kenya Limited; coastal Bottlers ltd; Central Glass Industries; ASP Company; Zakhem Construction Kenya Ltd; Strathmore University; KenGen; JohnsonDiversey; Mumias Sugar Co.

The conflicting revelation emanating from the foregoing creates some void, which may be a drawback to those businesses intending to implement any of the ISO 9000 models of quality management. This necessitates a local study to establish the position as it is in Kenya. JohnsonDiversey adopted and implemented ISO 9001 (a member of the ISO 9000 family) in 1999. The objective of the implementation of the quality management system was to meet customers' needs and exceed their expectations thus gaining competitive advantage.

Background of JohnsonDiversey

JohnsonDiversey ,one of the Kenyan medium sized companies, which had adopted and implemented ISO 9001 – 2000. JohnsonDiversey , a multinational company manufactures detergents & sanitizers and markets them to a selected group of industrial customers. The company was incorporated in Kenya in 1971 and has its Headquarters in Racine USA. In the 1970s the company had no competition. It serviced customers in East and West Africa thus enjoying a lucrative market share. In the 1980s more manufacturers encroached its place in the industry slowly eating into its market share. The situation was worsened by imports from Europe. As a result of this environmental change, JohnsonDiversey realized the need to differentiate its products in order to sustain competitive advantage. While strategizing on how to differentiate the company realized it could have had competitive edge if it had provided quality products and service to the customers. The realization prompted the company to seek a strategy that would deliver consistent quality with continuous improvement so as to meet and exceed the customers' expectations all the time.

With the Objective of 'providing the customer with a quality solution to their cleaning need, efficiently, to exceed their expectations at all time' the company considered establishing a quality management system that would yield the new objective. At that stage defining quality was crucial followed by establishing the benefits, shortcomings and barriers in the implementation of the desired system. Consequently, JohnsonDiversey adopted and implemented ISO 9000 in 1999 – 1994 versions and migrated to the 2000 version in 2003.

JohnsonDiversey Quality Policy Statement

"Clean is the centre of who we are and what we do. It means hygienic, ethical, environmentally sound and **excellent without compromise**. *Beyond* clean is the host of services, ideas and opportunities we bring to our customers, our communities and our people. It means that JohnsonDiversey thinks, plans and acts for the long term."

OBJECTIVES

- To understand the needs of our customers in order to provide them solutions that fully satisfies their expectations of our performance.
- To continually improve our Business processes to service our customers optimally without ever being satisfied with our service delivery.
- To continually improve our Quality management system and our compliance with ISO 9001:2000.
- To develop a behavioural culture that encourages our people to do things right the first time and every time.
- To continually improve the skills & competencies of our people by internal, external and experiential training.
- To achieve the annual planned financial performance.

The policy is signed by the managing director and is displayed at all strategic offices and notice boards of the organization. This demonstrates the management commitment to the Quality Management System as strategic processes.

1.2 Problem Statement

There has been an overwhelming drive towards ISO certification amongst business firms with a hope to change perception of their firms in their respective industries and even attain competitive advantage. At the same time there are numerous conflicting revelations about the effect of this certification. As stated above, there is a natural expectation that ISO certification should yield to improved business performance. This has been faulted by a number of studies conducted on the subject. A number of scholars have investigated the influence of ISO 9000 on different dimensions of business performance. Some studies found that ISO 9000 certified facilities had higher profitability but these studies failed to establish a causal link between certification and business performance of a certified organization (Simmons & White, 1999) In addition, results on the effect of ISO 9000 on customer satisfaction also remain ambiguous (Naveh et al, 1999; Rao et al, 1997;

Perhaps because of the arguments raised above, Naveh et. al (1999: 274 - 275) looked at the debate on the ISO subject as confusion. The researchers are supported by Cole (1999) who says, "as of today, it is not clear whether ISO 9000 is merely a fad or effectively improves business practices" This is also shared by Dick (2000). Dick observes that, previous research had failed to establish a causal relationship between certification and improvement in business performance (Dick, 2000). On the other hand practitioner surveys suggest an association between ISO certification and improvement in business performance (e.g., Rao et al, 1997; Jeng, 1998).

There existed no known study that had been carried out in Kenya to establish whether ISO certification is contributory to improved business performance despite there being many business firms, multinationals and locals that have been ISO certified. In this study, the researcher used JohnsonDiversey as a case study to establish if ISO certification really helped organizations to achieve the expected benefits and therefore improves operational performance or it is still a fad.

JohnsonDiversey was chosen for the study as it had been operating ISO 9000 for seven years. The firm was considered suitable for this study because the period it had taken since the adoption of this system was long enough to identify benefits and challenges experienced.

1.3 Research Objectives

The objectives of this study were:

(i) To identify the benefits realized by JohnsonDiversey since the adoption and implementation of IS0 9000

(ii) To identify the challenges experienced since the implementation of ISO 9001

1.4 Significance of the Study

The study findings will be of benefit to various stakeholders e.g. Chief Executives, operations Managers and Marketing Managers, shareholders, customers & employees. These findings:

1. May be used by the stakeholders to implement continuous performance improvement programs in order to remain ahead of competition.
2. Academically, this study is expected to contribute to the existing literature in the field of operations management in general and quality management systems in particular.
3. It should also act as a stimulus for further research on performance improvement through implementation of ISO 9000.
4. To the prospective candidates of ISO certification, the findings will provide a good insight for decision-making as to the worthiness of investing in this type of project.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Many leading nations (such as the United States, Japan, and Germany) have fought the global pressures of competition by becoming increasingly technologically advanced, moving up-market to more value-added products, and upgrading the skills of their domestic work force (Enright, Scott, and Dodwell, 1997; Pun and Lee, 1997). Everyone everywhere is in pursuit of higher quality. The impact of quality is so enormous that it can affect a company's competitiveness, both locally and globally.

Quality transformation is a process to enhance the forms and patterns of quality activities. It affects the adoption of quality management (QM) practices in individual firms and governs the development trend of QM in a nation or region. With the raging industrial and regional competition organizations must transform towards embracing top end technology that can result into superior quality products and services particularly those offered in regional markets. For a successful transformation, manufacturers must make quality products better, faster, and cheaper than those of their competitors. Adoption of effective quality management strategies will be one of the most crucial factors for success in this new era. Before the 1990s, the QM practices were unsatisfactory. In the early 1990s, the adoption and implementation of ISO 9000 systems had a significant impact on enhancing the quality practices. With the driving force of the ISO 9000 movement, many certified firms have taken steps to adopt continuous quality improvement (CQI) strategies and worked toward total quality management (TQM).

2.2 Operations Management

Operations management is of critical importance to organization and business nowadays. It is the management of manufacturing, production and services operations. . It may be defined as the design operation and improvement of production systems that create the firm's primary products or services (Schonberger et.al.). It is the function that transforms inputs into outputs (product /services) related activities including managing purchases inventory control; quality control, storage, logistic and evaluations. A great deal of focus

is on efficiency and effectiveness of processes. Therefore OM often includes substantial measurements and analysis of internal processes. (Institute of Operations Management)

The strategy to implement a quality management system enhances the OM in an organization and ensures it focus on the customers. All the processes within the companies operations are focused towards meeting the customers' needs. Operations Management can be improved through various approaches. The realization that quality is critical to business performance and general competitiveness has prompted several firms to engage in the search and adoption of several quality management systems. One of such Quality management systems (QMS) is ISO certifications, particularly the 9000 family series and now the 14000 series.

2.3 The Concept of Quality

The profile of the quality management literature is unbalanced with a strong predominance of the descriptive and prescriptive writings. The literature is based largely upon case studies, and the personal experience of the practitioners and quality consultants. Numerous case studies have been done across industries to describe the successful implementation of ISO, Aldrge et al (1991), Allen & Oakland (1998) Chapman et al (1991) etc. Based on personal experience several generic frameworks have been proposed for implementation of quality management systems to help companies to achieve quality, productivity and competitive advantage, Crosby, 1979, Deming, 1986, Ishikawa ,1985, Juran, 1988.

Early studies focused primarily on studying quality practices in developed countries such as Japan and USA (Benson et al, 1991; Hull et al, 1988) . Lately literature has extended its scope by comparing QMS in other developed and developing countries, for example India, Rao et al (1997), Denmark, Dalhgaard et al (1990).

Quality means different things to different people. This is the argument put forward by various students of quality. For instance, Lysons and Gillingham, 2003: pgs 204 &205), point out that there are numerous definitions of quality. These writers further say, "These

alternative definitions often overlap and may conflict" According to the American Society for Quality, quality is a matter of relationship management. The society defines quality as the ongoing process of building and sustaining relationships by assessing, anticipating, and fulfilling stated and implied needs. The society argues that even those quality definitions which are not expressly relational have an implicit relational character, hence the reason why people and organizations try to do the right thing right, on time, every time; build and sustain relationships; seek zero defects and conformance to requirements; seek to structure features or characteristics of a product or service that bear on their ability to satisfy stated and implied needs. Winder et al. (1996) concurs with the society. According to these scholars the focus of continuous improvement is the building and sustaining of relationships. They further argue that it would be difficult to find a realistic definition of quality that did not have a fundamental express or implied focus of building and sustaining relationships. These researchers concretize their arguments by saying that Quality is the customers' perception of the value of the suppliers' work output. They further argue that you cannot separate the process and the human factor. They believe that Quality, when built into a product, generates emotions and feelings within those who have taken part in its creation. Finally they conclude that: "When you have made something that you are proud of, when you have produced a product that brings smiles to your customers, and then you have achieved Quality. You'll know it, they'll know it, and each of you will prosper from it". Persig (1974), on his part, define quality, quite interestingly. He says, ``even though Quality cannot be defined, you know what it is. It is neither mind nor matter, but a third entity independent of the two" Juran (1974) and Crosby (1979) on their part define quality in a more summarized way. They say, "Quality is the conformance to requirements and fitness for use respectively"

Much of the early moves towards the quality revolution happened in Japan. The Japanese look at quality in terms of its monetary worth. For instance, according to the Japanese Industrial Standards Committee (1981) quality refers to the amount of the unpriced attributes contained in each unit of the priced attribute.

Perhaps the most celebrated definition of quality is that given by the American Society for Quality, which is shared by the ISO 8402 (1986). These two organizations define Quality as the totality of features and characteristics of a product or service that bear on its ability to satisfy given needs. The American Heritage Dictionary, (1996), also looks at Quality, as an inherent or distinguishing characteristic, a degree or grade of excellence.

Literature shows that the single factor affecting a business' competitive ability is the quality of its products and services, relative to those of competitors (Meredith J. R, 1992). According to Meredith, quality products or services leads to more customer satisfaction; enhances the reputation of the firm; protects the firm fro competition; minimizes health and safety liabilities and risk; improves worker morale; reduces scrap and waste; smoothes work flows; improves control and reduces a variety of costs.

The understanding and consequent desire to attain benefits of superior quality has been the struggle of many firms since the onset of the industrial revolution. This effort was moved a step higher after the Second World War when many governments suffered massive defeats caused by weapon failures. Britain, which was faced by many accidental detonations in their weapons factories embarked on a seach for solutions to this quality problem. This eventually lead to the development of BS 5750 in 1979, which also changed to be the current ISO 9000 in 1987.

2.4 ISO 9000

ISO 9000 is a family of ISO (the International Organization for Standardization) standards for quality management systems. ISO 9000 was developed from the British Standards Institution's BS 5750. The ISO 9000 standards are maintained by ISO and administered by accreditation and certification bodies. Although the standards originated in manufacturing, they are now employed across a wide range of other types of organizations. These include service organization. In fact according to ISO (2004), "service sectors now account by far for the highest number of ISO 9001:2000 certificates - about 31% of the total" ISO 9000 is about managing your business in such a way that it is continually becoming more competitive. It does not guarantee the quality of end

products and services; rather, it certifies that consistent business processes are being applied. Like all properly written Standards, ISO 9000 seeks to set criteria which achieve a goal and is not prescriptive as to methods. It seeks to set out key requirements, which if met will ensure quality. According to Anderson et al, (1999: 30). The ISO 9000 quality management standard focuses on process, rather than output control. It establishes guidelines that aim to optimize and standardize operational processes "through quality planning and goal setting, clear assignment of task authority and responsibility, adequate skills, and systems for documenting process performance and responding to process failures" The guidelines cover activities from product design and development, through production, inspection, installation, and product servicing.
The ISO 9000 standard has evolved over several revisions:

ISO 9000:1987. This was the initial version. It had the same structure as the UK Standard BS 5750, with three 'models' for quality management systems, the selection of which was based on the scope of activities of the organization. This initial document drew heavily from numerous documents then in use around the world. Although the Standard has gone through two more iterations which have resulted in some radically changed language, all the core, prevention oriented quality assurance requirements were present in the 1987 document.

ISO 9000:1994. This version was an attempt to break from the practices, which had somewhat, corrupted the use of the 1987, standard. It also emphasized quality assurance via preventive actions, and continued to require evidence of compliance with documented procedures. Unfortunately, as with the first edition, companies tended to implement its requirements by creating shelf-loads of procedure manuals, and becoming burdened with an ISO bureaucracy. Adapting and improving processes could be particularly difficult in this kind of environment.

ISO 9000:2000 which sought to make a radical change in thinking by actually placing the concept of process management front and centre in the Standard.

ISO 9001:2000 quality management system. This system is intended for use in any organization which designs, develops, manufactures, installs and/or services any product or provides any form of service. It provides a number of requirements, which an organization needs to fulfill if it is to achieve customer satisfaction through consistent products, and services, which meet customer expectations. This system contains a complete set of requirements for the quality systems of the supplier, starting from top management and providing objective criteria to verify the existence of key elements in the total quality approach. For example, it defines minimum requirements for documented procedures and instructions for contract review, design and process control, internal inspection and testing. It requires that a documented system exists for identification of tested products, control of nonconforming products, and procedures for corrective actions to avoid repetition of processing dysfunctions. Further, it defines requirements for product handling, storage, packaging, and delivery. Finally, it includes requirements for carrying out internal quality audits to verify the implementation and effectiveness of a quality management system (Eicher, 1992).

IS0 9002 which, applies where the supplier is not responsible for the design, development or servicing of a product.

ISO 9003 which is limited to quality assurance during final inspection and testing where the product is sufficiently simple to make design and installation less relevant.

ISO 9004 Quality management systems, which comprise Guidelines for performance improvements. It covers continual improvement. This gives advice on what one could do to enhance a mature system. This standard very specifically states that it is not intended as a guide to implementation.

In addition to the above there are many different standards, which are referenced in ISO 9000 family. A lot of them do not even carry "ISO 900x" numbers. For example, parts of the 10,000 range are also considered part of the 9000 family: ISO 10007:1995 discusses

Configuration management, which for most organizations is just one element of a complete management system.

According to Peach (1994), the idea of quality management has been brought to the attention of a much wider business community since the introduction of the ISO 9000 series in 1987, for the purpose of facilitating global trade and quality improvement in 1987. According to this writer, the success of the ISO 9000 series has brought. "Conformance to specification" the definition of quality, the ISO 9000 series, which sets out requirements and recommendations for the design and assessment of management systems and specifies how management operations shall be conducted, has become an international set of standards for manufacturing and service industries (Alexander, 1995). This has been reinforced by the fact that ISO 9000's purpose is to ensure that suppliers design, create, and deliver products and services that meet predetermined standards; in other words, its goal is to prevent nonconformity (Buttle, 1997). According to Hayes (1994, p59), two aspects of ISO 9000 set it apart and ensure its long -term survival. First, it is purchaser-driven. Whether the purchaser is a Minister buying public policy outputs or a small-goods manufacturer buying pigs, quality is important then standards are essential. Second, it is not a set of procedures that can be imported into an organisation, ready mixed or bought off-the-shelf, it requires each organisation to design its own system, and is likely to result in ownership by those involved in its design. Another aspect is that ISO 9000 fit any business as long as the right fashion is chosen.

Unlike other quality management systems, ISO 9000 is applicable to any business. To assert this point Henkoff (1993) says, "With ISO 9000, a manufacturer of even concrete life jacket could be registered as long as there were systems in place to assure they were well made"

2.5 ISO Certification and Operation Performance

Operational performance is a multi-dimensional concept that refers to the measurable aspects of an organization's processes (Voss, Ahlstrom & Blackmon, 1997). It most commonly encompasses production reliability and defect rates, production cycle time and on-time delivery, cost of quality and scrap minimization, productivity, and inventory

turns (Naveh & Marcus, 2000; Samson & Terziovski; 1999, Voss et al, 1997; Youndt, Snell, Dean et al, 1996).

From a theoretical perspective, ISO 9000 is expected to improve operational performance by streamlining processes and increasing process consistency (Benner & Tushman, 2001). Focusing on a selection or combination of the different dimensions of operational performance, some studies find that certification reduces the cost of quality (Naveh et al, 1999) and improves overall operational performance (e.g., Wenmoth & Dobbin, 1994).

Taking this idea one step further, some scholars propose that ISO 9000 may also improve the environmental performance of certified companies (King and Lenox, 2001), which according to King & Lenox (2002) is measured in terms of scrap generation. Studies suggest that organizations with better processes generate less scrap (Klassen & Whybark, 1999; Rothenberg, 1999). This argument is supported by Slack et. al. (2001 p553) who argues that good quality management reduces the costs of rework, scrap and returns, and more importantly, generates satisfied customers.

2.6 Benefits of ISO Certification

Many of the organizations that have had ISO certification, do so for various perceived benefits. In their study of ISO certified public organizations in Taiwan, Chu and Wang, (2001) found out that ISO certified organizations have done so for the following perceived benefits: it promotes organization image; improves customers' satisfaction; improve overall service and product quality; promotes better organization design and enhance administration efficiency. In addition Chu and Wang through the same survey, realized that organizations desire to implement and become ISO 9000 certified because of customer pressure. Morgan & Murgatroyd (1994) shares this argument. In their study they also found out that the wide spread customer/user-based emphasis of quality, is forcing many firms private and public to comply. Younis (1997), through his study on ISO certification in public service institutions, realized that customers are a major push towards ISO certification. According to Younis, such customers ask questions about the range of the services being offered, demand a greater say in how these services are offered, and expect a higher quality of the services in terms of their needs. These

customers' expectations have pressured many organizations to implement quality improvement programs. Freeman-Bell and Grover (1994), in a survey of 25 local authority services actually found that one main reason for implementing ISO 9000 was customer pressure. Others get certified as they see Quality as an essential ingredient of Competitiveness (Chu and Wang, 2001) Thirdly, ISO standards provide the discipline and infrastructure that are necessary to make a major improvement in an organization's quality system; hence, it frequently serves as a credible signal of process quality control (Morrow, 1993; Tsiotras & Gotzamani, 1996). Such a quality signal may improve the image of an organization and its competitive position in the market place. Another motivation for adopting ISO is cost and benefits related (Barrett, 1992; Craig, 1991; Hockman, 1992). These researchers argue that due to budget cutting and closure of operations, organizations may need ISO series to provide a specified volume and quality of products or service with the lowest possible level of resources. In particular, Curry and Monaghan (1994) showed that it is possible to reduce operating costs for local public offices through the implementation of ISO.

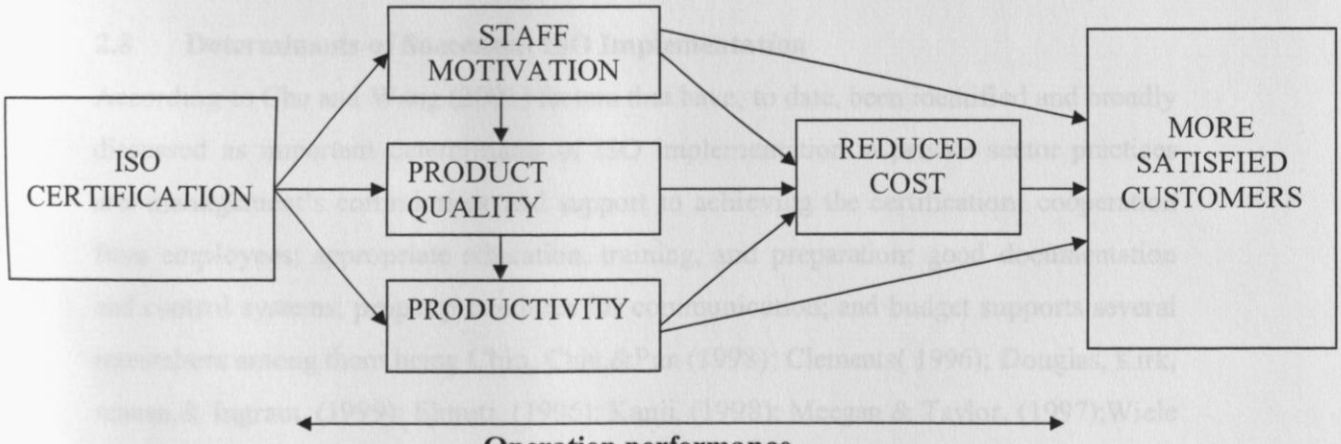
Naveh, Marcus, Allen, et al (1999: 274) detail an analogy, which shows that ISO certification, is used as a market-signaling device. They talk about a manager who was asked about the merits of the ISO 9000 Quality Management Standard. The manager remarked, "It is similar to having a college diploma". Whether intentionally or not, this manager drew a direct comparison with Michael Spence's theory of market signaling. College diplomas, Spence argued, can act to differentiate high productivity job applicants from low productivity ones, independent of whether or not students learn anything in the process of attending college (Spence, 1973). Because getting a diploma requires effort that is likely to be more arduous for less productive students, high productivity students are more likely to complete a college degree. In the same way, completion of the management steps needed to certify with ISO 9000 can differentiate facilities with desirable organizational attributes. For this reason, Cole (1998: 68) suggests that firms may make ISO 9000 "their primary instrument for signaling quality to their customers". The need for information about underlying supplier attributes lends further credence to the idea that ISO 9000 certification may act as a market signal. This

is critical given difficulty identifying high quality suppliers. For buyers of safety sensitive products like brake components, for example, low defect rates are crucial (Michaels, 2002).

Some buyers have actually demanded that their upstream supply partners adopt ISO 9000 to reveal their otherwise difficult to observe attributes. Uzumeri (1997: 27), for example, finds that "large industrial purchasers in the U.S. (e.g., DuPont, General Electric, and Eastman Kodak) began to demand ISO 9000 registration from their suppliers." Even without buyer pressure for certification, suppliers may seek certification to communicate about underlying quality attributes.

Of some 2,300 UK firms with ISO 9000, 89% reported improvements in operational efficiency, 76% reported a marketing benefit, and 48% reported an improvement in profitability (Hayes, 1994, pp52-55).

Conceptual framework



Out of the foregoing it is apparent that ISO certification leads to high staff motivation; increased product quality and increased productivity all of which explain the change in operational performance of an organization. All the three combined lead to reduced cost. The three: staff motivation, product quality and productivity supported by the reduced operational cost will ultimately lead to more satisfied customers. At times, when ISO certification causes a motivated staff, this triggers a chain of reactions, which in turn lead to increased product quality and then increased productivity.

2.7 Implementation of ISO 9000

From a sequential perspective, adopting ISO 9000 may be subdivided into three phases (Benner & Tushman, 2001). First, companies have to map and document their operational processes (Harrington & Mathers, 1997). This forces managers to thoroughly understand how these processes (dis)connect, and it generates the information required for the second phase. The second phase focuses on improvements of the mapped processes. Improvements typically aim at incremental changes that rationalize and streamline the links among interdependent organizational subunits. Improvements are captured with measures of process efficiency and customer satisfaction (Benner & Tushman, 2001). Feedback mechanisms ensure continuous improvement (Naveh & Marcus, 2000). The third phase stresses adherence to improved routines and processes, as well as adoption of standardized best practices throughout the organization (Harrington & Mathers, 1997).Although the argument for certification is strong many companies have extreme difficulty in implementing the ISO 9000 processes.

2.8 Determinants of Successful ISO Implementation

According to Chu and Wang (2001) factors that have, to date, been identified and broadly discussed as important determinants of ISO implementation in private sector practices are: management's commitment and support to achieving the certification; cooperation from employees; appropriate education, training, and preparation; good documentation and control systems; proper procedures for communication; and budget supports several researchers among them being Chin, Chiu,&Pun (1998); Clements(1996); Douglas, Kirk, rennan,& Ingram, (1999); Elmuti, (1996); Kanji, (1998); Meegan & Taylor, (1997);Wiele & Brown, (1997) agree with the finding of Chu and Wang (2001) . Huarng (1998) in his study in Taiwan identified seven factors influencing the ISO implementation in medium and small enterprises. He named them as: the whole company sharing the same view; the degree of documentation through auditing; encouraging employees' active participation; quality control activities before ISO; the use of information systems, good training of managers; and instating a team leader for top-down training. Meegan and Taylor (1997) put a heavier thrust specifically with the understanding and commitment of senior management if there is to have to be a successful implementation of the ISO quality

management system. They argue that top managers must first signal their intention to implement ISO series, demonstrate their commitment and support, and then get involved in the implementing procedures. In addition, through dialogue with employees and considering of their relevant concerns, encourage the employees' active participation and help them share the same views of maximizing the benefits of the standards. Moreover, the most difficult part of implementing the ISO series is the language/ clarity of the standard (ISO Survey, 1998). To overcome the difficulty, it requires appropriate training to make all employees aware of the importance of conformance with the procedures and with the requirements of the standards. Furthermore, a good documentation and control system is extremely important when the goal of the registration is not only the certificate itself, but also a true and meaningful improvement in quality. Through the system, operational procedures and responsibilities will be established, and suitability and effectiveness of ISO series will be maintained (Lee, 1995; Pfan, 1989)

2.9 Implementation Barriers

Although the argument for certification is strong, many companies have had extreme difficulty in implementing the ISO 9000 processes. In their study of ISO certified public organizations in Taiwan, Chu and Wang (2001) found out that the commonly experienced problems when implementing the ISO standards include: organizational resistance to deep changes in their culture; the little pressure from customers to foster quality improvement, lack of adequate resources to implement and maintain a quality assurance system; lukewarm support and commitment from senior management;

2.10 Criticisms of ISO 9000

Despite its widespread international acceptance ISO 9000 is surrounded by controversy and criticisms. A widespread criticism of the ISO 900 program is that it is not connected directly enough to the product quality. (Staros, 1997) According to Staros, a certified company can still have substandard processes and products because certification does not tell a company how to design more efficient and reliable products. Nor does certification require a firm to demonstrate that their customers are satisfied. According to Curlovic

Handfied (1996) there exists a disconnect between the system that propagated by ISO and its functionality. These researchers observe that ISO 9000 only ensures a quality system exists and cannot guarantee its functionality. In addition, ISO 9000 has been accused of the following limitations: Limited focus on continuous improvement and customer satisfaction; high costs of certification; certified companies still produce low quality output; involves volumes of seemingly unnecessary documents; failure to asses the extent to which a company's planning processes and quality requirements are integrated into the overall business planning; lack of a provision for how the company uses information gained from customers to improve customer relationship, management strategy and practice.

A major criticism of ISO 9000 is that it is not a total quality system and that its adoption will not ensure leading edge quality has merit, but misses two important points. First, quality systems are fundamentally concerned with competitive advantage, whereas ISO 9000 is fundamentally concerned with providing purchasers with a standardized way to require that *all* suppliers have in place good quality assurance systems. Second, firms that go beyond just compliance with ISO 9001, 9002, and 9003, and follow the guidelines in ISO 9004, may well put into place much of what is found in leading-edge quality systems (ibid, p53). In this context, ISO 9000 should be viewed from two perspectives. If the firm already has quality systems in place, compliance with any of the ISO 9000 standards ensures the ongoing integrity of these systems through the use of third-party audits. For the firm that has no quality assurance system in place, compliance alone with ISO 9001, 9002, or 9003 will ensure a basic, workable quality system.

Examination of the ISO 9001, 9002, or 9003 prescriptions will emphasize that certification does not require a total quality system. For instance, it does not require consideration of a host of soft issues, such as responsiveness to customer requests, accuracy of quotations, or internal relations. Nor does it specify the processes and procedures necessary to meet its requirements. Further, it does not specify the use of statistical methods or the nature of test procedures. In sum, the purpose of compliance is

to meet well-specified product characteristics and customer requirements. It does not address competitive advantage.

ISO is a starting point, to be tailored and augmented to individual firm requirements (Eicher, 1992). "It's important to recognize that ISO 9000 is not the total quality story ... it doesn't require customer input - something we feel is critical" - *Richard Angelo, President of Wilkerson Corporation* (in Hayes, 1994, p56). Seeking ISO 9000 did not replace Wilkerson's quality efforts, under development for some years before their European distributors began asking *'where are you on ISO 9000?'* Rather, it complemented them, "Our approach to quality is now a three-pronged one, consisting of our TQM program, statistical process control, and ISO 9000. Some see ISO 9000 as mostly a manufacturing program, but at Wilkerson, we in marketing are very much involved, particularly in contract reviews, product development, customer service activities, and warranty work" – *Pete Santeusanio, vice president of marketing and international sales* (ibid, p56). Because firms register to ISO 9001, 9002, or 9003, it is easy to overlook ISO 9004. But it is this part of the standard that, if followed, will provide the basis for the pursuit of competitive advantage.

2.11 ISO Certification in Kenya

In Kenya a number of large manufacturing and a few service firms have implemented such quality management systems as ISO 9000, Total Quality management, as a performance improvement strategy to be able to compete in the global market. Liberalization and globalization of the economy have brought with them unprecedented challenges to the Manufacturing firms in Kenya. One area that firms can improve so as to advance their competitiveness in the global market is to effectively implement quality management systems that focus on the five competitive criteria: Quality, Cost, Flexibility, Time, and Innovation. However in Kenya very little studies have been done in the area of quality management (Kiruthu, 1996).

CHAPTER 3:RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the methodology of data collection and how it was analyzed for the purpose of understanding the benefits and challenges experienced by ISO certified companies and the customers' perception of these companies' products and services after being ISO certified. It is divided into the following sections: research design, population, data collection tools, presentation and analysis.

3.2 Research Design

This study took a case study approach in identifying the benefits realized by ISO certified firms. The chosen organization was JohnsonDiversey, which had been operating ISO 9001 for the seven years. The firm was considered suitable for this study because the period it had taken since the adoption of this system was long enough to identify benefits and challenges experienced as well as understanding their customers' perceptions of the company after implementing the quality standard.

3.3 Population

The target population for this study was all those departments within JohnsonDiversey that were directly covered by ISO 9000 quality management system. These were: Customer management; Manufacturing; Quality assurance; Warehousing and Distribution; Sales and marketing; Finance and human resources. The total staff population in the mentioned departments was 53, all of whom were in direct contact with the customers in one way or another. They were also involved in the continuous evaluation of the company performance. For these reasons and given that this was a small population it was necessary to interview all of them (census).

3.4 Data Collection

Data was collected by the use of a questionnaire, which was validated to help the researcher identify any ambiguous and unclear questions to the respondents. The questionnaires were given to the respondents in the evening and collected in the next morning to avoid biases likely to occur if the respondents compared notes and took

positions on what to write. In addition, secondary data pertaining to the performance of the company since the implementation of ISO 9001 was collected. The data collected related to the operational performance indicators identified.

3.5 Data Analysis

The data collected was edited for accuracy, uniformity, consistency and completeness and then arranged to enable coding and tabulation before final analysis. The data was analyzed using means, standard deviations, percentages (descriptive statistics) and presented in tablular form. Multiple regression has been used to show the relationship of production reject, sales returns, customer complaints on sales. The benefits of ISO implementation have been identified and represented in means and standard deviation.

CHAPTER 4: DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter gives a detailed analysis of the data collected and presents the findings. The data is analyzed and presented in the form of means, standard deviations, percentages and tables. Multiple regression has been used to show the relationship of production reject, sales returns, customer complaints on sales. The benefits of ISO implementation have been identified and represented in means and standard deviations. This study was a case and generated in detail departmental information from customer management, manufacturing, quality assurance, warehousing and distribution sales and marketing, finance and human resources. The data was collected from 26 respondents out of the 53. This represented 49.0% response rate.

4.1 General profile of the respondents

Table 4.1: Distribution of number of years worked

No. of years	Frequency	%
Less than 1 year	5	19.23
2 – 6 years	6	23.07
7 – 11 years	7	26.92
12 – 16 years	6	23.07
17 – 21 years	1	3.85
Over 22 years	1	3.85
Total	**26**	**100.00**

Source: Survey data

It can be observed from the table 4.1 above that about 50% of the respondents had been working in JohnsonDiversey East Africa Ltd between 7 – 16 . However the distribution of those who had worked over 16 years were only 9.08%.

Table 4.2: Distribution of staff

Department	Respondents	Total	%
Customer management	3	4	75.0
Manufacturing	1	5	20.0
Quality assurance	2	2	100.0
Warehousing and distribution	2	7	28.5
Sales and marketing	11	22	50.0
Finance	3	6	50.0
Human resources and administration	4	6	66.7
Total	**26**	**52**	**100.0**

Source: Survey data

The response rate was 100% from the department of quality assurance, a show of the commitment to ISO implementation. Administration and human resources (66.7%), customer management (75.%), sales and marketing (50.0%) and finance (50.0%) had above average response. The response was poor from warehousing and distribution (28.5%).

4.2 Customer perceptions and factors driving to ISO 9001 quality management system

4.2.1 Customers perceptions to ISO 9001 quality management system

The respondents were asked to describe customer's perception of JohnsonDiversey's products/services after implementing ISO 901 on a likert scale of 1-5 where (1 = Excellent and 5 = very poor). The response rate is tabulated in the frequency table below.

Table 4.3: Customer perceptions to ISO 9000 quality management system

Perception	Frequency	Total	%
Excellent	2	26	8.00
Good	18	26	69.2
Fair	6	26	22.8
Poor	-	-	-
Very poor	--	-	-
Total	**26**	**26**	**100**

Source: Survey data

4.2.2 Reasons for establishing ISO 9000 quality management system

Respondents were provided with a list to choose from the factors which motivated the organization to establish the ISO 9000 quality management system. The responses are ranked in table 4.4 below.

Table 4.4: Factors necessitating establishment of ISO 9000 quality management system

N = 26

Factor	Frequency	%
As part of a larger improvement strategy	18	69
To compete more effectively in international markets	13	50
To gain competitive advantage in the industry	19	73
To improve the quality of work done	22	85
To increase productivity	7	27
To meet customer expectations	23	88
To qualify to tender for public projects	5	19
To reduce costs of operation	8	31
To satisfy top management's corporate directive	5	19
To attain a preferred supplier status	13	50
To promote organization image	10	38

Source: Survey data

From table 4.4 above, meeting customer expectations and improving the quality of work done are deduced as the major factors necessitating ISO 9000 quality management system. While over 50% of the respondents indicated that the establishment of ISO 9000 quality management system was driven by factors related to; improvement of strategy (69%), competing more effectively in international markets (50%), gaining competitive advantage in the industry (73.%) and attaining preferred supplier status (50%), 19.% of the respondents felt that the establishment was not driven by a need to qualify for tender for public projects or to satisfy top managements corporate directive.

4.3 Benefits of implementing ISO 9001 quality management system

Respondents were asked to indicate on a likert scale of 1 to 5, their degree of agreement based in experience or perception, the possible benefits of implementing ISO 9000 quality management system where (1 = strongly agree and 5 = strongly disagree). The mean rating and standard deviation are shown in table 4.5 below.

Table 4.5: Mean ratings of the possible benefits of ISO 9000 quality management system (N = 26)

Rank	Possible benefits	M	SD
1	Reduced material input	2.57	0.926
2	Reduced production supervision	2.30	0.926
3	Reduced return	2.08	0.997
4	Reduced srap	2.08	0.640
5	Increased export	2.04	0.955
6	Less work or repair	2.00	0.659
7	Increased sales locally	2.00	0.590
8	Less problem and defects liability period	1.96	0.638
9	Better risk management	1.91	0.921
10	Reduced customer complaints	1.88	0.900
11	Improved supplier relations	1.90	0.588
12	Improved company image	1.75	0.676
13	Greater client satisfaction	1.71	0.908
14	Enhanced competiative of company	1.58	0.654
15	Stronger customer focus	1.40	0.577
16	More systematic record keeping	1.32	0.476

Source: Survey data

Based on the mean rating of the 16 possible benefits, it was found that the top concern for the respondents was related to systematic record keeping, stronger customer focus, enhanced competitiveness of the company and greater client satisfactions the mean values of our findings are consistent to Chu and Wang's (2001) study, which documented; promotion of organization image, improvement in customer satisfaction, overall improvement in service and product quality, better organization design and enhancement of administration efficiency. The benefits with less agreement were related to; reduced returns, reduced material inputs, reduced production supervision and reduced scrap generation. However research findings do not concur with Hayes (1994) study on some 2,300 UK firms, which found out that 89% reported improvements in operational

performance, 76% reporting marketing benefits and 48% reporting improvement in profitability. Hayes (1994) maintained that staff motivation is important in the overall evaluation and benefit of ISO 9001 quality system.

4.4 Challenges in the implementation of ISO 9001

The respondents were asked to identify the possible problems/challenges experienced by the company as a result of implementing ISO 9001 on a 5- point likert attitude type of scale where 5 = (strongly agree) and 1 = (strongly disagree). A standard deviation of less than one means that the variation between the responses is insignificant whereas greater than one imply a significant variation in the responses. The findings are tabulated in table 4.6 below.

Table 4.6: Respondents perceptions of possible problems/challenges of ISO 9001 implementation

Problems/challenges	Rating	Mean score	Standard deviation
Lack of direction on how to use information gained to improve customer service	5 = strongly agree 4 = agree 3 = neutral 2 = disagree 1 = strongly disagree	4.00	0.834
Limited focus towards continuous improvement		3.88	0.741
Lack of criteria for improvements made		3.80	1.00
Less flexibility in operation		3.50	0.978
Reduced output		3.25	0.944
Lack of clear monitoring and evaluation		3.13	1.246
Higher costs of compliance		2.63	0.875
More paper work		2.25	0.794

Wang (2001) studies on ISO certified public organizations found out that the commonly experienced challenges included; maintaining quality improvement, commitment to monitoring and evaluation, pressure from customers to foster quality improvement and adequate resources to implement. Further, this study revealed that more paper work and higher costs of compliance with mean scores of 22, and 5.63 respectively were identified as less challenging factors. Table 4.6 above reveals that, lack of clear monitoring and evaluation criteria for improvements made, limited focus towards continuous improvement and reduced output initially with mean values 4.00, 3.88 and 3.80 respectively are identified using the 5 point likert scale as challenges the respondents were in agreement of.

In addition to the primary data, secondary sources of data for the period 1999 – 2005 (appendix 4 was analyzed to infer if ISO 9001 certification quality system was related to sales, production rejects, sales returns, customer complaints and efficiency (conversions costs/kg production in Ksh).

Abbreviating the predictor variables

X_1 = production rejects

X_2 = sales returns

X_3 = customer complaints

X_4 = conversion costs

The results from SPSS output multiple regression indicated:

Multiple R	0.698
R-Square	0.488
Adjusted R-square	0.473
Standard Error	101.63784

Intercept 934.9653

The multiple regression line derived from this output s :

$$Y = 934.97X_1 + 39.28X_2 - 1.16X_3 + 5.69X_3 - 114X_4$$

Multiple R is the correlation co-efficients between all predictor variables (production rejects, sales returns, customer complaints, and efficiency) and the dependent variable (sales). 0.698 shows a slightly stronger positive relationship of sales and predictor variables. R-squared is used to describe the goodness of fit or the amount of variance explained by a given set of predictor variables – 48.8% of the variance is explained by the predictor variables (production rejects, sales returns, customer complaints and efficiency). Standard error describes the overall variation in the model.

The SPSS output gives the equation of the multiple regression lines as;

Sales = 934.9653 + 39.28 production rejects – 1.1604 sales returns + 5.697 customer complaints – 114.03 conversions costs

The results of the secondary sources analysis reveal that, the predictor variables (production rejects, sales returns, customer complaints and conversion costs) only explain 48.8% of the variance in sales. A stand error of 101.63784 showed the influence on sales by other factors not related to ISO 9001 implementation.

CHAPTER 5: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussions, conclusions, recommendations, limitations and suggestions for further research. The chapter summarizes the findings of the study in relations to the objectives of the study. The first objective was to identify the benefits realized by JohnsonDiversey since the adoption and implementation of ISO 9001. The second objective was to identify the challenges experienced since the implementation of ISO 9001.

5.2 Discussions

This study revealed the importance ISO satisfied firms attached to ISO 9001 implementation. The establishment of a quality assurance department, the commitment to top management, quality policy statement and respondents perception of the organizations products are key requirements to ensure quality. According to Anderson et al (1991), ISO 9001 quality management standards focuses on process designs, manufacturing and administration which needs to be fulfilled if an organization is to achieve customer satisfaction through consistent products and services.

This study revealed, that ISO 9001 quality management system is necessitated by among other factors; meeting customer requirements, improving the quality of work done, for competitive advantage, as an important strategy and are a requirement to compete more effectively in international markets. In their study of ISO certified public organizations in Taiwan, Chu and Wang (2001) found out that ISO certified organizations had done so because of; need to promote organizational image, improving customers satisfaction improving overall services and product quality, promotion of better organizational design and enhancement of administration efficiency.

This study identified improvement in record keeping with a mean of (1.32), stronger customer focus (1.40) enhanced competitiveness (1.58) client satisfaction (1.71)

improved company image (1.75) were rated as stronger benefits of ISO 9001 quality management system. ISO 9001 is expected to improve the different dimensions of business performance. According to Simmons and white (1991) there is a casual link between certification, sales, production rejects, defects rates, production cycle times, cost of quality and productivity.

This study established a weak positive relationship between sales, as the dependant variable and predictor variables (customer complaints, production rejects, sales returns and conversion costs). According to Chu and Wang (2001), important factors of ISO implementation include management's commitment and support, co-operation from employees, good documentation and control systems, proper procedures for communication and budget supports. This study additionally identified monitoring and evaluation and a lack of focus by organizations towards continuous improvement as challenges of ISO implementation.

5.3 Conclusions

ISO is a starting point to performance improvement strategy for any organization wishing to compete in the global market (Eicher, 1992). For a firm that has no quality assurance system in place, compliance alone with ISO 9001 will ensure a workable quality system. This study concludes that ISO 9001 is relevant in achieving efficiency in workflow and process designs, fulfilling customer requirements, competitive advantages and as an improvement strategy. These benefits would not be realized unless employees are trained, procedures are aligned, top management is committed, and the organization focuses, on quality improvement. There exist a link between sales and variables of ISO 9001 implementation; which are linearly related.

5.4 Limitations of the Study

The results of this study should however not be generalized to JohnsonDiversey Ltd. This being a case study the response rate of 49.0% limits the generalization of the results.Secondly, although collection of data was administered using a questionnaire which was dropped and picked later within a short period of 10 hours, the collection of data should have been complemented with focus group discussions to generate more exploratory information and increase the accuracy of the findings.

5.5 Suggestions for Further Research

The current research was a case study approach in identifying the benefits realized by ISO certified firms. This study was done on JohnsonDiversey Ltd with a staff size of 53 and average annual turnover Ksh. 450 million (JohsonDiversey Ltd internal records, 2005). It is recommended, that a similar study be done on any of the ISO certified firms in the classification of Large companies with a turnover exceeding shs. 500 million and whose employment exceeds 100 persons. Furthermore a study can be done on the post implementation effects of ISO 9001 in similar case studies.

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Appendices

Appendix 1: Introduction Letter

Dear Sir / Madam,

This questionnaire is designed to study the ISO 9001 Quality Management system in JohnsonDiversey for purposes of identifying the benefits realized since its adoption and implementation. The challenges experienced, and to determine the customer perception of JohnsonDiversey's products/ services.

1 wishes to request that you respond to the questions sincerely. I wish to assure you that your responses will be held in confidence. It is only I, the researcher and the project supervisor who will have access to the information given. I will ensure that upon request, the summary of the results is mailed to you after the information collected is duly analyzed.

I wish to thank you very much not only for your valuable time but also for your cooperation. My sincere appreciation goes to you and your organization in helping me in my research endeavors.

Sincerely,

.....

Mwihaki Njehu
(Student)

.....

Mrs. Zipporah Kiruthu
Lecturer / Supervisor
Dept. of Management Science

Appendix 2 Questionnaire

Respondent Profile

1. Name (*optional)*: .....
2. Department:.....
3. Job title:.....
4. Number of years worked in this company.....
5. In your opinion or knowledge which of the following motivated your organisation to establish the ISO 9001 quality management system (*More than one item may be ticked*)?

As part of a larger improvement strategy	[ ]
To compete more effectively in the international market	[ ]
To gain competitive advantage in the industry	[ ]
To improve the quality of work done	[ ]
To increase productivity	[ ]
To meet customer expectations	[ ]
To qualify to tender for public projects	[ ]
To reduce costs of operation	[ ]
To satisfy top management's corporate directive	[ ]
To attain a preferred supplier status	[ ]
To promote organization image	[ ]
Others (please *specify)*	

6. On the scale of 1- 5 provided below tick one that best describes JohnsonDiversey's customers' perception of your products/ service after implementing ISO 9001 **(1 represents excellent while 5 represents very poor)**

Excellent	[ ]
Good	[ ]
Fair	[ ]
Poor	[ ]
Very poor	[ ]

7. The table below shows possible benefits of implementing ISO 9001 quality management system. Based on your experience or perception, indicate your agreement or disagreement to each **(tick one for each variable)**

Outcome	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
Less rework or repair					
Reduced scrap generation					
Better risk management					
Reduced material inputs					
Stronger customer focus					
Less problems in defects liability period					
Improved supplier relations					
Greater client satisfaction					
Reduced production supervision					
Reduced customer complaints					
Reduced returns					
Improved company image					
Increased exports					
Increased sales locally					
Enhanced competitiveness of company					
More systematic record keeping					
Any others (please *specify*)					

8. The table below shows possible problems/challenges experienced by JohnsonDiversey as a result of implementing ISO 9001. Based on your experience indicate your agreement or disagreement to each **(tick one for each variable)**

Outcome	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
More paperwork					
Higher costs of compliance to the system					
Difficulty in getting competent suppliers					
Less flexibility in operation					
Reduced output					
Limited focus towards continuous improvement					
Lack of a clear monitoring and evaluation criteria for improvements made					
Lack of direction on how to use information gained to improve customer service					
Any others (please *specify*)					

9. Based on your experience are the benefits of ISO greater than its disadvantages?

   Yes [ ]
   No [ ]

   Please explain your answer in the space provided below. If inadequate attach an extra paper.

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

END

Thank you for your co-operation

Appendix 3: Checklist for secondary data collection between 1999 and 2005

1. Sales
2. Production rejects
3. Sales returns from customers
4. Customer complaints
5. Conversion costs
6. Labour productivity (Man-hour per kg production)

Appendix 4

EFFECTS OF ISO CERTIFICATION ON OPERATION PERFORMANCE ,
THE CASE OF JOHNSONDIVERSEY
SECONDARY DATA - 1999 - 2005

Key Performance Indicator	1999	2000	2001	2002	2003	2004	2005
Sales in Million KSH	300	326	320	295	363	432	480
Production Rejects	10	3	5	2	1	1	1
Sales Returns	96	72	66	60	72	60	39
customer complaint	120	88	69	48	49	52	43
coversion cost / kg in ksh	14	10	10	8	7	7	6