IMPLEMENTATION OF QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEMS AS AN INTEGRATED MANAGEMENT SYSTEM (IMS) IN KENYA'S COMPANIES

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A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT AND THE REQUIREMENTS FOR THE AWARD OF MASTERS OF BUSINESS ADMINISTRATION (MBA), SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

October 2007

DEDICATION

This Research Project is dedicated to my dear loving wife Dr. Ann W. Kamunya Thiong'o and our lovely daughter baby Michel Muthoni Thiong'o. The ones who have made my life to have a meaning, my soul mates and my best friends.

DECLARATION

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

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AKNOWLEDGEMENT

Special thanks go to my Wife Dr. Ann Kamunya for all the support she accorded me during my study. I stayed away from home leaving her and baby Muthoni lonely even at odd hours to complete this project. I can never thank them enough.

Special appreciations to my dad Mr. Samuel Wachira Thuo, my mum Mrs. Gladys Muthoni Wachira, mum in law Mrs. Jane Mugure Kamunya. All my siblings Thuo, Wamuyu, Kinyua and Njeri. They all instilled in me the ambition to excel. They all make my source of inspiration to acquire knowledge.

My special appreciation also goes to my supervisors Mr. S. O. Odock and Mr. J. K Kenduiwo for their enormous contributions, encouragement, additions and omissions to make, and good guidance in order to make this research a reality and success.

Finally I wish to salute the managements of General Motors (GM) Limited, Unilever Kenya Limited, Tetra pak Limited, Panafrican Paper Mills, Bidco Oil refineries, Kenya Maltings, Central Glass Industries and Sameer Africa Limited, all whose companies' availed relevant information and data for use in this research.

ABSTRACT

Quality assurance, an industrial process designed to manage and update the quality system, is able to continuously guarantee and demonstrate that the system conforms to the agreed set of specific conditions and standards. However, quality does not rest only with organization's products and services. Quality and quality assurance of the natural environment have been perceived as an urgent management issue. As a result "environmental system" has emerged in line with quality system.

The ISO 9001 and ISO 14001 standards share similar management techniques and principles. Both of them require organizations to formulate policies, to define roles and responsibilities, to appoint management representatives, and to train personnel. Implementing both ISO 9001 and ISO 14001 demands many duplicate management tasks. For example, both ISO 9001 and ISO 14001 require all working procedures to be traceable and auditable. Therefore, two separate documentation systems are needed to meet their requirements which involve a lot of documentation, written procedure, checking, control forms, and other paper work. In practice, it has been proved difficult to deal with separate management systems covering quality and environment.

The study intended to find out the approach in implementation of quality and environmental management systems as an integrated management system (IMS) in the Kenyan companies that have implemented both ISO 9001:2000 and ISO 14001:1996 as an IMS, and also identify the benefits and challenges of implementing the IMS. The approach of introducing an IMS in the majority of the companies was found to be QMS then EMS. On the approaches that the organizations adopted in integrating Quality and Environment management system, the researcher found out that majority of the firms adopted merging of documentation through similarities in the structure and merging of documentation through the content of the standards.

The research also revealed that the perceived benefits of implementing an integrated management system (IMS), in Kenya's firms were that; integrated systems could reduce the requirement for resources and reduce multiple audits avoiding duplication.

The researcher found the challenges of implementing an integrated management system (IMS), in Kenya's firms to be predominant focus on certification and management not understanding the concept of IMS thereby not supporting the implementation. Organization must manage change and overcome the barriers that may hinder the successful implementation of an IMS. The barriers include predominant focus on certification and lack of management support.

The study concluded that there is synergy between the QMS and EMS. Total quality includes concern for the environment since protecting the environment is required for improving the quality of life. There are advantages in implementing QMS and EMS as IMS such as establishment of an integrated and optimal performance management system from the start, Integrating audit procedures with those for other management systems to avoid duplication of effort in order to reduce costs and reducing duplication of effort in order to reduce multiple audits, there by giving an organization competitive advantage.

In summary the study recommends that organizations should not focus on certification when implementing management systems especially integrated systems. The research also recommends that an organizations management should be committed to understanding and supporting implementation of IMS. Organizations should then enhance utilization of resources by implementing systems as IMS in Kenyan firms to reap benefits such as reduced implementation and audit costs while improving quality of our environments.

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LIST OF ABBREVIATIONS

BSI – British Standard Institute

CRS – Corporate Social Responsibility

EA – Environmental Audits

EPE – Environmental Performance Evaluation

ERP – Enterprise Resource Planning

EL – Environmental Labelling

EMS – Environmental Management System

GATT – General Agreement on Tariffs and Trade

GM – General Motors

HRM – Human Resources Management

ISO – International Organization for Standardization

IMS – Integrated Management System

KEBS - Kenya Bureau of Standards

LCA – Life Cycle Assessment

NEMA – National Environmental Management Authority

OHS – Occupational Health and Safety

PDCA – Plan Do Check Act

QMS – Quality Management System

SPSS – Statistical Package for Social Sciences

TQM – Total Quality Management

TQ – Total Quality

UON – University of Nairobi

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CHAPTER ONE: INTRODUCTION

1.1 Background

A "quality system" consists of a set of fixed business procedures and rules aiming to ensure that a product, process or service meets a pre-determined and widely acknowledged set of standards (Vloeberghs and Bellens, 1996). Quality assurance, an industrial process designed to manage and update the quality system, is able to continuously guarantee and demonstrate that the system conforms to the agreed set of specific conditions and standards (Erdal and Jay, 1997). The ISO 9000 series or, more formally, "quality management and quality assurance standards," outlines the requirements to be met by a producer, illustrating the producer's competence to design, produce and deliver products or services with a consistent and coherent level of quality.

Quality Management System (QMS) is a strategic decision that every organization should adopt. The design and implementation of an organization's quality management system is influenced by varying needs, particular objectives, the products provided, the process employed and the size and structure of the organization (Kiilu, 2006). Quality systems based on the ISO 9000 international standards have been successfully introduced worldwide. These standards are designed as generic documents outlining minimum requirements for quality systems of organizations in all industries. The generic systems, as any others, are to be adopted by management and remain open to change. They drive development in organizations as much as they must follow sound management practice.

However, quality does not rest only with organization's products and services. Quality and quality assurance of the natural environment have been perceived as an urgent management issue. As a result "environmental system" have emerged inline with quality system. The past two decades have been characterized as the era of environmental consciousness. A substantial number of environmental laws and regulations have been enacted to hold businesses accountable for their environmental responsibilities. With the growing interest in environmental concerns by the public, government, and business community, environmental accountability has become an important issue. Currently, there are two significant types of environmental accountability: mandatory requirements and voluntary initiatives. Mandatory requirements involve corporations' compliance with

applicable governmental laws and regulations governing the ongoing environmental conduct of corporations. In Kenya Environmental related government laws and regulations are enforced by National Environmental Management Authority (NEMA). Voluntary initiatives are an integral part of corporate social responsibilities (CRS) which demonstrate corporations' commitment to environmental consciousness and obligations.

Recently, the International Standards Organization (ISO) provided global businesses with the unique opportunity (ISO 14000 Standards) to manage their environmental issues (Stee and Rabae, 1995). ISO 14000 environmental standards will eventually require companies to provide information on their environmental management system (EMS) by issuing annual environmental reports. Given the ever-increasing attention to environmental concerns, Environmental Specialists / Engineers are assisting their organizations to fulfill their environmental requirements. Environmental Specialists / Engineers can help their organizations take a proactive approach to addressing environmental issues by adopting environmental standards set forth in ISO 14000. EMS takes a systematic approach and provides a tool to enable organizations to control the impact of their activities, products, or services on the natural environment. Organizations in Kenya and the rest of the world are today ensuring that their activities does not impact negatively to the environmental. Organizations are focusing on producing quality product and services while checking the effects of their activities, products and services to the natural environment either to enforce governmental environmental laws or as corporate social responsibilities (CSR) to the society and other stakeholders.

Not surprisingly, the ISO 14000 standards for environmental management systems have followed ISO 9000. Both quality and environmental management systems share similar roots and objectives. Some organizations thus rightfully demand that this commonality results in coordination, integration or even complete amalgamation of the two systems (Adams, 1999).

When parts, resources, activities or processes perform interdependently within a unit, this unit is viewed as a system (Karapetrovic and Willborn, 1998). System entails procedures, processes and resources of an organization designed to achieve certain objectives.

A number of Kenyan companies have implemented ISO 9001 (2000) as a quality management system. In these companies quality product and services have been realized by the introduction of QMS. The companies with ISO 9001 (2000) in Kenya are in Manufacturing sector, hospitality industry, service industry e.t.c. Examples of companies with ISO 9001 (2000) Includes Unilever Kenya ltd, Mabati rolling, Tetrapark, Panafrican Paper Mills, Kenya Maltings, Central Glass Industries e.t.c. In addition to QMS some of these companies have gone ahead and implemented Environmental management system based on ISO 14001 (1996). Perceived similarity exists between the two systems in the system requirements, comparability, audit requirements e.t.c. Most companies in Kenya with the two management system or those willing to implement EMS as a second management system on top of QMS are finding it easy to use the already implemented infrastructure of the first management system.

The companies are trying to map the second system into the first system. This research project looked into the approach adopted by companies in implementation of Quality and Environmental Integrated Management System, perceived benefits and challenges experienced by Kenyan companies that have implemented an Integrated Management System (IMS) based Quality and Environmental Management Systems

1.2 Problem Statement

Management standards and systems, such as, ISO 9001 (2000) and ISO 14001 (1996) have been developed and introduced to deal separately with quality and environmental issues respectively, but ensuring that they align with the organization's strategy is a challenge and has proved difficult. Today in Kenya and the rest of the world, organizations are focusing on provision of quality product and services, while safeguarding the environment they operate on either as a mandatory law requirement by the government or as a CSR activity to attract and keep customers.

The need for an integrated management system (IMS) has mainly been influenced by the decision to implement an environmental management system (EMS) in addition to a quality management system (QMS). Integration of these systems has not been straightforward, and research by Wilkinson and Dale (1998, 1999, 2000) has shown that the approach in integration is taking place in two ways, namely merging of the

documentation through an aligned approach to integration, and implementation of an integrated management system through a total quality (TQ) approach. The research outlined that documentation is being merged using similarities in the structure and content of the standards. Challenges such as lack of compatibility in the standards have not prevented organizations from combining their systems documentation however, and some are looking for benefits like reduced audit and administration costs after implementing IMS.

The research (Wilkinson and Dale, 1999, 2000) outlined that focusing on alignment approach has distracted attention from the view that integration through a TQ approach would offer more substantial benefits. The differences in the scope of the systems being integrated have also hindered their integration.

In Kenya some companies that have implemented ISO 9001, are in the process of implementing ISO 14001, a number have implemented ISO 14001 and very few have implemented the two systems. Examples of the companies that have implemented both systems includes:- Unilever Kenya Ltd; Tetrapak limited; Mabati rolling mill; Panafrican Paper Mills, Bidco Oil refineries, Kenya Maltings, Central Glass Industries and General Motors (GM) among others. Most companies with the two systems initially implemented them separately. However some Kenyan companies have integrated the two systems and are now running an integrated system. Though General Motors (Kenya) Ltd have integrated the two systems through TQ approach, they run the audits separately sitting that the auditors are different and each auditor is specialized in their area Most of the companies with the two systems agree that there is duplication of resources and integration has benefits such as reduction of implementation, sustainability and even audit costs. Therefore, implementation has become a priority. However, integration has not been easy because of lack of documented approach that would ensure Kenyan companies overcome the challenges of implementing QMS and EMS as an IMS.

The benefits of an integrated management system in Kenyan companies can be enormous and can motivate organizations to implement the two systems QMS and EMS as an IMS. Though research on various aspects of a QMS and EMS integrated management systems have been done oversee as quoted above, no research that has been done in Kenya on the

same. It is clear therefore that a knowledge gap on IMS exist in Kenya. This was basically what triggered this research.

From the foregoing discussion, the researcher poses the following questions: what is the approach in implementing an Integrated quality and environmental management system in the Kenyan companies? what are the benefits of introducing an Integrated (quality and environment) Management System (IMS) in the Kenyan companies? and finally what challenges do Kenyan companies face when integrating quality and environmental management systems?

1.3 Research Objectives

As mentioned elsewhere there are differences in understanding of the term integration and integration is taking place in two ways; that is, merging of the documentation and implementation of an integrated management approach through a total quality approach. Therefore the problem statement leads us to the following objectives:-

1. Assess the approach in implementing Integrated (Quality and Environmental) Management System in Kenyan companies.
2. Determine the benefits achieved by Kenyan companies when they introduce an Integrated Quality and Environmental management systems.
3. Determine the challenges facing Kenyan companies in the Integration of Quality and Environmental management systems.

1.4 Importance of the Study

The research would contribute very much to the field of academics, consulting practitioners and other organizations in that -

1. The study will provide organizations' management teams, Quality Assurance managers and other decision makers in the Kenyan companies with useful information on implementing ISO 9000 and ISO 14000 as an IMS in their companies thereby utilising the limited resources. The study will outline the benefits of introducing an IMS and also identify the challenges associated with introduction of an IMS and their remedies to ensure smooth implementation.

2. The study will be of assistance to the researchers and academics that plan on pursuing this area of research in the future by boosting their knowledge in the area and also identifying any knowledge gaps that require further studies.
3. The study will be useful to QMS and EMS certifying bodies, the systems auditors and other interested parties locally and internationally in providing them with information that will enable them improve, develop or modify procedures for implementing or auditing an IMS.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The ISO 9000 series originated from the military procurement standards developed during the Second World War, ultimately leading to the publication of the first commercial quality management standards: BS 5750 by the British Standards Institute in 1979. In 1987, the British Standards BS 5750 was adopted with a few changes as the international standards: ISO 9000 (Boulter and Bendell, 2002). The standards were updated in 1994 with some minor changes. The ISO 9000:1994 standards contain three auditable certification standards, i.e. ISO 9001/2/3.

The latest ISO 9001:2000 revision is based on the following eight quality management principles:

1. Customer-focused organizations;
2. Leadership;
3. Involvement of people;
4. Process approach;
5. System approach to management;
6. Continual improvement;
7. Factual approach to decision making; and
8. Mutually beneficial supplier relationships.

Based on these eight guiding principles, the 20 clauses of the ISO 9001:2000 were revised into the following five main management requirements:

1. Quality management system (QMS);
2. Management responsibility;
3. Resources management;
4. Product realization, and
5. Measurement, analysis, and improvement (Low and Chin, 2003).

The ISO 9001:2000 standard integrated the three standards into ISO 9001, which places emphasis on process management and resource management and has commonality of

architecture with ISO 9004, so that quality assurance requirements and quality management can be aligned holistically (Tsim *et al.*, 2002).

The ISO 14000 standards for environmental management systems (EMSs) emerged as a result of the negotiations at the Uruguay round of the General Agreement on Tariffs and Trade (GATT) and the 1992 Rio de Janeiro summit on the environment (Tan et al, 1999). Since the ISO 14000 standards were published in 1996, more and more companies have been certified to the ISO 14001 standard (Chan and Li, 2001).

The ISO 14000 series comprise five aspects: EMS, environmental auditing (EA), environmental labeling (EL), environmental performance evaluation (EPE), and life cycle assessment (ECA). The standards can be classified into two types: guidance notes and specifications. All standards except ISO 14001 belong to the former. They are descriptive documents and not prescriptive requirements. Only ISO 14001-based EMS is a standard. Its adoption is voluntary (Ofori et al, 2002). After adoption, an organization is to be audited. As a subset of ISO 14000, the EMS takes a systematic approach and provides a tool to enable organizations to control the impact of their activities, products, or services on the natural environment (Zeng et al, 2003).

2.2 Quality and Environmental Management Standards

The ISO 9001 and ISO 14001 standards share similar management techniques and principles. Both of them require organizations to formulate policies, to define roles and responsibilities, to appoint management representatives, and to train personnel (Tan et al, 1999). Implementing both ISO 9001 and ISO 14001 demands many duplicate management tasks. For example, both ISO 9001 and ISO 14001 require all working procedures to be traceable and auditable. Therefore, two separate documentation systems are needed to meet their requirements which involve a lot of documentation, written procedure, checking, control forms, and other paper work. In practice, it has been proved difficult to deal with separate management systems covering quality and environment, and ensuring that they align with the organization's strategy (Wilkinson and Dale, 1998). Hence, integrated management systems (IMS) have drawn the attentions of both academics and practitioners. An IMS is increasingly seen as a part of the organization's management portfolio.

To implement an Integrated Management System (IMS), an organization has to: -

1. Identify the processes needed for the integrated management system (IMIS);
2. Determine the sequence and interaction of these processes;
3. Determine criteria and methods required to ensure the effective operation and control of these processes;
4. Ensure the availability of resources and information necessary to support the operation and monitoring of these processes;
5. Measure, monitor and analyze these processes;
6. Implement actions necessary to achieve planned results and continuous improvement of these processes.

2.3 An Integrated Management Systems overview

Integration is defined differently by researchers. Garvin (1991) refers integration to the degree of alignment or harmony in an organization. MacGregor and Associates (1996) see integration as a single top level management "core" standard with optional modular supporting standards covering specific requirements.

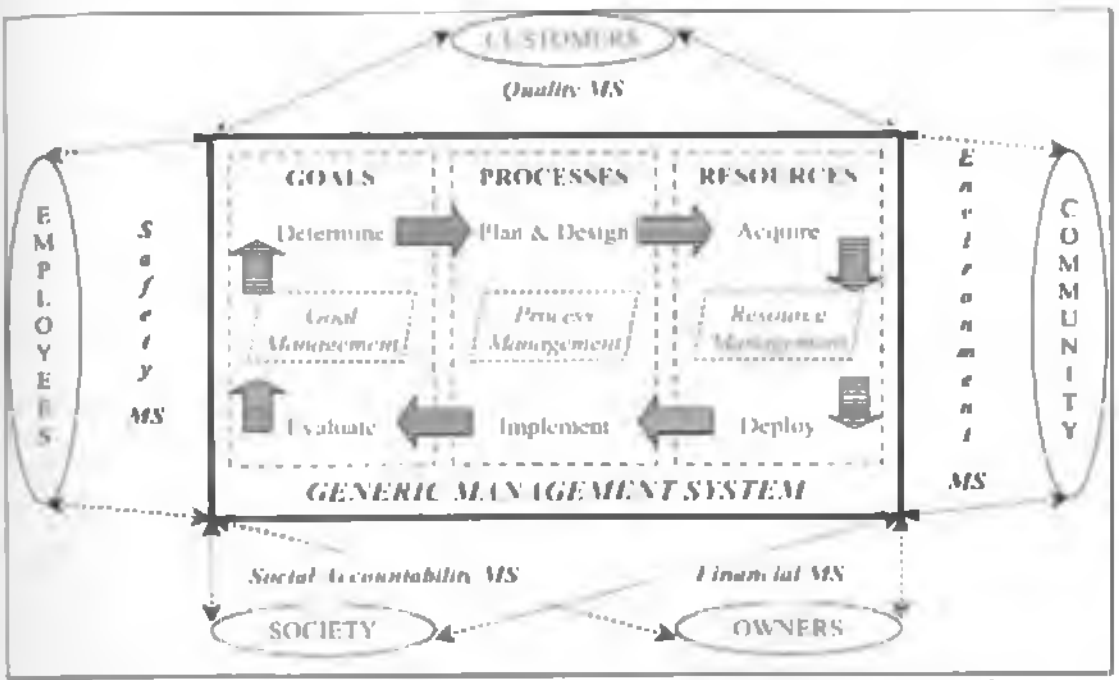
Wilkinson and Dale (1998) argue that integration can be carried out in a number of different ways and may have resulted in differences in understanding of meaning of the term and in applying it. Karapetrovic and Willborn (1998) call the integrated system "a system of systems". They argue that the integration of two systems means to link them in a way that results in a loss of independence of one or both. Integration normally leads to a stronger and more comprehensive management system.

Tranmer (1996) recommends a multilevel integration. Improved understanding and the common use of the systems are the main reasons for integration, which is thought as level one. Aligning of the two systems with the business objectives and overall strategy of an organization is clearly related to other levels.

2.3.1 What is an "Integrated System" and "A System of System"

Numerous internal and external factors continuously influence decisions and activities that govern a system. Many such factors emanate from other related systems. As

Figure 2.1: The Systems Model for Integrated Management System (IMS)



Source: Based on Karapetrovic and Willborn (1998a), "Systems thinking for the integration of management systems", Business Process Management Journal, Vol. 10, No. 6, pp. 613.

individual processes are interlinked within a system, so are systems with other systems. Linking two systems in a way that results in a loss of independence of one or both means that these systems are integrated. This would normally lead to a stronger and more comprehensive management system. Forms of such integration vary in terms of scope and control by the management involved. For example, one can integrate an existing ISO 9001 quality system with total quality management (TQM), a quality plan for an individual product with an overriding quality management system, or an environmental control system with TQM.

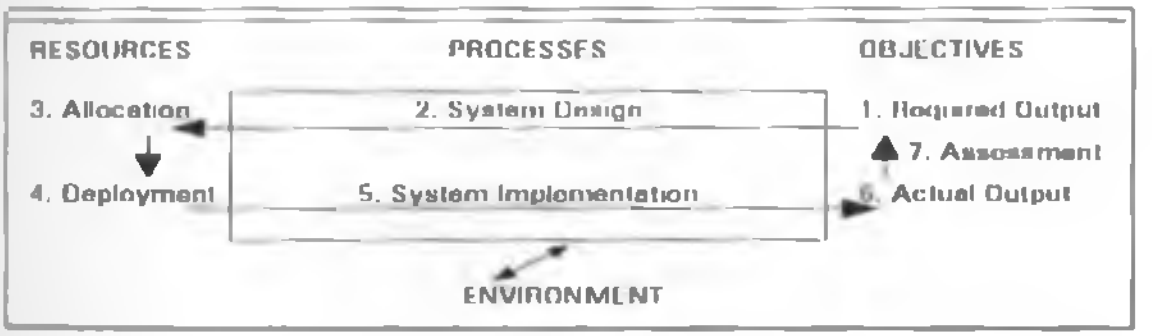
Interlinked or integrated systems form a so-called "system of systems". In this broader scope, an individual system can be related to another one, such as the QMS with EMS within the same organization. At the same time, this enhanced system can be linked hierarchically as a subsystem of an overriding general business system. Within the "system of systems", individual systems are interlinked without relinquishing their individual identities. The "system of systems" needs to be designed and managed as an individual system, albeit without encroaching unduly on the management of its various subsystems. An integration of systems, in whatever form, should always lead to a more

effective system. An example is the integration of the quality management and environmental systems. Quality and Environmental management system integration capitalizes on the advantages of both systems and eliminating confusion and sub optimization from the outset (Beechner and Koch, 1997), rather than just satisfying demands from external sources.

2.3.2 Illustration of the Systems Concept for Integration

The systems concept looks at a problem as a whole, rather than as independent parts. It defines everything of theoretical and practical nature as a system, or at least a part of one. A system is a composite of inter-linked *processes* that function harmoniously, share the same *resources*, and are all directed towards the achievement of set goals or *objectives*. The wide use of this concept in different disciplines and countries, it is particularly helpful in attempts to harmonize standards in many diverse functions. While an outline of the systems approach for IMS is presented in Karapetrovic and Willborn (1998),

Figure 2.2: A simple graphical model of a system.

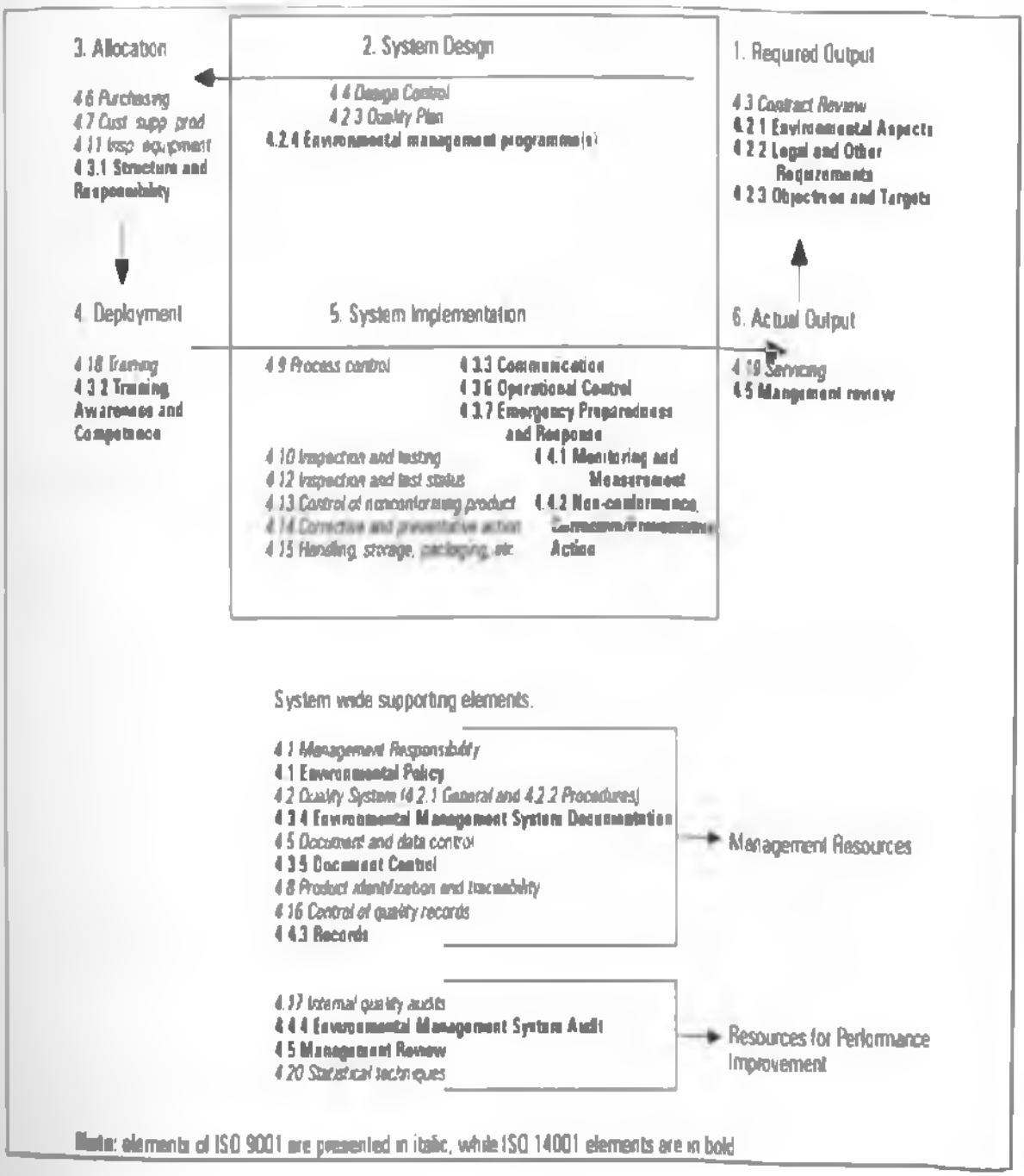


Source: Adapted from Karapetrovic and Willborn, (1998), "Integration of Quality and Environmental Management Systems" The TQM Magazine, Vol. 10, No. 3, pp 211.

For instance, the first core element relates to the setting of goals for an organization and can be called "Policy, objectives and targets". Sections 5.2 of *ISO 9001* (2000) and 4.2 of *ISO 14001* (1996) address quality and environmental policy respectively. In addition, section 4.3.3 of *ISO 14001* (1996) deals with environmental targets and objectives, which in *ISO 9001* (2000) is discussed in 5.4.1 for quality management purposes. Therefore, the shared requirements of the standards can be integrated in a core element (e.g. to set, communicate and review a policy), whereas the requirements specific to an MS may be placed in a functional sub-module (e.g. to have a quality policy). Adding other MS would

simply increase the number of modules, and a standard user may pick the modules that apply in each individual situation (e.g. quality and environmental only).

Figure 2.3: Comparisons between the core elements / clauses of ISO 9001 and ISO 14001 standards



Source: Adapted from Karapetrovic and Willborn, (1998), "Integration of Quality and Environmental Management Systems" The TQM Magazine, Vol. 10, No. 3, pp 213.

Figure 2.4: Comparison between ISO 14001 and ISO 9001 standards.

ISO 14001:1996	ISO 9001:2000
1 Scope	1 Scope
2 Normative reference	2 Normative reference
3 Definitions	3 Definitions
4 EMS	4 QMS
4.1 General requirements	4.1 General requirements
4.2 Environmental policy	5.1 Management commitment
	5.3 Quality policy
	8.5 Improvement
4.3 Planning	5.1 Planning
4.3.1 Environmental aspects	5.2 Customer focus
	7.2.1 Determination of requirements related to the product
	7.2.2 Review of requirements related to the product
4.3.2 Legal and other requirements	5.2 Customer focus
	7.2.1 Determination of requirements related to the product
4.3.3 Objectives and targets	5.4.1 Quality objectives
4.3.4 Environmental management programme	5.4.2 QMS planning
	8.5.1 Continual improvement
4.4 Implementation and operation	7 Product realization
	7.1 Planning of product realization
4.4.1 Structure and responsibility	5 Management responsibility
	5.1 Management commitment
	5.5.1 Responsibility and authority
	5.5.2 Management
4.4.2 Training, awareness and competence	6.2.2 Competence, awareness, and training
4.4.3 Communication	5.5.3 Internal communication
	7.2.3 Customer communication
4.4.4 EMS documentation	4.2 Documentation requirements
	4.2.1 General
	4.2.2 Quality manual
4.4.5 Document control	4.2.3 Control of documents
4.4.6 Operational control	7 Product realization
	7.1 Planning of product realization
	7.2 Customer-related process
	7.2.1 Determination of requirements related to the product
	7.2.2 Review of requirements related to the product
	7.3 Design and development
	7.3.1 Design and development planning
	7.3.3 Design and development outputs
	7.3.4 Design and development review
	7.3.5 Design and development verification
	7.3.6 Design and development validation
	7.3.7 Control of design and development changes
	7.4 Purchasing
	7.4.1 Purchasing process
	7.4.2 Purchasing information
	7.4.3 Verification of purchased product
	7.5 Product and service provision
	7.5.1 Control of product and service provision
	7.5.2 Validation of process for production and service provision
	7.5.3 Identification and traceability test records
	7.5.4 Customer property supplied product
	7.5.5 Preservation of product
4.4.7 Emergency preparedness and response	8.3 Control of non-conforming product
4.5 Checking and corrective action	8 Measurement, analysis, and improvement
4.5.1 Monitoring and measurement	7.6 Control of monitoring and measuring devices
	8.1 General
	8.2 Monitoring and measurement
	8.2.1 Customer satisfaction
	8.2.3 Monitoring and measurement of process
	8.2.4 Monitoring and measurement of product
	8.4 Analysis of data
4.5.2 Nonconformance and corrective and preventive action	8.3 Control of nonconforming product
	8.5.2 Corrective action
	8.5.3 Preventive action
4.5.3 Records	4.2.4 Control of records
4.5.4 EMS audit	8.2.2 Internal audit
4.6 Management review	5.6 Management review
	5.6.1 General
	5.6.2 Review input
	5.6.3 Review output

Source: Zeng S. X., Tian P., Jonathan J. S., (2005), "Implementing integration of ISO 9001 and ISO 14001 for construction", Managerial Auditing Journal, Vol. 20, No. 4, pp 405.

2.3.3 Integration of Quality (ISO 9001) and Environmental (ISO 14001) Management Systems

Beechner and Koch (1997) feel that ISO 9001 and ISO 14001 are so similar that they should be integrated in order to improve performance. Puri (1996) has developed a set of guideline for an integrated ISO 14001 and Total Quality Management system with three broad components and a framework based on ISO 9001. The three components are:-

1. Management responsibility,
2. Process management, and
3. Support systems.

The sub-clause links between ISO 9001 and ISO 14001 are identified and the framework of ISO 9001 is used as the basis for EMS certification (Culley, 1996). The EMS elements are then incorporated as a set of documentation and procedures for meeting the certification requirements of both standards.

Some researchers suggested several possible strategies for integrating 9001 and ISO 14001 standards. Karapetrovic and Willborn (1998) propose three different approaches as follows:

1. Establish a QMS first and subsequently an EMS;
2. Establish EMS first and subsequently QMS; and
3. Establish EMS and QMS simultaneously.

As mentioned else where in this research proposal, to develop an IMS the approaches is first to merge the documentation through the aligned approach through the similarities in the standards, and second to implement the integrated system through a total quality management approach. For certification purposes, merging of documentation through the aligned approach is adopted. It is theoretically feasible to integrate ISO 9001 and ISO 14001 in the sense of documentation.

This development toward a "system of systems" for improved performance calls for an urgent conception and description of a performance management system (PMS). As an integrated system of systems this improved design would encompass several areas of

environmental management reviews, and subsequently merged into the integrated quality and environment performance reviews.

(3) *Simultaneous QMS and EMS, then others.* This strategy is possibly limited to organizations with neither system in place, albeit it is a very advantageous strategy since synergy effects can be obtained from the start. A common model (for example process, Plan Do Check Act [PDCA] (Deming, 1982) or systems approach) is adopted first, followed by a simultaneous implementation of quality and environmental MS elements. Karapetrovic et al, (1998) and Culley, (1996) identified the following advantages of developing quality and environmental management systems concurrently using the concept of the "system of systems".

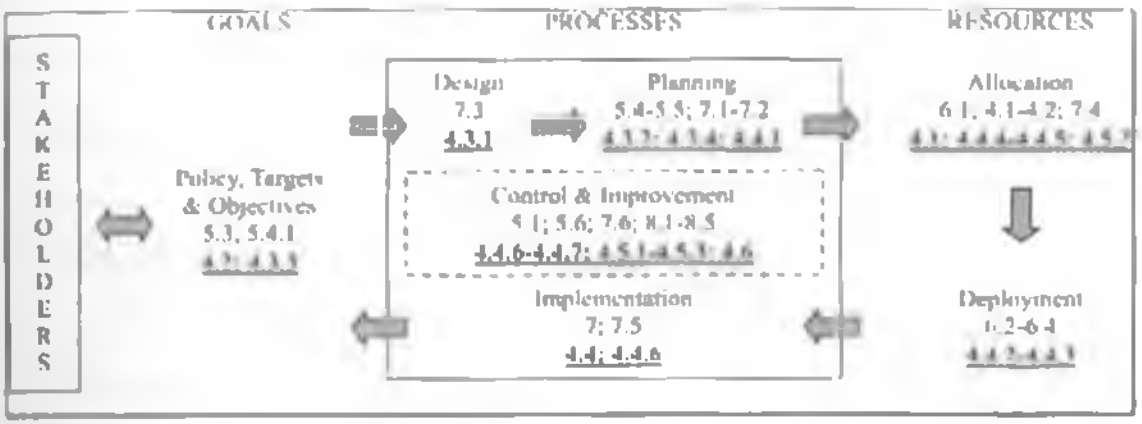
1. Establishment of an integrated and optimal performance management system from the start.
2. More comprehensive involvement of all interested parties.
3. Reduced use of multiple resources.
4. Use of synergy effects from the development of both systems together.
5. Harmonization and unified problem solving from the beginning of the project.

Karapetrovic and Willborn, (1998) suggested that an organization could start with common features and requirements of both systems during implementation which includes; management responsibility and authority, organizational structure, policy and programs, documentation resources, contract review, design control, management review, internal audits, and finally training which are all common to both ISO 9001 and ISO 14001.

Thus, these elements covering both the environmental and quality aspects should be documented and implemented first. At the operational level, processes such as process operational control, inspection, measurement and testing, nonconformance control, corrective and preventive action will differ and therefore need a more specialized and independent treatment. However, these could be built into two interlinked operational modules, which would allow for optimization and introduction of other modules, such as workplace health and safety in future.

Figure 2.5 represents an integrated, simultaneously built performance system based on ISO 9001 and ISO 14001 standards. We have used the definition of the system from section two of the literature review, and a simple graphical model from Figure 2.2 to conceptualize this "system of systems". This concept also provides a guideline for simultaneous integration, starting from the determination of objectives and desired outputs, through system design, allocation of resources and system implementation, to the comparison of actual and desired outputs.

Figure 2.5: Alignment of ISO 9001 (2000) and ISO 14001 (1996) using the systems approach.



Source: Karapetrovic (2002), "Strategies for the integration of management systems and standards" The TQM magazine, Vol. 14, No. 1, pp 67.

2.3.4 An Integrated Audit System

Standards for auditing quality and environmental systems are fairly well advanced regarding the integration aspect. The ISO guideline for auditing quality systems (ISO 10011/2/3) is currently under revision and has accepted many technical improvements from the respective documents for auditing environmental management systems (ISO 14010/11/12). These efforts are very promising for developing a sound harmonized auditing system worldwide, which in the near future might even include financial audits (Russell, 1997). However, the extent of the system integration might vary between the first, second and third party audits. For example, while the first party (internal) audits might still be conducted separately, second (customer) and third party audits should be fully integrated.

Figure 2.6 represents how the current EMS and QMS audits can be integrated using a systems approach. Although the scope of environmental and quality system audits is different, the procedure is almost identical. After identifying audit objectives and roles and responsibilities of all parties involved, the audit is initiated, the scope defined, and an audit plan is prepared. Subsequently, the auditor(s) or the audit team executes the audit, reports and records are submitted to the client, and appropriate follow-up actions are taken. As we can observe from Figure 2.4, the environmental and quality audit systems are so intertwined, that a decision not to integrate them will certainly cause an unnecessary waste of resources and potential.

Figure 2.6: Integrated Audit Systems

Source: Adapted from Karapetrovic and Willborn, (1998), "Integration of Quality and Environmental Management Systems" The TQM Magazine, Vol. 10, No. 3, pp 215.

2.3.5 Level of Integration

The approach adopted to identify and assess aspects could affect the ability of the organization to link environmental with other quality management system. Considerations such as stand-alone / integrated operation and use of existing or new techniques are important to consider in the systems design, to understand how the system will function from top-level policy through to an operational level.

It is interesting here to see that while the need for a systems view is being advocated, proposed changes to the ISO 9000 series indicate a move from a system-based approach to a process-based one, employing a model that shows the relationship of the main elements of ISO 9001 and ISO 9004 (Karapetrovic and Willborn, 1998)

2.4 Organization Supports needed for Implementation of IMS

Although IMS is starting to appear in literature, there is a scarcity of actual implementation experience due to limited implementation Very few organizations had integrated the ISO 9001 and ISO 14001 standards. Unlike implementing two separate ISO 9001 and ISO 14001 standards, there is a lack of consulting organizations who can provide adequate technical guidance to organization willing to implement an IMS.

Currently QMS based ISO 9001 and EMS based on ISO 14001 are two different certifying bodies. Certifying bodies have to face the demand for conducting joint certifications.

Customers supports is also very important This may be attributed the fact that the two standards serve different customers and stakeholders. ISO 9001 is market driven while ISO 14001 is driven by stakeholders, the community, and regulators. In the construction industry customers are the clients for QMS; customers are the general public, local communities, and the government for EMS. Clients put high priority on quality. They want their organizations to implement the ISO 9001 standard to ensure the products and service quality. This may be mirrored from the fact that much less contractors have the ISO 14001 certifications comparing to the ISO 9001 certifications in the construction industry (Zeng *et al.*, 2002).

Both ISO 9001 and ISO 14001 standards require all working procedures to be traceable and auditable. If a firm plans to implement IMS, it is indispensable for the employees to be trained with a good understanding of the new system.

2.5 Factors Essential to the success of IMS Implementation

For the successful implementation of IMS certain factors had to be taken into consideration:-

1. The system must be fully integrated to existing processes and practice and other developing initiatives;
2. The implementation must be supported through the involvement of all employees who will be affected by the changes,
3. Communication of progress and goals is a key initiative. A steering group uses set up to coordinate activities.
4. Organization culture which includes:- People, Process, Structures and Environment.

2.6 Barriers to effective implementation of an IMS

Change in any organization setup come with equal force of resistance. Organization must manage change and overcome the barriers that may hinder the successful implementation of an IMS. The following possible barriers needed to be addressed in order to successfully implement IMS (Zeng *et al.*, 2002):-

1. Predominant focus on certification:
2. Lack of management support:
3. Inefficient Integrated audit system.
4. Lack of employee involvement: initially,

2.7 Arguments For and Against Integration; and some of the Problems.

The rapid growth of ISO 9001 and ISO 14001, their harmonisation and the continued importance being placed on them, has led Uzumeri (1997) to compare them with earlier standards and consider their impact on management practice. He concludes that every management system can be seen as a model that is good enough to reassure satisficing external stakeholders or as a model of a better system that managers and internal stakeholders are trying to create.

The traditional approach to quality tended to stress specification (satisficing), but TQM requires continuous improvement (optimising), and in the future, managers will have to meet both requirements. The ISO 9000 series of standards, which Uzumeri (1997) describes as "metastandards", will also be difficult to remove or change. Once a new requirement is written into a standard it will quickly become part of what stakeholders see as good enough and this could mean that management innovation is driven by those

who seek to control what is in the standards rather than by tried and tested theories. This could lead to either the stifling of innovation or rapid growth through a common management structure. Given these possibilities for existing *metastandards*, it is reasonable to expect that they would be even more important if and when an IMS standard is introduced.

The danger of reduced flexibility, has parallels outside the field of management systems. Crowe (1992) has pointed out that in manufacturing systems, integration has often led to reduced flexibility. Systems that are expected to be flexible turn out to be the opposite with the result that they perform worse over time than separate systems. This is due to the use of hard integrated systems where "the information interfaces are tied together in a fixed and rigid manner". It arises "when those responsible for a system lose sight of the objectives". It can be bought "...but true flexible integration cannot be purchased. It must be planned, designed, and implemented by the firm for the firm". Researchers will see similarities here with the views mentioned earlier, that off-the-shelf packages for ISO 9001 etc. should be avoided and that systems should meet the needs of the organisation. Given this view, it is surprising that the potential loss of flexibility has not been raised more often in the literature on IMS, particularly in view of the widely accepted importance of *flexibility to operations management* and the part that the operations function plays in systems management (Stevenson *et al.*, 1993).

Karapetrovic and Willborn, (1998) view the lack of methodology as the main reason why integration is difficult. A road map and a system of methods is needed to overcome this and a framework that focuses on different integration levels is suggested. These require management to decide on its integration policy and whether or not integration is required. A system based on the standards is required but for integration, both the similarities and differences have to be recognised. Finally, instructions and manuals have to be considered, where integration is achieved by merging instructions and procedures.

These differences have similarities with Uzumeri's (1997) view that there are two ways of looking at management systems and suggest that integration can be based either solely on the *requirements of the standards* or on a *total quality* and *continuous improvement* approach. In the latter case, standards are still necessary but they are primarily for quality assurance and quality control, and improved business performance is the main aim. With

integration through the standards, the objective is limited to *reducing audit fees, management fees* and *administration costs.*

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

A survey approach shall was adopted in carrying out this study where the units to be studied were Kenyan companies who have implemented a quality and environmental management systems or an integrated management system of the two systems. The firms were selected according to the criteria described in the subsequent sections below. The objective of the study being to seek answers to specific questions in integrating management systems, a survey approach was found to be appropriate (Donald and Pamela, 2006). The study was explorative in nature and sought to collect data about an IMS through a structured questionnaire survey.

3.2 The Population

The target population for this survey was those Kenyan companies that have implemented both quality and environmental management system or an integrated management system of the two systems. They were ten companies as listed in Appendix I. There being few companies with an integrated (quality and environment) management system or both separate systems, a census study was done since the population is small. A census was necessitated by the fact that elements were quite different from each other, i.e. different sectors.

When the population is small and variable, any sample we draw may not be representative of the population. Hence choosing a census in this situation was appropriate (Donald and Pamela, 2006).

3.3 Data collection

Primary data collection techniques were employed in this study. The data was collected from the ten Kenyan companies that had already implemented an IMS or both QMS and EMS by the end of August, 2007 (Kenya Bureau of Standards, 2007). A structured questionnaire (Appendix III) was developed based on an extensive review of the literature in the area of Integrated (Quality and Environmental) Management System.

The basic design of the questionnaire was closed questions and a five-point Likert scale (1=strong disagreement; 2 disagreement; 3=moderate; 4=agreement and 5=strong agreement). There was however an open ended part that enabled respondents to express there opinions. The detailed structured questionnaire survey (self administered) was presented to either the Manager in charge of quality, Manager in charge of environmental matters or the Manager in charge of overseeing the IMS in the respondents' companies via emails and supported by telephone calls. When necessary, personal visits for physical contacts were done in order to get the best responses.

The questionnaire was structured into four parts: Part A sought the general information about the company, the information enabled the researcher to categorise the company and the sector. Part B sought information on the approach and the purpose of the integration of quality and environmental management systems; it enabled the researcher to determine the level of integration. Part C sought information on the benefits perceived from integrating quality and environmental management systems while Part D sought information on the challenges encountered by the companies in the process of implementing an IMS.

3.5 Data Analysis

The findings from the questionnaires were then subjected to statistical treatment using software package referred to as Statistical Package for Social Sciences (SPSS), to enable data interpretation. The collected data was coded and tabulated to enable final analysis. The data was analyzed using frequencies, means, standard deviations, percentages (Descriptive statistics) and presented in tabular form. Graphical presentations, normal frequency methods and other statistical interpretations and presentations were applied in the analysis (Donald and Pamela, 2006). MS-Excel and SPSS were useful to analyze the coded data. The benefits and challenges of implementing an IMS were represented in frequencies, means and standard deviations.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Introduction

The 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, variance, percentages, frequencies and tables. The objective of the study was to assess the approach in implementing integrated (Quality and Environmental) management system as an IMS in Kenyan organizations; to determine the benefits achieved by Kenya companies when they implement QMS and EMS and finally the challenges facing Kenyan companies as they introduce IMS. From the study population targets of 10 respondents, 8 responded to the questionnaire, constituting 80% response rate.

The chapter is divided into four sections, three of which are related to the objectives of the study. The first section analyzed the respondents profile; second section analyzed the approach of implementing the IMS; third section analyzed the benefits of implementing an IMS; while the fourth section analyzed the challenges of implementing IMS.

4.2 General profile of the respondents

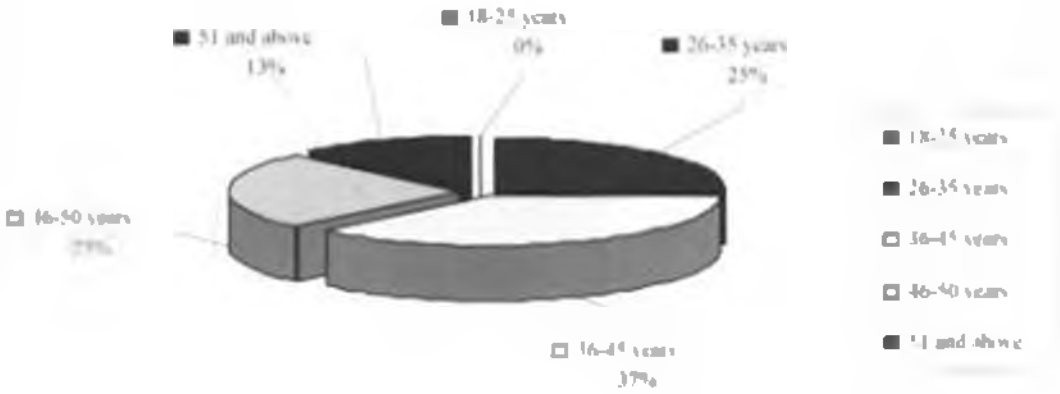
4.2.1 Age of the respondents

The question sought to establish the age of the respondents to the questionnaire. The question was optional but all the respondents who responded to the questionnaire indicated their age.

Table 4.1: Age of the respondents

Age	Frequency	Percent (%)
18-25 years	0	0
26-35 years	2	25
36-45 years	3	37.5
46-50 years	2	25
51 and above	1	12.5
Total	**8**	**100**

Chart 4.1: Age of the respondents



The Chart 4.1 shows the age of the respondents. From the findings, the majority of respondents were 36-45 years (37.5%), the respondent who said that they were 26-35 years and 46-50 years tied with 25%, while 12.5% a small proportion of respondents said that they were 51 and above years old.

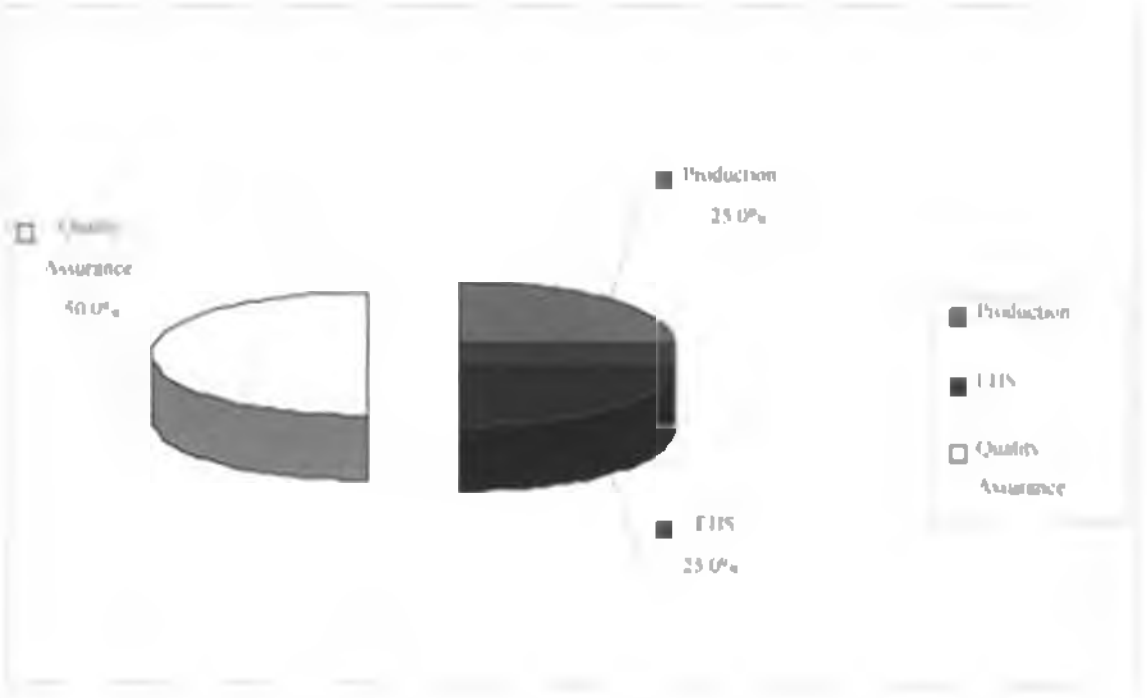
4.2.2 The department in which the respondent worked.

The respondents were asked to state the department in which they worked. The respondents were requested to specify the department in order to have an assurance in their involvement and understanding of IMS.

Table 4.2: The Department that the respondents worked

Department	Frequency	Percent (%)
Production	2	25
EHS	2	25
Quality Assurance	4	50
Total	**8**	**100**

Chart 4.2: The Department that the respondents work



The result in Chart 4.2 shows that majority of the respondents said they worked in Quality assurance department which was 50.0% of the respondents. 25.0% of respondents worked in Production department and Environmental Health and Safety (EHS) department each.

4.2.3 Position held by the respondent in their organization

The respondents were asked to state their position in their organizations. All the respondent indicated their position.

Table 4.3: Positions the respondents' held in their organization

Position Held	Frequency	Percent (%)
Production Manager	2	25
EHS Manager	1	12.5
EHS Coordinator	1	12.5
Quality Assurance Manager	4	50
Total	**8**	**100**

Chart 4.3: Positions the respondents' hold in organization

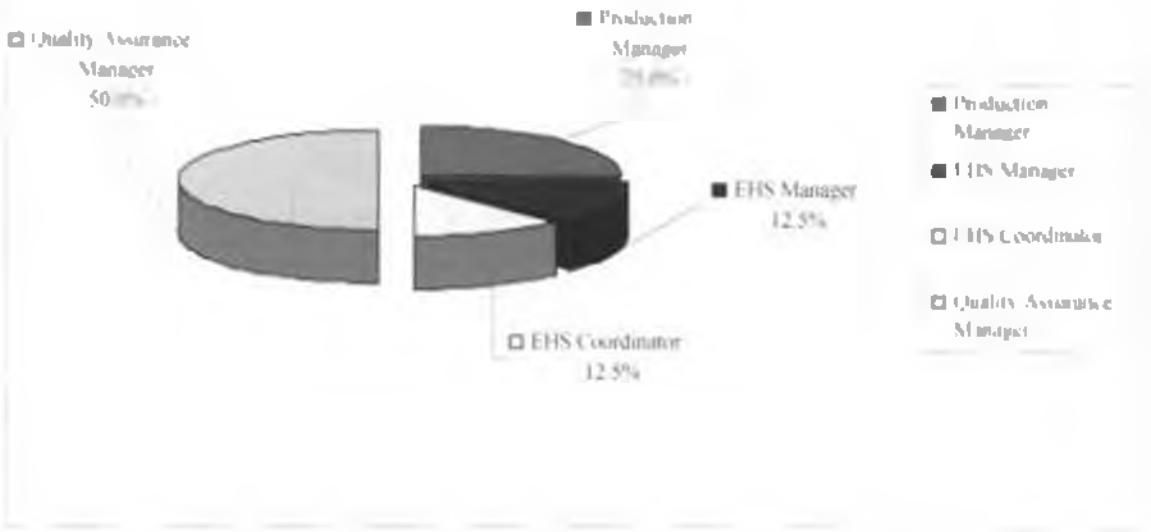


Table 4.3 and Chart 4.3 shows that majority of the respondents held the position of Quality Assurance manager (50.0%). Production Manager position was held by 25.0% of the respondents while 12.5% of the other respondents held the positions of EHS Manager and EHS Coordinator each.

4.2.4 Number of employees in the firm.

The respondents were asked to indicate the number of employees working in their organization. For the purpose of this study organizations with less than 100 employees were classified as "small", those with 101 – 200 as "medium", those with 201 – 300 as large while those with 301 and above as "very large".

Table 4.4: Number of employees in the firm

No. Of employees	Frequency	Percent (%)
51-100	2	25
101-200	3	37.5
201-300	2	25
Above 300	1	12.5
Total	**8**	**100**

Chart 4.4: Number of employees in the Respondents firm

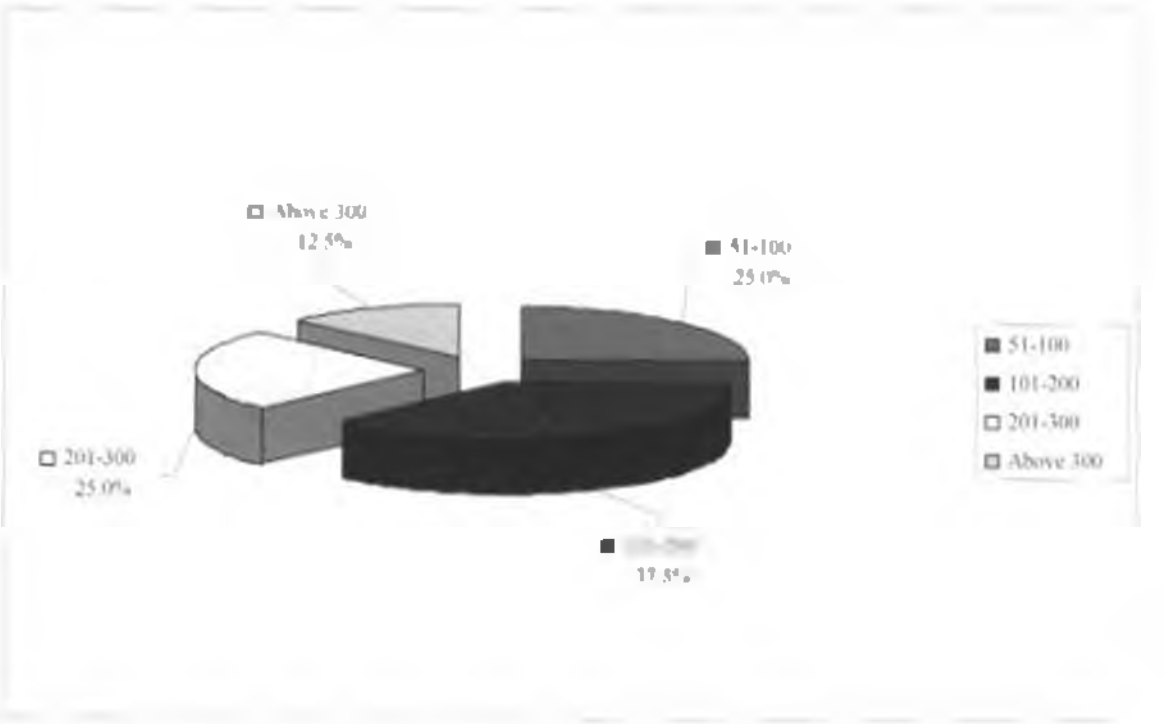


Table 4.4 and Chart 4.4 illustrates the size of the organizations surveyed, 25.0% had staff of less than 100 (small sized organizations) and staff number ranging between 201-300 (large organization) each, majority of the organizations (37.5%) had staff between 101-200 (medium), while 12.5% had more than 300 employees (very large organizations).

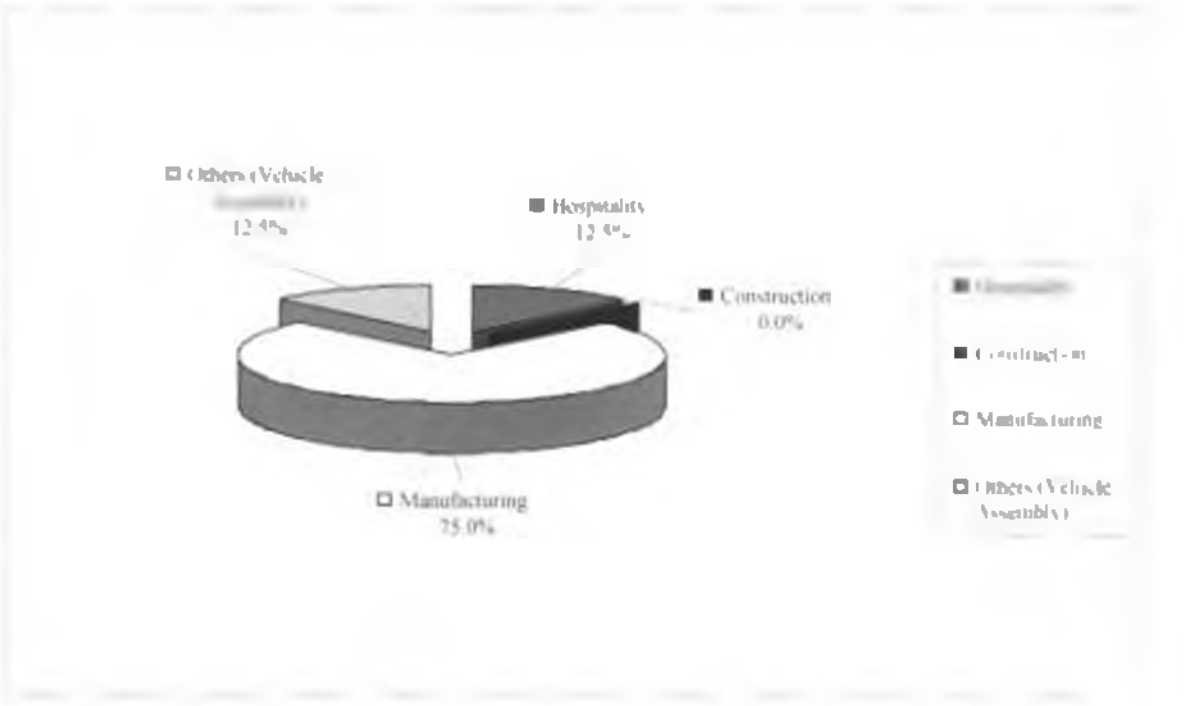
4.2.5 Sector that the firm is categorized

The respondents were requested to state the sector to which there organization belonged. They were given a chance to specify their organization's sector if it did not fall under the category stated in the questionnaire

Table 4.5: Sector that the firm is categorized

Service	Frequency	Percent (%)
Hospitality	1	12.5
Construction	0	0
Manufacturing	6	75
Others (Vehicle Assembly)	1	12.5
Total	**8**	**100**

Chart 4.5: Sector that the firm is categorized



The findings are presented in table 4.5 and chart 4.5, 75% of the firms belonged to the manufacturing industry and the remaining 12.5% fell under hospitality sectors and other (vehicle assembly and marketing)sectors each. It is clear that the manufacturing sector constituted the largest portion of the respondent. However no respondent came from construction industry.

4.2.6 Management System implemented (Being implemented) as an IMS.

The respondents were asked to indicate management systems that their firms had implemented as an integrated management system. The respondents were given a chance to state all systems that their firm had integrated.

Table 4.6: Management systems implemented as an IMS in the company

Systems implemented as an IMS	Frequency	Percent (%)
QMS and EMS	7	87.5
QMS, EMS and Othres (OHS – Occupation Health & Safety)	1	12.5
Total	**8**	**100**

Chart 4.6: Management Systems Implemented as an IMS in the company

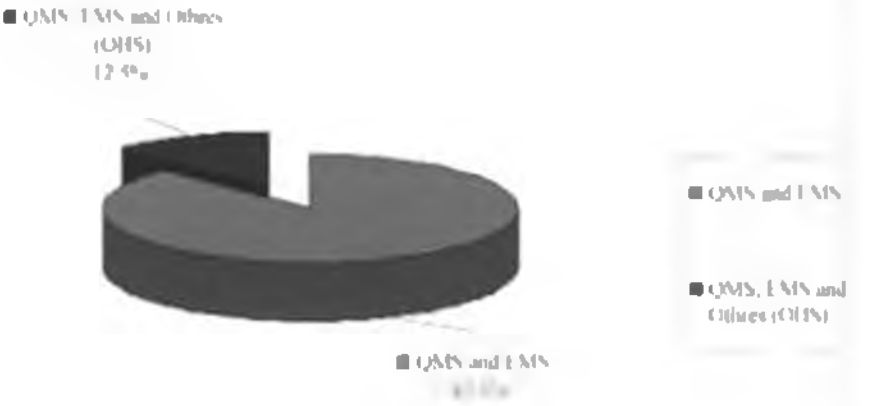


Table 4.6 and Chart 4.6 87.5% of the respondents indicated that they had integrated QMS and EMS. However, 12.5% of the respondents had integrated QMS, EMS and Occupational Health and Safety (OHS).

4.3 The approach in implementing QMS and EMS to achieve IMS in Kenya firms

4.3.1 The year that the firms implemented and obtained certification of the management systems.

The respondents were requested to state the year their firms implemented the management systems (QMS and EMS) and the year they achieved integration of the two systems.

Table 4.7: The year the management systems were implemented and certified and the year IMS was achieved.

Company	Company Initials	Year QMS implemented	Year EMS implemented	Year IMS implemented	Year of IMS experience
Kenya Maltings	KM	1999	2001	2002	6
Central Glass Industries	CGI	1999	2002	2002	6
Panafrican Paper Mills	PPM	1998	2000	2004	4
Tetra pak Limited	TPL	2004	2001	2005	3
Bidco Oil refineries	BOR	2000	2003	2005	3
Sameer Africa Limited	SAL	2000	2004	2006	2
General Motors (GM) Limited	GM	2002	2005	2006	2
Unilever Kenya Limited	UKL	2007	2002	2007	1

Chart 4.7: Years of IMS Experience

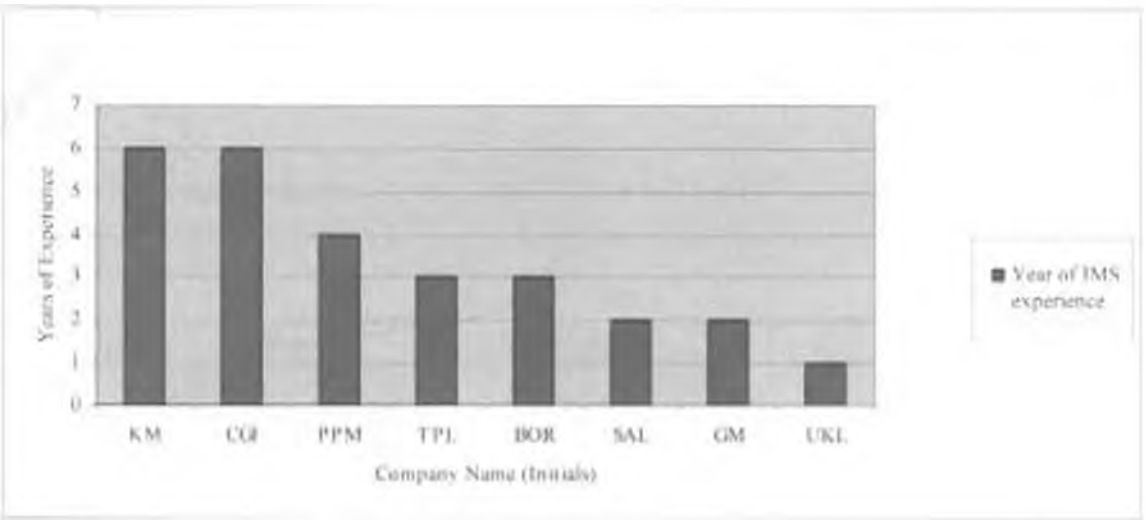


Table 4.7 and Chart 4.7 shows that two companies had 6 years experience considered as "high" for the purpose of this research. one company had four years of experience and two other had three year Three and four year are considered as "medium" in this report. The companies with "low" experience included two companies with two years experience and one company with one year of experience

4.3.2 The Sequence of implementing QMS and EMS to achieve IMS in the company.

The respondents were requested to indicate the sequence in which QMS and EMS were introduced in their firm to achieve IMS.

Table 4.8: Sequence of introduction of an IMS in the company

Sequence of introduction	Frequency	Percentage (%)
QMS then EMS to achieve an IMS	4	50
EMS then QMS to achieve an IMS	3	37.5
Both QMS and EMS as IMS from start	1	12.5
Total	**8**	**100**

Chart 4.8: Sequence of introduction of an IMS in the company

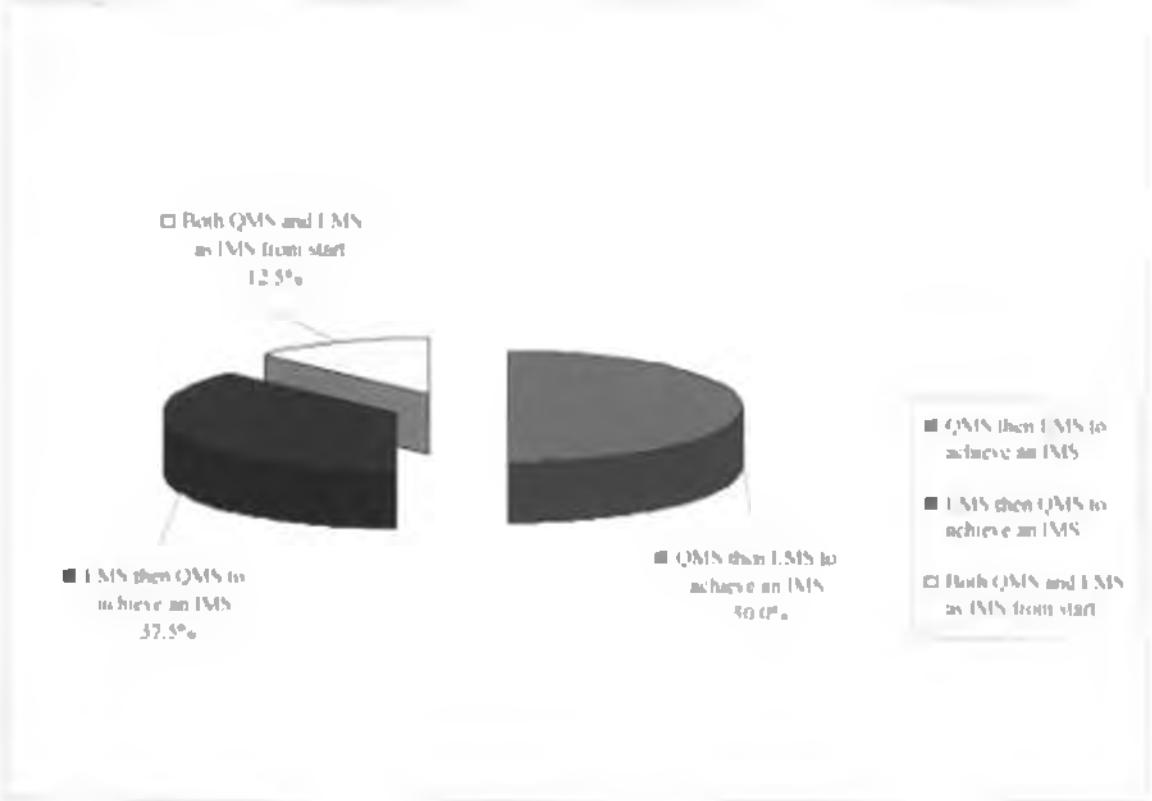


Table 4.8 and Chart 4.8 indicates the response on sequence of introduction of QMS and EMS to achieve IMS. It was clear that the sequence of introduction of an IMS in the majority of the companies was QMS then EMS to achieve an IMS as the result was 50%, followed by EMS then QMS to achieve an IMS indicated by 37.5%, while 12.5% of the respondents said that both QMS and EMS were implemented as an IMS from the start.

In the subsequent section of part 4.3, part 4.4 and part 4.5, the respondent were asked to give their opinion on the approach, benefits / advantages and challenges respectively, that relates to the implementation of IMS by rating the indicated variables. A five-point Likert scale (1=strong disagreement; 2=disagreement; 3=moderate; 4=agreement and 5=strong agreement) was used to obtains the respondent opinion on the variables. On the same base and for this research a ranking mean above 3.50 implies that the variable importance is "High". A mean to 2.50 to 3.49 would be interpreted as of "Medium" importance while a mean of 2.49 and below implies that the variable is of "Low" importance.

4.3.3 Approaches that the organization adopted in integrating QMS and EMS.

The respondents were asked to indicate the approaches that their organizations adopted in integrating Quality and Environment management system. The research highlighted five approach variable and the respondents were requested to rate them.

Table 4.9 Approaches that the organizations adopt in integrating management systems (IMS)

Approaches during integration	Mean	Standard Deviation (SD)	Ranking
Merging of documentation through similarities in the structure	3.50	0.866	1
Merging of documentation through the content of the standards	3.50	0.866	1
Implementation through the TQ approach	3.25	0.829	3
Merging of the documents through an aligned approach to integration	2.75	0.829	4
Merging of the QMS and EMS through the audit system	2.38	0.857	5

Table 4.9, show the respondent rating of the various approaches used during QMS and EMS integration. Majority of the organizations adopted merging of documentation through similarities in the structure (3.50) and also merging of documentation through the content of the standards (3.50) as they had the highest mean score, which in the response scale of 1-5 the variables are ranked "high". This means that the majority of respondents agreed that if the two approaches were adopted in their organizations while integrating quality and environment management systems.

The respondent also indicated that a number of organizations integrate QMS and EMS by implementation through the Total Quality (TQ) approach (3.25) while approach by merging of the document through an aligned approach to integration (2.75) both of which are medium ranked meaning that the approaches were moderately adopted in integrating quality and environment management systems. Only a few organizations whose approach was to merge QMS and EMS through the audit system (2.38), the approach is low in the ranking which mean it is not a popular approach among organizations.

Table 4.9 also indicates the standard deviation (SD) for each of the five variables was less than 1.00. Actually the SD for all the variables ranged from 0.829 to 0.866 which mean the respondents had similar opinions.

4.3.4 Implementation approaches adopted to achieve the IMS objectives in integrating QMS and EMS.

The respondents were asked to state whether their organization achieved given objectives due to the implementation approach method that was used to integrate QMS and EMS. The study also sought to investigate whether the implementation approaches adopted led to the achievement of the IMS objectives indicted in table 4.10.

Table 4.10 IMS objectives achieved as a result of the approach adopted.

IMS objectives to be achieved due to the approach	Mean	Standard Deviation (SD)	Ranking
Reduction of the cost of implementation	4.00	0.500	1
Reduction of multiple consultancy fees	4.00	0.500	1

IMS objectives to be achieved due to the approach	Mean	Standard Deviation (SD)	Ranking
Achievement of continuous improvement through teamwork	4.00	0.500	1
Ensuring all organization activities are not hazardous to the public and immediate society	3.88	0.599	4
Achieving quality improvements	3.88	0.599	4
A way of building on the success of its current systems	3.88	0.599	4
Improving the efficiency of the environmental management system	3.88	0.599	4
A continuous improvement through a single system of systems achieved	3.75	0.968	8
Making the customer the focus of all the business processes	3.75	0.661	8
Maintenance and increase market share	3.75	0.661	8
Aligning the systems with the overall company strategy	3.75	0.433	8
Having a single assessor would avoid "contradictions in practical implementation"	3.75	0.433	8
In meeting the shareholders demands and requirements	3.75	0.433	8
A consistent documentation method was achieved	3.50	0.500	14
Use the IMS as a marketing, promotional or public winning tool	3.50	0.500	14
Meeting corporate objectives	3.50	0.500	14
Marketing products and services locally	3.38	0.696	17
Achieving a "world class" status	3.38	0.696	17
Establishment of an effective documentation system by implementing a complete series of standards	3.38	0.696	17

IMS objectives to be achieved due to the approach	Mean	Standard Deviation (SD)	Ranking
Marketing the products in the international arena	3.38	0.696	17
Integration lead to achievement of a single audit system	3.25	0.829	21
Comply customers public &community interest	3.25	0.661	21
Combining the processes, so that an organization can better plan and execute it based on its practical needs	3.25	0.829	21
Improving and understanding of its current systems	3.25	0.829	21
Acquiring of a more effective process for managing organization business	3.25	0.661	21
Aligning systems with the business objectives	3.13	0.781	26
Improving the efficiency of the quality system	3.13	0.781	26
Improving employees relations	3.13	0.599	26
Enable focus on efficient operations that remove bureaucracy	3.13	0.599	26
In meeting government demands and requirements	3.00	0.707	30
Focusing on effective operations that remove bureaucracy	3.00	0.707	30
Controlling the activities and processes affecting quality and environment in order to achieve their policies/promises	3.00	0.707	30
After implementing as IMS the two systems lost their identity and operate as one system	3.00	0.707	30
Optimising the activities and processes affecting quality and the environment in order to achieve their policies/promises	2.75	1.299	34
IMS term for guaranteeing high grade product	2.63	0.992	35

Table 4.10 indicates that the majority of the respondents were in agreement that the implementation of the approaches led to the achievement of the above objectives as the majority of the objectives had a mean score of 3.50 and above which is a high ranking.

It was also clear that the IMS implementation approaches led to:- Reduction of multiple consultancy fees, Cost of implementation and also it led to the Achievement of continuous improvement through teamwork as these two variables had a mean score of 4.00 which means that the majority of the respondents agreed.

The researcher also found out that implementation approaches did not lead to the achievement of the following objectives namely; (1) IMS term for guaranteeing high-grade product and services, and also (2) Optimizing the activities and processes affecting quality and the environment in order to achieve their policies / promises as the variables had the lowest mean score of 2.63 and 2.75 respectively. However, all the objectives have a mean of 2.50 (medium) and above meaning that the objectives were of importance.

Using the standard deviation, which is the measure of dispersion from the mean score, all the variables had a standard deviation less than 1, there was consensus in the responses, except one variable, namely; Optimizing the activities and processes affecting quality and the environment in order to achieve their policies / promises; which had a standard deviation of 1.299. There were variations in the responses to that objective and there was no consensus on the objective from the respondents.

4.4 Perceived Benefits and Advantages of Implementing an Integrated Management System (IMS), in Kenya's firms.

4.4.1 Perceived benefits from implementing IMS.

The respondents were asked to rank the benefits associated with implementation of an IMS. The respondents were also requested to state and rank any other benefit that the research did not capture in the list in table 4.11.

Table 4.11 Perceived benefits of implementing a QMS and EMS integrated management system (IMS), in Kenya's firms

Benefits derived from implementing (IMS)	Mean	Standard Deviation (SD)	Ranking
Integrated systems can reduce the requirement for resources	4.25	0.433	1
Multiple audits reduced	4.00	0.500	2
Avoid duplication	4.00	0.500	2
Improves the efficiency of the quantity system	3.88	0.599	4
Lower inter-functional conflicts	3.63	0.484	5
Helps develop quality management	3.63	0.857	5
Improves public relations	3.50	0.866	7
Avoid conflict of procedures	3.50	0.707	7
Enhanced confidence of customers	3.50	0.707	7
Improves employee productivity	3.38	0.696	10
Improves customer satisfaction	3.38	0.696	10
Positive community image	3.38	0.696	10
Improved joined operational performance	3.38	0.696	10
Improved technology transfer	3.38	0.696	10
Increases quality awareness to the public/customers	3.25	0.829	15
Improves documentation	3.25	0.829	15
Improved internal management methods	3.25	0.661	15
Positive market	3.25	0.829	15
Helps in supplier selection	3.13	0.599	19
Efficient re-engineering	3.00	1.000	20
Reduces production cost	3.00	0.707	20
Higher staff motivation	3.00	0.707	20
Reduces production time	2.63	0.857	23
Improved technology development	2.63	0.857	23

Table 4.11 shows the respondents' ranking of the benefits of implementing a QMS and EMS integrated management systems (IMS), in Kenya's firms. The research found out that majority of respondents that have integrated QMS and EMS could reduce the requirement for resources as the benefit was the highest in ranking (4.25) meaning it was very important.

"Multiple audits reduced" and "Avoids duplication" were also very important as they also had a high mean score of 4.00. Out of the twenty four perceived benefits that were listed nine scored a mean of 3.50 and above meaning they were highly ranked and the respondents were in agreement that they were benefits brought about by the implementation of integrated management systems (IMS).

The remainder sixteen had a mean score above 2.50 meaning they were of medium in ranking and the respondents felt that the benefits were moderately important. However, improving technology development and reducing production time scored the least as they had the lowest mean score of 2.63, meaning that the majority had of the respondents were moderate about them

Standard deviation, the measure of dispersion from the mean score, all the variables had a standard deviation less than 1.00 apart from one variable, which means that there was consensus in the responses. One variable, namely; efficient re-engineering; which had a standard deviation of 1.00 which means that there were slight variations in the responses. The respondents did not make any other additional benefit to the list.

4.4.2 Advantages of implementing QMS and EMS as an IMS from the start.

The respondents were asked to rank the advantages associated with implementation of QMS and EMS as an IMS from the start. The respondents were also requested to state and rank any other advantage that the research did not capture in the list in table 4.12.

Table 4.12 Advantages of implementing QMS and EMS together as an IMS (from the start).

Advantages of implementing QMS and EMS as an IMS	Mean	Standard Deviation (SD)	Ranking
Establishment of an integrated and optimal performance management system from the start	4.25	0.433	1
Integrated audit procedures with those for other management systems to avoid duplication of effort in order to reduce costs	4.13	0.331	2
Reduce duplication; reduce multiple audits	4.13	0.331	2
Use of an internationally recognized registration mark	4.00	0.500	4
More comprehensive involvement of all interested parties	3.88	0.599	5
Harmonization problem solving from the beginning of the project	3.88	0.599	5
Improved cost effectiveness	3.88	0.331	5
The approach will increase efficiency of other interlinked systems	3.88	0.599	5
Increase flexibility	3.88	0.599	5
The approach will increase effectiveness of other interlinked systems	3.88	0.781	5
Unified problem solving from the beginning of the project	3.75	0.433	11
Use of synergy effects from the development of both systems together	3.75	0.433	11
Increased possibilities for including other systems	3.75	0.433	11
Lead to more effective system, such as improved technology development	3.63	0.857	14

Table 4.12 shows the respondents' ranking of the advantages associated with implementing QMS and EMS as an IMS from the start. "Establishment of an integrated

and optimal performance management system from the start" was perceived as the most important advantage with a mean score of 4.25. Majority of the respondents were in agreement that the fourteen advantages listed in the research were very important when implementing QMS and EMS as an IMS from the start, all the variable had a mean score raging from 3.63 to 4.25 above 3.5 meaning that the advantages highly valued.

Using the standard deviation, which is a measure of dispersion from the mean score, all the variables had a standard deviation far less than 1, which means that there was consensus in their responses. The respondents did not make any other additional advantages to the list

4.5 The challenges of Implementing an Integrated Management System (IMS), in Kenya's firms.

4.5.1 Challenges of Implementing QMS and EMS integrated management system (IMS) in Kenya's firms.

The respondents were asked to rank the challenges experienced when implementing IMS for QMS and EMS. The respondents were also requested to state and rank any other challenge that the research did not capture in the list in table 4.13.

Table 4.13 Challenges of implementing an integrated management system (IMS), in Kenya's firms

Challenges in implementing an (IMS)	Mean	Standard Deviation (SD)	Ranking
Predominant focus on certification	4.13	0.331	1
Management not understanding the concept of IMS thereby not supporting the implementation	4.13	0.599	1
Implementation costs	4.00	0.500	3
Lack of compatibility of elements of the standards that could be implemented shared	4.00	0.500	3
Establishing quantifying systems to determine an accurate environmental based costs	4.00	0.707	3

Challenges in implementing an (IMS)	Mean	Standard Deviation (SD)	Ranking
Lack of proper management commitment	4.00	0.866	3
Lack of formal training course of staff in organizations on sustaining an IMS	3.88	0.781	7
Conducting second party joint (quality and environmental) audits by the clients	3.88	0.331	7
Lack of human resource support due to improper involvement of all employees who will be affected by the changes	3.88	0.781	7
Organizations policies and objectives not supporting the implementation of an IMS	3.88	0.927	7
System lacking proper linkages to the existing processes and other developing initiatives	3.75	0.661	11
Lack of the necessary skills in the organizations to monitor and sustain implementation	3.75	0.829	11
Regularity review of the quality manual and procedures for improvements	3.75	0.661	11
Benchmarking with other certified companies	3.75	0.829	11
Systems lacking proper linkages to the existing practice and other developing initiatives	3.50	0.500	15
Establishing quantifying system to determine an accurate quality based costs	3.50	0.500	15
Technique provided by the certification bodies	3.38	0.696	17
Improper communication of progress and goals which is a key initiative	3.25	0.661	18

Table 4.13 shows the respondents' ranking of the challenges experienced in implementing an integrated management systems in Kenya's firms. The most experienced challenges were "predominant focus on certification" and "management not understanding the concept of IMS thereby not committing to support the implementation" as they had the highest mean score of 4.13. Other challenges were found to be highly

rated includes; implementation costs, lack of compatibility of elements of the standards that could be implemented in a shared manner, establishing quantifying systems to determine an accurate environmental based costs and lack of proper management commitment as they also had a high mean of 4.00.

Out of the eighteen challenges stated, sixteen of them had a mean score of 3.50 and above meaning that majority of the respondents agreed that these challenges were highly experienced when implementing IMS in Kenya firms. Using the standard deviation, which is the measure of dispersion from the mean score, all the variables had a standard deviation far less than 1, which means that there was consensus in the responses. The respondents did not make any other additional challenge to the list.

4.6 Encouraging organizations to implement QMS (ISO 9001:2000) and EMS (ISO 14001:1996) as an IMS from the start.

The respondents were requested to suggest what should be to encourage organizations to implement QMS (ISO 9001:2000) and EMS (ISO 14001:1996) as an IMS from the start. The respondents' gave the following suggestions:-

1. Joint documentation for QMS and EMS should be established by ISO (organization for standardization), this will encourage firm to implement IMS.

2. Consumers, public and stake holders in Kenya's firms to be enlighten by certifying bodies on the important of buying or obtaining product and services from "Quality and Environmental certified firms". This will encourage firms to obtain certification.

3. Certifying bodies should reduce cost of implementing the IMS (QMS and EMS).

4 QMS and EMS implementation as an IMS should be encouraged through awards for "Best Quality and Environmental awards by government and other well wishers" since in today's world, quality and environment are inseparable.

5. An audit system for the IMS (QMS and EMS) should be established by ISO so that only one audit for IMS. This will attract firm to implement both systems as an IMS.

The outlined suggestions in part 4.6 were given by five of the eight respondents' firms each giving one suggestion. However there only one firm that ranked suggestion number one "Joint documentation for QMS and EMS should be established by ISO (organization for standardization), this will encourage firm to implement IMS" at 4.00 in five-point 1-5 likert scale. The other suggestions were not ranked

4.7 Other integrated management system (IMS) practices or issues from the company's experiences that can enrich this study.

The respondents were also requested to suggest other integrated management system (IMS) practices or issues from the company's experiences that can enrich this study. The respondents suggested the following IMS practices and issues:-

1. The concept of IMS should be expanded to occupational health and safety (OHS), financial management system and human resources management system.

2. Integrating all the company systems through IMS is the best practice and should be encouraged since it can save implementation and audit costs

3. The best practice is to integrate company systems, procedures, processes in order to also avoid duplication of resource usage in the company there by saving costs.

The outlined IMS practices in part 4.7 were given by three of the eight respondents' firms each giving one suggestion. There was no respondent who ranked the IMS practice contributed.

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussions, conclusions, recommendations, limitations and suggestion for further research. The chapter summarizes the findings of the study in relations to the objectives of the study and the data analysis outcomes

5.2 Discussions

The study intended to find out the responses on implementation of quality and environmental management systems as an integrated management system in the Kenyan companies. The response rate was good at 80% of the targeted respondents. The research, found out that 37.5% of the respondents were 36-45 years. It was also clear that the respondents were in Production, environmental Heads and Safety (EHS), and quality assurance departments, and they held positions such as quality assurance managers, production managers and environmental health and safety managers / coordinator which was a clear indication that the respondents were well versed with the topic as they were in the relevant departments.

The research also revealed that 37.5% of the firms had 101-200 employees and 75.0% of the firms fell under manufacturing sector. The research was centered on integrating quality management system (ISO 9001:2000)-QMS and environmental management system (ISO 14001)-EMS. The sequence of introducing an IMS in the majority of the companies was QMS then EMS to achieve an IMS indicated by 50% of the respondent. This strategy (QMS then EMS) capitalizes on a valuable ISO 9000 infrastructure on which an integrated system can be added, and would also ensure benefits for organizations that are already registered to ISO 9001/2/3. Most of the available literature presents such an approach (Karapetrovic and Willborn, 1998), the current ISO 14001 standard even stating that the standard shares common management principles with the ISO 9000 series of quality system standards.

On the approaches that the organizations adopted in integrating Quality and Environment management system, the researcher found out that the majority of the firms adopted merging of documentation through similarities in the structure and merging of documentation through the content of the standards as they had the highest mean score of 3.50. However, implementation through total quality approach also adopted as it scored a high mean of 3.25. This confirms the research by Wilkinson and Dale (1998, 1999, 2000) which have shown that the approach in integration is taking place in two ways, namely merging of the documentation through an aligned approach to integration, and implementation of an integrated management system through a total quality (TQ) approach. The research outlined that documentation is being merged using similarities in the structure and content of the standards.

On whether the implementation of the approaches adopted led to the achievement of the IMS objectives the researcher found out that the implementation of the approaches led to the achievement of IMS objectives in the majority of the organizations as the majority of the variables had a mean score of 3.5 and above. The research also revealed that the perceived benefits of implementing an integrated management system (IMS), in Kenya's firms were that; integrated systems could reduce the requirement for resources and reduce multiple audits avoiding it avoids duplication as they had a high mean score of 4.25 and 4.0 respectively meaning that the majority of respondents highly agreed

On the advantages brought about by implementing QMS and EMS as an IMS from the start the researcher found out that all the variables were advantages brought about by implementing QMS and EMS as an IMS as they all had a mean score raging from 3.63 to 4.25 which means that the majority of the respondents were in agreement with the advantages. The researcher found the challenges of implementing an integrated management system (IMS), in Kenya's firms to be predominant focus on certification and management not understanding the concept of IMS thereby not supporting the implementation as they had the highest mean score of 4.13. Zeng, Tian, Tam, (2002) actually outlined the two variables as barriers to implementation of an IMS.

The researcher then requested the respondents to suggest what should be done to encourage organizations to implement QMS (ISO 9001:2000) and EMS (ISO 14001:1996) as an IMS from the start and he found out that joint documentation should be established

by ISO (organization for standardization), the two systems should also be merged from total quality approach since in today world, quality and environment are inseparable and also both documentations, auditing should be merged.

On other integrated management system (IMS) practices or issues from the company's experiences that can enrich this study, the study revealed that IMS should be expanded to occupational health and safety (OHS), financial management system and human resources management system. Organizations should integrate systems through IMS to save implementation and audit costs in the company. Tranmer (1996) recommends a multilevel integration. Improved understanding and the common use of the systems are the main reasons for integration. Aligning all the systems with the business objectives and overall strategy of an organization as the way forward.

5.3 Conclusions

From the findings in chapter four and the discussions in this chapter, the research concludes that IMS is relevant in integrating the management systems to achieve benefits such as reduced requirement for resources, reduced multiple audits costs; avoid duplication of the resources in the companies.

The research also concludes that there are advantages in implementing QMS and EMS as IMS such as establishment of an integrated and optimal performance management system from the start, Integrating audit procedures with those for other management systems to avoid duplication of effort in order to reduce costs and reducing duplication of effort in order to reduce multiple audits. However, this can only be achieved if factors such as predominant focus on certification and lack of management commitment to the implementation of IMS are addressed

5.4 Recommendations

The research recommends that the company should not focus on certification when implementing management systems especially integrated systems. The management should be committed to understanding and supporting implementation of IMS. Organizations should enhance utilization of resources by implementing systems as IMS in Kenyan firms. If QMS and EMS are implemented together from the start, there is

enhanced performance of the systems from the start. Organizations should reap benefit of an IMS which include reduced implementation and audit costs.

5.5 Limitations of the study

Some companies did not respond to the questionnaires due to the company policies of confidentiality. The researcher had to contend with most managers being away on meetings and taking too long with the questionnaires because of their very busy schedules. However, eventually, they would settle down and fill them.

Although the collection of the data was administered using a questionnaire which was emailed or dropped to a particular respondent and picked later within two days, the collection of data should have been complemented with focus group discussions to generate more exploratory information and increase the accuracy of the findings.

5.6 Suggestions for further research

The study should be expanded to:-

1. IMS that include all management systems that have been implemented by organizations for example QMS, EMS, OHS, financial management systems and human resource management systems.

2. Since the population was small, the study on the implementation of QMS and EMS as an IMS should repeated when more companies will have implemented the two systems.

3. Since one of the main challenge in IMS implementation is lack of management commitment to implementation of systems in organizations, a study should be done on the same to find out why there is lacking management support and commitment in most organizations.

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APPENDICES

Appendix I: List of Companies Surveyed

This is a list of companies that have implemented an IMS or both quality and environmental management systems in Kenya.

a) General Motors (GM) Limited
b) Unilever Kenya Limited
c) Tetra pak Limited
d) Panafrican Paper Mills
e) Bidco Oil refineries
f) Kenya Maltings
g) Central Glass Industries
h) Sameer Africa Limited
i) De la Rue Currency & Security Print Ltd
j) Pioneer Food Cannery Ltd

Appendix II: Letter of Introduction

UNIVERSITY OF NAIROBI

Ref: MBA/OPS/PJ/002

05th October, 2007

From:

Thiong'o T. Wacira
University Of Nairobi,
School of Business,
P.O. Box 5515 – 00100,
NAIROBI

To:

Quality Control Manager
Unilever Kenya Limited,
P.O. Box 30062 – 00100,
NAIROBI

Attn: Mr. Kenneth Odire

Dear Sir / Madam,

RE: INTRODUCTION LETTER

I am a Postgraduate student undertaking a Master of Business Administration (MBA) degree at the University of Nairobi. I am currently carrying out research titled: "*A survey on the implementation of quality and environmental management systems as an integrated management system in Kenya's companies*", which your firms have implemented or is implementing".

Your organisation has been chosen to be used for this research. I would therefore like to request for your assistance in completing the questionnaire attached to enable me complete the research. The information you provide will be treated with strict confidence and will only be used for academic purposes (this research). At no time will your name be used or referred to in the final report. A copy of this final project will be available to

you on demand. For any clarification on this matter, I can be reached on my mobile number 0722893328 or on my email, *twacira@yahoo.com*

Your assistance and cooperation in completing the questionnaire will be highly appreciated.

Your faithfully,

Thiong'o T. Wacira

MBA Student - UON

Appendix III: Questionnaire

A survey on the approach, the benefits and the challenges in implementing Quality and Environmental Management Systems as an Integrated Management System (IMS) in Kenyan Companies.

Definition of Integration:
Integration refers to the degree of alignment or harmony of systems in an organization. When parts, resources, activities, procedures or processes perform interdependently within a unit, this unit is viewed as a system. Integration of two systems means to link them in a way that results in a loss of independence of one or both. Integration normally leads to a stronger and more comprehensive management system.

PART A: RESPONDENT INFORMATION

1. Name of firm / organization

2. Age (Optional):

18-25	26-35	36-45	46-50	51 and above
☐	☐	☐	☐	☐

3. In which department do you work, (please specify)?

4. What position do you hold in this organization?

5 What is the number of employees in your firm? Tick appropriately.

Up to 50	51-100	101-200	201-300	Above 300
☐	☐	☐	☐	☐

6. What sector does your firm fall in? (Tick appropriately)

Service	Hospitality	Construction	Manufacturing	Consultancy	Others (Please specify)

7. Which management systems have your firm implemented (are being implemented) as an integrated management system, (please specify them)?

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PART B: The approach in implementing quality and environmental management systems as an Integrated Management System (IMS), in your firms.

8. When (the year) did your company implement and obtain certification of the following management system? (Tick appropriately).

System	Quality Management System (QMS)	Environmental Management System (EMS)	Integrated (QMS & EMS) Management System (IMS)
Year			

9. What was the sequence of introduction of an IMS in your company? (Tick appropriately).

System	QMS then EMS to achieve an IMS	EMS then QMS to achieve an IMS	Both QMS and EMS as IMS from start
Sequence			

(Note: The following is a Rating / Ranking scale for the purpose of answering the questions below)

REMARK	STRONGLY DISAGREE	DISAGREE	MODERATE	AGREE	STRONGLY AGREE
Points/Marks	1	2	3	4	5

10. What approaches did your organization adopt in Integrating (Quality and Environment) Management System?

Item	Approaches during Integration	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
(a)	Merging of the documents through an aligned approach to integration;					
(b)	Merging of documentation through similarities in the structure;					
(c)	Merging of documentation through the content of the standards;					
(d)	Implementation through the TQ approach					
(e)	Merging of the QMS and EMS through the audit system					

11. Did the implementation approach lead to the achievement of the following IMS objectives

Item	Approaches versus IMS objectives	Strongly disagree	Disagree	Moderate	Agree	Strongly agree
(a)	A consistent documentation method was achieved;					
(b)	Integration lead to achievement of a single audit system;					

Item	Approaches versus IMS objectives	Strongly disagree	Disagree	Moderate	Agree	Strongly agree
(c)	A Continuous improvement through a single system of systems achieved;					
(d)	Making the customer the focus of all business processes;					
(e)	An (IMS) term for guaranteeing high grade product and services;					
(f)	Improving the efficiency of the quality system;					
(g)	Ensuring all organization activities are not hazardous to the public and immediate society;					
(h)	Maintainance and increase market share;					
(i)	In meeting government demands and requirements;					
(j)	Comply with customers, public and community interests;					
(k)	Achieving quality improvements;					
(l)	Marketing products and services locally;					
(m)	Use the IMS as a marketing, promotional or public winning tool;					

Item	Approaches versus IMS objectives	Strongly disagree	Disagree	Moderate	Agree	Strongly agree
(n)	Reduction the cost of implementation;					
(o)	Meeting corporate objectives;					
(p)	Improving employees' relations;					
(q)	Achieving a "world class" status;					
(r)	A way of building on the success of its current systems;					
(s)	Aligning the systems with the overall company strategy;					
(t)	Enable focus on efficient operations that remove bureaucracy;					
(u)	Reduction of multiple consultancy fees;					
(v)	Having a single assessor would avoids "contradictions in practical implementation";					
(w)	After implementing as IMS the two systems lost their identity and operate as one system;					
(x)	Acquiring of a more effective process for managing organization business;					
(y)	Establishment of an effective documentation system; a complete series of standards;					

Item	Approaches versus IMS objectives	Strongly disagree	Disagree	Moderate	Agree	Strongly agree
(z)	Optimizing the activities and processes affecting quality and the environment in order to achieve their policies / promises;					
(aa)	Combining the processes, so that an organization can better plan and execute it based on its practical needs;					
(ah)	Improving the efficiency of the environmental management system;					
(ac)	In meeting the shareholders demands and requirements;					
(ad)	Marketing the products in the international arena;					
(ae)	Improving and understanding of its current systems;					
(af)	Aligning of systems with the business objectives;					
(ag)	Focusing on effective operations that remove bureaucracy;					
(ah)	Controlling the activities and processes affecting quality and the environment in order to achieve their policies / promises;					

Item	Approaches versus IMS objectives	Strongly disagree	Disagree	Moderate	Agree	Strongly agree
(ai)	Achievement of Continuous improvement through teamwork;					
(aj)	Other(s), please specify;					
(ak)	.....	.....	.....	.....	.....	.....
(al)	.....	.....	.....	.....	.....	.....
(am)	.....	.....	.....	.....	.....	.....
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PART C: The perceived Benefits of implementing an Integrated Management System (IMS), in Kenya's firms.

12. What are the perceived Benefits from Implementing IMS in Kenyan organizations.

Item	Benefits derived from Implementing (IMS)	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
(a)	Improves documentation;					
(b)	Improves the efficiency of the quantity system;					
(c)	Helps in supplier selection;					
(d)	Helps develop quality management,					
(e)	Improves public relations;					
(f)	Increases quality awareness to the public / customers;					

Item	**Benefits derived from implementing (IMS)**	Strongly disagree	Disagree	Moderate	Agree	Strongly agree
(g)	Improves employee productivity;					
(h)	Improved technology development ;					
(i)	Improved joined operational performance;					
(j)	Improved internal management methods;					
(k)	Higher staff motivation;					
(l)	Multiple audits reduced;					
(m)	Enhanced confidence of customers;					
(n)	Positive market;					
(o)	Reduces production time;					
(p)	Efficient re-engineering;					
(q)	Avoid duplication;					
(r)	Avoid conflict of procedures;					
(s)	Integrated system can reduce the requirements for resources;					
(t)	Improves customer satisfaction;					
(u)	Reduces production cost;					
(v)	Positive community image;					
(w)	Lower inter-functional conflicts					
(x)	Improved technology transfer;					
	Other(s), please specify:					
(y)	.....	.....	.....	.....	.....	.....
(z)	.....	.....	.....	.....	.....	.....
(aa)	.....	.....	.....	.....	.....	.....
(ab)	.....	.....	.....	.....	.....	.....

(ac)	.....	.....	.....	.....	.....	.....

13. An organization intend to implement quality and environmental management system as an integrated management system from beginning (from the start). Advice the firm by rating the "benefits of implementing QMS and EMS together as an IMS" given below:

Item	**Advantages of Implementing QMS and EMS as an IMS.**	Strongly Disagree	Dis-agree	Moderate	Agree	Strongly Agree
(a)	Establishment of an integrated and optimal performance management system from the start;					
(b)	More comprehensive involvement of all interested parties;					
(c)	Use of synergy effects from the development of both systems together;					
(d)	Harmonization problem solving from the beginning of the project					
(e)	Improved cost effectiveness;					
(f)	Increased possibilities for including other systems					
(g)	The approach will increase efficiency of other interlinked systems.					
(h)	Integrated audit procedures with those for other management systems to avoid					

Item	Advantages of implementing QMS and EMS as an IMS.	Strongly disagree	Dis-agree	Moderate	Agree	Strongly agree
(i)	Duplication of effort in order to reduce costs;					
(j)	Lead to a more effective system, such as improved technology development;					
(k)	Use of an internationally recognized registration mark;					
(l)	Unified problem solving from the beginning of the project					
(m)	Increased flexibility;					
(n)	The approach will increase effectiveness of other interlinked systems.					
(o)	Reduce duplication of effort in order to reduce multiple audits;					
(q)	Other(s), please specify:	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....
(r)	.....	.....	.....	.....	.....	.....
(s)	.....	.....	.....	.....	.....	.....
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PART D: What are the Challenges of implementing an Integrated Management System (IMS), in Kenya's firms.

14. What are the Challenges in the process of implementing an Integrated Manugement System (IMS);

Item	Challenges in Implementing an (IMS)	Strongly Disagree	Dis-agree	Moderate	Agree	Strongly Agree
(a)	Regularity review of the quality manual and procedures for improvements;					
(b)	Benchmaking with other certified companies;					
(c)	Technique provided by the certification bodies.					
(d)	Implementation costs,					
(e)	Establishing quantifying system to determine an accurate quality based costs;					
(f)	Lack of Formal training course on staff in organizations on sustaining an IMS.					
(g)	Conducting second party joint (Quality and environmental) audits by the clients.					
(h)	Lack of Compatibility of elements of the standards that could be implemented in a shared manner;					
(i)	Improper communication of progress and goals which is a key initiative;					

Item	Challenges in implementing an (IMS)	Strongly Disagree	Dis-Agree	Moderate	Agree	Strongly Agree
(j)	System lacking proper linkages to the existing processes and other developing initiatives;					
(k)	Lack of human resource support due to improper involvement of all employees who will be affected by the changes;					
(l)	Predominant focus on certification,					
(m)	Establishing quantifying system to determine an accurate environmental based costs.					
(n)	System lacking proper linkages to the existing practice and other developing initiatives;					
(o)	Lack of proper management commitment;					
(p)	Lack of the necessary skills in the organizations to monitor and sustain implementation;					
(q)	Lack of commitment of the senior management;					
(r)	Management not understanding the concept of IMS there by not supporting the implementation					
(s)	Organizations policies and objectives not supporting the implementation of an IMS					

Item	Challenges in Implementing an (IMS)	Strongly Disagree	Dis-Agree	Moderate	Agree	Strongly Agree
	Other(s), please specify;					
(t)	.....	.....	.....	.....	.....	.....
(u)	.....	.....	.....	.....	.....	.....
(v)	.....	.....	.....	.....	.....	.....
(w)	.....	.....	.....	.....	.....	.....

15. What should be done to encourage organizations to implement QMS (ISO 9001:2000) and EMS (ISO 14001:1996) as an IMS from the start;

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16. Please highlight any other Integrated Management System (IMS) practices or issues from your company's experiences that can enrich this study;

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(Thank you for your cooperation).