

**AN INVESTIGATION INTO THE DIFFICULTIES AFFECTING THE
IMPLEMENTATION OF INTERNATIONAL ORGANIZATION FOR STANDARD
(ISO) 9001:2008 AT THE NAMIBIA AIRPORTS COMPANY (NAC)**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION**

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The Implementation of ISO 9000 in the public sector is normally seen to be wrought with various obstacles that usually impede the entire process. The objective of this study was to explore the main barriers of ISO 9001:2008 in Namibia Airport Company (NAC). Relevant information had been gathered from literature in developing the survey tool to gather the related data. The findings of this study revealed that factors such as Top management involvement, Human capital (lack of expertise, attitudes of the employees, etc.) affect the effective implementation of ISO 9001:2008 at the NAC. The findings are supported by Chi- Square statistics that establish a positive association between Top management and Human capital with the implementation of ISO 9001:2008.

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LIST OF ABBREVIATIONS

DCA	Directorate of Civil Aviation
IRCA	International Register of Certificated Auditors
ISO	International Organization for Standardization
IUM	International University of Management
NAC	Namibia Airports Company
NBS	Namibia Business School
PDCA	Plan, Do, Check and Act
QMS	Quality Management System
SOPs	Standard Operating Procedures
SPSS	Statistical Package for Social Sciences

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DEDICATION

This work is dedicated to my two younger Children Lahangwa Tala-Ohole and Lungikesha Junior Hamwele for the wonderful support they demonstrated throughout the duration of my study.

DECLARATION

I, **Olavi Hamwele**, declare that this dissertation hereby submitted for the Master of Business Administration (MBA) Degree at University of Namibia has not previously been submitted for a degree at this or any other college or university, and that it is my own work in design and execution and that all reference materials contained therein have been duly acknowledged.

Mr. Olavi Hamwele

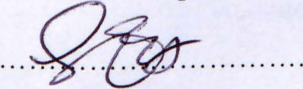


03/08/2017

Student Signature

Date

Dr. Simon Akpo



03/08/2017

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Date

CHAPTER 1: INTRODUCTION

CHAPTER 1: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

The purpose of this study is to demonstrate an understanding gained in the area of the difficulties affecting and challenges arising during the implementation of ISO 9001:2008 at the Namibian Airport Company (NAC). The section briefly explains the ISO 9001:2008 followed by the background of the research problem, research purpose, aims and objectives, significance of the study and limitation of the study. This chapter also, provides the overall structure of the study.

1.2 Background of the Study

The Namibia Airports Company (NAC) is a state-owned enterprise created by an Act of Parliament (Act No. 25 of 1998). Its mandate is to manage and operate aerodromes within Namibia (Namibia Airports Company Act, 1998). Currently, the company manages eight aerodromes across Namibia.

The Company's vision is "to be a world class service provider in airport operations and management." Its mission is "to develop, manage and operate safe and secure airports on sound business principles with due consideration to the interest of our stakeholders." Further, the company believes in the five core values of "safety and security, integrity,

teamwork, customer service excellence and innovation” (Namibia Airports Company Strategic Plan 2014-2017).

The Company’s vision is “to be a world class service provider in airport operations and management.” Its mission is “to develop, manage and operate safe and secure airports on sound business principles with due consideration to the interest of our stakeholders.” Further, the company believes in the five core values of “safety and security, integrity, teamwork, customer service excellence and innovation” (Namibia Airports Company Strategic Plan 2014-2017).

The main purpose of this research was to investigate and analyse the difficulties that affect the implementation of ISO 9001:2008 (ISO, 2008) at the NAC. The company had taken a decision, in principle, to adopt and implement ISO 9001:2008, Quality Management System (NAC Submission: Approval for the implementation of Quality Management System, 2014). In this milieu, the NAC was to establish, document, implement and maintain a quality management system in accordance with the requirement of ISO 9001:2008. Awareness training was carried out for all employees. A team of quality champions was appointed and trained in developing a quality management policy and various quality management procedures. However, the NAC seemed reluctant to implement and live up to the ideal of ISO; hence this investigation into perceptions regarding difficulties hindering the full roll-out and implementation of the quality management system. The quality management system for NAC is meant to follow Dr. W. Edward Deming’s Quality Management Model of Plan, Do, Check and Act (PDCA), to

serve as a catalyst for effective planning, operation and control of processes and continuous improvement, as described by Summers (2005).

The investigation for this study centered on the human factors, as outlined in ISO 10018 (ISO, 2012) that affect effective implementation of a quality management system. According to ISO 10018, human factors are broken down into three groups: leadership, people involvement and competence.

Leadership factors – the leadership tenets that influence the staff behavior to accept and implement change.

These include:

- a) Leadership – the role leaders play, and their commitment to ISO implementation;
- b) Culture and values – leaders' influence on culture through their behaviour and values;
- c) Change management – leaders' role in managing change and involving people;
- d) Knowledge management – the role of leaders in ensuring knowledge sharing.

People involvement factors – how people are organized and informed about the rationale of change and implementation process thereof.

These include

- a) Communication – targeting messages and the use of various media;

- b) Teamwork – the ability to work with others for an effective implementation process;
- c) Networking and collaboration – the effective use of resources;
- d) Discipline – both self-discipline and external discipline for task completion as per plan;
- e) Empowerment and responsibility – enabling employees to work with little supervision;
- f) Exploration – taking calculated and reasonable risks and learning through experience;
- g) Recognition and rewards – providing continuous feedback to employees.

Competence factors – involving the training and awareness to ensure an understanding so that the team can own the implementation process.

These include:

- a) Recruitment – ensuring competent quality champions to drive the process;
- b) Education and learning – ensuring that knowledge and skills are imparted to staff;
- c) Awareness – making people aware of all the key aspects of the ISO processes;
- d) Creativity and innovation – creative solutions to challenges and innovate for success;
- e) Competence itself – the sum of all the parts above.

The human factors affect quality, and thus can be effectively used within a management system. It is advisable that the first two factors (leadership and people involvement) should always form part of the recommendations for effective management of quality. The third factor (competence) became a particularly significant topic with the issue of ISO/IEC 17021 for certification bodies.

If the NAC carries out its activities with all of these human aspects in mind, the key benefit would be effective ISO implementation through engaged employees with a clear understanding of where the organisation is headed, and how each person would help it to get there.

1.3 Statement of the Problem

Researchers around the world found that the implementation of ISO 9001 meets many different barriers in organisations (Gader *et al.*, 2009; Fotopoulos and Psomas, 2009; Wahid and Corner, 2009; Ashrafi, 2008; Mersha, 2007; Withers and Ebrahimpour, 2001; Kwai-sang, Poon and Kit-Fai, 2000; Lipovatz, Stenos and Vaka, 1999; Quazi and Padibjo, 1998; Zairi, 1996; Calingo *et al.*, 1995; McCullough and Laurie, 1995; Kim, 1994; Olsen, 1994; Dzus and Sykes, 1993). This literature found that lack of top management support and commitment, the resistance of employees towards change, a lack of understanding of the ISO requirements, inadequate training and quality knowledge, a low level of quality awareness and culture, the allocation of personal responsibilities and constraints on resources such as manpower, time and finance led to poor implementation of ISO at Namibia Airports Company (NAC) despite International Civil Aviation Organisation

(ICAO) and International Air Transport Association (IATA) propagation in this regard to effectively meet aviation standards.

Another study by Sampio, Saraiva and Rodrigues (2009) suggests that the major difficulties faced in implementing ISO 9001 are the low level of involvement of top management and employees, a poor flow of information (for the functioning of the quality system), resistance to new responsibilities, lack of appropriate technical knowledge, and difficulty in the communication of new tasks and functions for each job. Although the literature on Quality Management Systems in general and ISO 9001 in particular is clearly significant, there is a much smaller literature-base focused on difficulties and problems with ISO 9000 and even more so when examining Namibian Parastatals.

A key question to ask following this evidence is why is there difficulties in implementing and adopting ISO 9001 at NAC? Therefore, the study is exploratory in nature and seeks to collect data related to the obstacles that affect the implementation of ISO 9001 at NAC.

In light of the aforesaid, the statement of the problem is: Lack of implementation of International Organization of Standard (ISO) 9001: 2008 at Namibia Airports Company (NAC) contributes to aviation standard not being met in line of International Civil Aviation Organisation (ICAO) and International Air Transport Association (IATA).

The NAC, as an operator of airports, should conform to international requirements pertaining to aviation quality standards. Therefore, the study was exploratory in nature

and sought to collect data related to the obstacles that affect the implementation of ISO 9001: 2008 QMS at the NAC, particularly with regard to the human factors.

1.4 Objectives of the Study

The aim of this study was to identify and analyse the difficulties that affect the implementation of ISO 9001: 2008, a quality management system (QMS) at the NAC.

The following were the objectives of the study:

- a) To determine whether the behaviour and values of the NAC leadership influence the successful implementation of ISO 9001: 2008 standards and thus breed a quality management culture;
- b) To examine the human factors and how they affect the implementation of ISO 9001: 2008 standards at the NAC;
- c) To determine whether collective competence effectively drives implementation of the quality management process at the NAC;
- d) To recommend a methodology to ease the implementation of ISO 9001: 2008 at the NAC.

Hypothesis

The study dealt with the following hypotheses:

H₁ the NAC has the capacity to establish, document, implement and maintain a quality management systems in accordance with the requirement of ISO 9001:2008 will be no association between the NAC leadership and quality management culture.

H₂ the NAC's Top Management had identified a "management representative" from its own management to coordinate the activities of developing and implementing the Quality Management System.

H₃ The NAC has an effective communication process that inform employees on how well the organisation is doing in achieving its objectives and other matters relating to quality will be no association between competence and effective implementation of quality management.

H₄: The NAC has a clear defined organisational structure with levels of authority assigned to various functions and people

H₅: The NAC has documented procedures for control of documents; control of records; internal audit; control of nonconforming product; corrective action; and preventive action, that describe how these six processes and their related work activities are performed.

H₆: The NAC has clear defined and measurable quality objectives that support the Quality Policy.

Hypotheses are tested under Chapter 4.

1.5 Significance of the Study

The study provides a more complete picture of the difficulties affecting the implementation of ISO 9001: 2008 at the NAC. Researchers widely agree that ISO 9001: 2008 is one of the most well-known standards dealing with quality management systems (Gustafson et al., 2001). The NAC had previously adopted ISO and the implementation thereof. However, full implementation was not rolled out, hence the study.

The study will help to provide the NAC with a deeper understanding of the quality management system (ISO 9001: 2008) and the implementation methodology thereof. Furthermore, the researcher recommends an implementation methodology to ease the implementation process. The results of the study can also be used by the Directorate of Civil Aviation (DCA) as a guide for an airport operations regulator to ensure aviation (airport operator) compliance by the NAC as well as other airports companies in Africa.

In line with Robbins and Decenzo (2004), propagation and from a psychological point of view, the study ensured that the company's employees were engaged both rationally and emotionally. Rational engagement fulfilled employee expectations by clearly supporting their roles in provision of quality service. This was done through awareness training for all employees, and subsequently through training by quality champions and auditors.

The interventions described above were key to employee morale, motivation and organisational commitment. Apart from establishing, documenting, implementing, and maintaining a quality management system and continually improving effectiveness, the NAC earned employee commitment and loyalty by satisfying rational engagement.

Robbins and Decenzo (2004) further argue that emotional engagement is also important because it deals with cognitive aspects of the employee, such as career advancement opportunities, quality of supervision and leadership provided, input into decision-making, and even the company's reputation. This aspect was fulfilled because management functions were perceived as fair in the sense that activities were process and procedure based.

The issue of employee engagement is seen as linked to the issue of the psychological contract for both the employer and employee. The study is quite significant because it cuts across both people and operational / compliance factors for NAC to meet aviation international standard as set by regulatory bodies.

1.6 Delimitation (scope) of the Study

The study was limited to the investigation of the difficulties that affect the implementation of ISO 9001: 2008, as well as the recommendation of an implementation methodology to ease the implementation of ISO 9001: 2008 at the NAC. It is also possible that participants may not have been truthful during the questionnaire completion and answering process. Further, the study did not measure and analyse customer satisfaction levels for a variety of services and products being rendered. Though the total population for the NAC complement is about 130, the sample was limited to 50 respondents.

1.7 Format of the Study

This study was structured as follows:

Chapter One: Introduction

This chapter explains the research problem that prompted the study. It further outlines the background to the problem, the purpose of the study, the significance of the study, and the delimitations.

Chapter Two: Literature Review

This chapter presents a review of the core literature on the research problem. It is an evaluative process that critically compares the research topic to information and findings by previous scholars.

Chapter Three: Research Methodology

This chapter outlines the research design adopted for the study. In essence, it explains how the study was undertaken.

Chapter Four: Data Analysis

This chapter presents the findings of the study through the use of tables, graphs and figures, as well as written descriptions. It also presents information on which variables were used in the analysis, and the rationale behind the selection of those particular procedures.

Chapter Five: Discussion of the Findings, Summary and Conclusion

In this chapter the researcher explores important relationships between what was done in the past, the purpose of the study, and the results of the current study. The researcher interprets the results and discusses their implications. The chapter includes the information gathered during the literature review, the findings of the current study, conclusions and recommendations.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter will review and discuss relevant literature from journals, business reports and academic investigations on ISO 9001:2008. Specifically, this chapter focuses on quality concepts, quality management systems principles, benefits and barriers of implementation of ISO 9001:2008

The IRCA (2009) outlines the human factors that affect effective implementation a quality management system. Auditors that assess against ISO 9001 usually should not be concerned about the need to raise additional nonconformities against ISO 10018. The draft standard does not add any requirements to ISO 9001; it merely provides guidance to understand the human aspects in effective implementation for those involved in developing management systems.

Standard users are expected to be an organisation's leaders and take responsibility for developing and implementing systems. However, auditors familiar with ISO 10018 could use it to appoint an auditee to areas of best practice.

According to Paul Simpson (IRCA, 2009) the vast majority of auditors are already aware of the need to consider people aspects within the management systems they assess. Systems are not simply documents describing the processes and procedures to be followed, nor records that are evaluated for evidence that processes are effectively

implemented and operating efficiently. The system is the sum of behaviours and the values of individuals from top to bottom.

ISO 10018 gives much needed guidance on people involvement and competence in quality management systems. Although being developed by ISO/TC 176, the technical committee responsible for publishing the ISO 9000 series and supporting standards, the principles apply equally to management systems in general.

ISO 9001 was reissued in 2000 based on eight quality management principles as outlined in ISO 9000. Four of these principles are about people, but ISO 9001 does not develop these principles to any extent. Thus ISO set up a working group to create a standard providing guidance on how people affect the principles and how more effective use of people can improve an organisation.

The standard gives specific guidance as to where an improved use of human factors can help with satisfying each clause of ISO 9001. ISO 10018 includes two outline processes covering competence acquisition and people involvement.

Peter Merrill (2012) - http://www.iso.org/iso/home/news_index/news_archive/, asserts that "People at all levels are the essence of an organisation and their full involvement enables their abilities to be used for the organisation's benefit". This links with the *Leadership* principle, which states: "Leaders establish unity of purpose and direction of the organisation. They should create and maintain the internal environment in which people can become fully involved in achieving the organisation's objectives".

Clause 4 of ISO 10018 clearly describes the processes an organisation can use to implement and maintain people involvement and competence in quality management systems (see Figure 2.1). It also describes how leaders should encourage people to assume responsibilities and create the conditions that enable them to achieve desired results. The process is based on four steps:

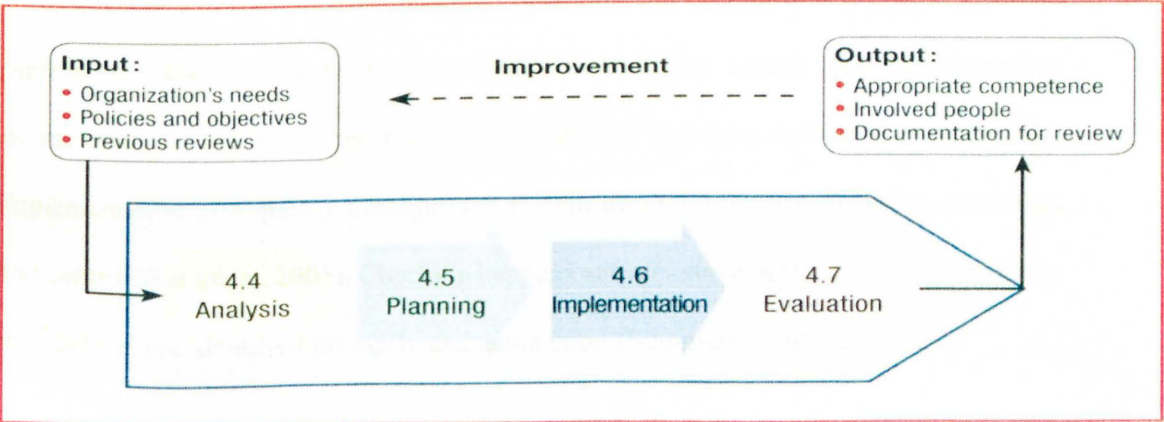
Analysis: Data are collected and analysed to establish an organisation's short- and long-term objectives for people involvement and competence.

Planning: Procedures are created to plan the people involvement and competence acquisition process at an organisational, group and individual level.

Implementation: The plans and actions are implemented to achieve the objectives.

Evaluation: Plans, actions and outcomes are evaluated to identify opportunities for improvement.

Figure 2.1 The people involvement and competence process (Adapted form Clause 4 of ISO 10018)



Sub-clause 4.6 describes general leadership actions to enhance people involvement, and how that is best achieved in an environment in which people participate in planning and influencing decisions and actions that affect their jobs.

The researcher studied a process-based quality management system model. This model evolves information flow and value-addition activities with a specific focus on continual improvement geared towards customer satisfaction (ISO, 2008). It puts emphasis on management responsibility, resources management, resources realization (product), and measurement, analysis and improvement (ISO, 2008).

The strength of this system rests in its continual improvement and the fact that it brings about customer satisfaction, hence business continuation is guaranteed. The weakness of this model, however, is that the defects will only be revealed during the measurement, analysis and improvement stage, which is costly because by then, resources have been committed and production realisation has taken place.

Dr. W. Edward Deming's Quality Management Model of Plan, Do, Check and Act (PDCA), is key to the effective planning, operation and control of one's processes and continuous improvement (Summers, 2005). This is the model that the researcher recommends to the NAC because it is methodical in nature and ensures successful implementation of a quality management system through effective planning, execution and control (Summers, 2005). Checking happens at every stage of the production process; thus defects are identified promptly and acted upon (Summers, 2005).

2.2 Theoretical Framework

2.2.1 Quality management system defined

A quality management system involves gap analysis, awareness, documentation, implementation, internal auditing, certification and maintenance (ISO, 2008). Therefore, the quality management system has a significant impact on the success of an organisation through enhanced business processes or standard operating procedures (SOPs), facilitating change, and attainment of greater customer satisfaction (ISO, 2008).

A quality management system further helps the organisation to identify and remove individuals who breed an atmosphere of non-professionalism by diverting from SOPs, and who thus create a negative customer experience (ISO, 2008).

The American Society for Quality defines a quality management system as “a management technique used to communicate to employees what is required to produce the desired quality of products and services and to influence employee actions to complete tasks according to the quality specifications”. The system stands on the following eight principles (ISO Statements and Definitions)

- a) **Principle 1** – Customer-Focused Organisation - organisations depend on their customers and therefore should understand current and future customer needs, meet customer requirements, and strive to exceed customer expectations.

- b) **Principle 2 – Leadership** - leaders establish the unity of purpose and direction of an organisation. They should create and maintain the internal environment in which people can become fully involved in achieving the organisation's objectives.
- c) **Principle 3 – Involvement of People** - people at all levels are the essence of an organisation, and their full involvement enables their abilities to be used for the organisation's benefit.
- d) **Principle 4 – Process Approach** - a desired result is achieved more efficiently when related resources and activities are managed as a process.
- e) **Principle 5 – System Approach to Management** - identifying, understanding, and managing a system of interrelated processes for a given objective improves the organisation's effectiveness and efficiency.
- f) **Principle 6 – Continual Improvement** – this should be a permanent objective of the organisation.
- g) **Principle 7 – Factual Approach to Decision Making** - effective decisions and actions are based on the analysis of data and information.

- h) **Principle 8** – Mutually Beneficial Supplier Relationships - an organisation and its suppliers are independent, and a mutually beneficial relationship enhances the ability to create value.

Further, the system is based on ten requirements (ISO:2015) which are key to a quality management system when an organisation needs to demonstrate its ability to consistently provide products and services that meet customer requirements and applicable statutory and regulatory requirements, and aims to enhance customer satisfaction through the effective application of the system, including processes for improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

All the requirements of ISO 9001:2015 are generic and are intended to be applicable to any organisation, regardless of its type or size, or the products and services it provides.

The requirements are as follows (ISO: 2015):

- a) Introduction
- b) Scope
- c) Normative references
- d) Terms and definitions
- e) Context of the organisation
- f) Leadership
- g) Planning
- h) Support
- i) Operations

- j) Performance evaluations improvement

2.2.2 Dr. W Edward Deming's Model

In light of ISO 9001:2008 (ISO,2008), the NAC had adopt and is striving for certification to ISO 9001:2008 by following the steps highlighted below, modelled on Deming's quality management model (Summers, 2005):

a) Gap analysis

This is an assessment service where an auditor takes a closer look at the existing management system/processes and compares them to the requirements of the standard ISO 9001:2008. This helps identify areas that need more work before a formal assessment is done, thus saving the organisation time and money.

b) Training at all levels (synchronising the organisation)

This activity is aimed at transferring knowledge about the requirements of the standard to the implementers. Acquisition of such knowledge empowers them to champion the implementation process of the management system. During this phase, awareness training is provided, and quality champions and internal auditors are trained.

c) Documentation

This phase involves development of the required documentation for the quality management system being implemented. These documents are required to ensure effective planning, operation and control of the management system processes. This phase is critical – it deals with a quality management policy outlining commitment, objectives,

application and procedures. The policy is followed by six mandatory quality management system procedures:

- (i) Preventative action
- (ii) Control of internal quality audit
- (iii) Corrective action
- (iv) Control of non-conformity products
- (v) Control of records
- (vi) Control of documents

d) Implementation

During this phase, the quality management system was put into practice, allowing the implementers to identify what was workable from what was not. This led to amendment or improvement of the documents (Summers, 2005).

e) Internal audits, corrective action

The trained internal auditors had a chance to assess their own system before certification audit. This step allowed the management to identify weak area in system and take appropriate corrective actions before certification audits are carried out (Summers, 2005).

f) Certification audit

This is a formal assessment which happens in two stages. First the Certification Body reviews the organisation's preparedness for assessment by checking whether the necessary procedures and controls have been developed. The Certification Body will share the details of its findings with the organisation so that if there are gaps, the

organisation can close them. If all the requirements are in place, the Certification Body will then assess the implementation of the procedures and controls within the organisation to make sure that they are working effectively as required for certification (Summers, 2005).

g) Certification and beyond

When the organisation has passed the formal assessment, it will receive a certificate (ISO 9001), which is valid for three years. The Certification Body will stay in touch during this time, paying the organisation regular visits to make sure their system does not merely remain compliant, but that it continually improves. The audits carried out during these visits are referred to as Surveillance Audits.

At the NAC, only the first three steps (gap analysis, training, and documentation) were executed. The other four steps (implementation, internal audit/corrective action, certification audit, actual certification and beyond) which are critical to the impact of the programme on the organisation, were not executed.

2.3 Theories and Origin of the ISO Quality Management System

The ISO Quality Management System Requirements (ISO, 9001:2008) is the International Organisation for Standardisation based in Geneva, Switzerland. It started its operation on 23 February, 1947. To date, the ISO has published more than 15,000 standards geared towards ensuring efficient management performance. Currently, ISO

9001 is being implemented in 175 countries around the globe, with over 1.2 million certificates being issued worldwide. (<http://www.iso.org/iso/catalogue>).

- The level of customer satisfaction.

Such standards place emphasis on effective customer service and compliance in general, and use the process approach as a means to continually improve quality while meeting national and international requirements.

2.3.1 Empirical Literature Review

This section will review the benefits of ISO9001:2008 certification by companies. The benefits include among others the following: customer satisfaction, improved management performance, increased quality awareness, marketing tools and reduction of customers' assessment. Furthermore, this section will discuss the main barriers that impede the implementation of ISO 9000 in public companies.

2.3.2 Customer satisfaction

Customer satisfaction is a regular reviewed topic in ISO 9000 certification. The review is aimed at improving the quality of a product or service. Han & Chen (2007) argue that customer satisfaction can be evaluated by:

- The number of customers compliments

- The number of repeat customers
- The customer retention rate and
- The level of customer satisfaction.

Martinez-Costa and Martinez-Lorente (2003) contend that one of the main purposes of ISO 9000: 2000 certification is to satisfy customers. ISO 9000 addresses the correlation between customers and organisations.

Vouzas & Aptel (2004) maintain that ISO certification increases customers' satisfaction. However, Han & Chen (2007) argue that certification alone does not bring about customers' satisfaction but higher quality products at lower prices leads to enhanced customers satisfaction.

2.3.3 Improved management performance

The aim of ISO is to aid those organisations wishing to ensure the quality of products or services through the establishment of a quality management system (Han & Chen, 2007). Martinez-Costa et al, (2003), contend that ISO 9000 certification leads to the elimination of unnecessary paper work leading to a smoother workflow.

2.3.4 Increase quality awareness

An increase in employees' knowledge of quality awareness is an advantage attained by the organisations with ISO 9000 certification (Magd & Curry, 2003). Also, Escanciano et al, (2001) found that ISO 9000 certification increases quality awareness and increase awareness of preventive and corrective actions. Additionally, Modica & Carter (2004) argue that quality awareness will increase with the implementation of ISO 9001.

2.3.5 Marketing tools

The ISO is a pre-quisite to further improvement, development and a more advanced level of quality. Motivation is key component for an organisation successful market orientation (Tang & Kam, 2009). Furthermore, The ISO certification brings benefits that are commercial in nature, such as improving competitiveness in the market, increasing exports and gaining new contracts (Tang & Kam 2009).

2.3.6 Reduction of customer assessments

Cassadesus and Gimenez (2005) cited that Lloyds Register Quality Assurance (1994) state a reduction in the number of audits from customers is one of the advantages of the ISO certification. Koo et al (2008) argue that ISO certification is associated with a reduction in the number of audits.

2.4 ISO 9000 Implementation Barriers

2.4.1 Lack of top Management involvement and understanding of ISO standard

Wahid & Corner (2009) in a study about the critical success factors and problems in ISO 9000 maintenance found that one of the main barriers is largely due to top management involvement and understanding of ISO 9000 requirements for quality systems of the companies.

2.4.2 Quality perception and resistance to change

Bhuiyan & Alan (2005) in their study of ISO 9000 implementation in small manufacturing firms found quality perception and resistance to change as one of the barriers which hamper the quality systems implementation process.

2.4.3 Lack of human resources

This section focuses on factors such as lack of training and educational programmes, lack of motivated system, and lack of experts.

The IRCA (2009) outlines the human factors that affect effective implementation a quality management system. Auditors that assess against ISO 9001 usually should not be concerned about the need to raise additional nonconformities against ISO 10018. The draft standard does not add any requirements to ISO 9001; it merely provides guidance to understand the human aspects in effective implementation for those involved in developing management systems.

Standard users are expected to be an organisation's leaders and take responsibility for developing and implementing systems. However, auditors familiar with ISO 10018 could use it to appoint an auditee to areas of best practice.

According to Paul Simpson (IRCA, 2009) the vast majority of auditors are already aware of the need to consider people aspects within the management systems they assess. Systems are not simply documents describing the processes and procedures to be followed, nor records that are evaluated for evidence that processes are effectively implemented and operating efficiently. The system is the sum of behaviours and the values of individuals from top to bottom.

ISO 10018 gives much needed guidance on people involvement and competence in quality management systems. Although being developed by ISO/TC 176, the technical committee responsible for publishing the ISO 9000 series and supporting standards, the principles apply equally to management systems in general.

ISO 9001 was reissued in 2000 based on eight quality management principles as outlined in ISO 9000. Four of these principles are about people, but ISO 9001 does not develop these principles to any extent. Thus ISO set up a working group to create a standard providing guidance on how people affect the principles and how more effective use of people can improve an organisation.

The standard gives specific guidance as to where an improved use of human factors can help with satisfying each clause of ISO 9001. ISO 10018 includes two outline processes covering competence acquisition and people involvement.

Peter Merrill (2012) - http://www.iso.org/iso/home/news_index/news_archive/, asserts that “People at all levels are the essence of an organisation and their full involvement enables their abilities to be used for the organisation’s benefit”. This links with the *Leadership* principle, which states: “Leaders establish unity of purpose and direction of the organisation. They should create and maintain the internal environment in which people can become fully involved in achieving the organisation’s objectives”.

Clause 4 of ISO 10018 clearly describes the processes an organisation can use to implement and maintain people involvement and competence in quality management systems (see Figure 2.1). It also describes how leaders should encourage people to assume responsibilities and create the conditions that enable them to achieve desired results. The process is based on four steps:

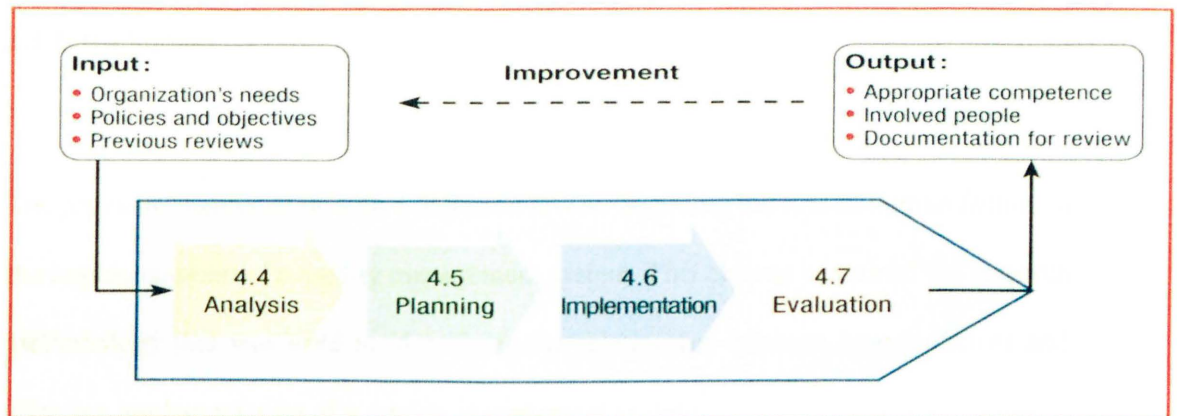
Analysis: Data are collected and analysed to establish an organisation’s short- and long-term objectives for people involvement and competence.

Planning: Procedures are created to plan the people involvement and competence acquisition process at an organisational, group and individual level.

Implementation: The plans and actions are implemented to achieve the objectives.

Evaluation: Plans, actions and outcomes are evaluated to identify opportunities for improvement.

Figure 2.1 The people involvement and competence process (Adapted form Clause 4 of ISO 10018)



Sub-clause 4.6 describes general leadership actions to enhance people involvement, and how that is best achieved in an environment in which people participate in planning and influencing decisions and actions that affect their jobs.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter dealt with a literature review regarding the role of human factors in the implementation of a quality management system. This chapter examined the research methodology that was used in identifying the relationship between human factors and effective implementation of a quality management system.

The chapter analysed and dealt with research types, research design, target population, sampling and sampling procedure, data collection, research instrument, questionnaire construction, pilot study, data analysis, validity, reliability and elimination of bias.

De Vaus (2012) pointed out that methodology implies more than simply the set of methods one intends to use to collect data. It is necessary to include a consideration of the concepts, theories and philosophical assumptions to support the methods.

3.2 Research Design

This case study used a qualitative approach to study a phenomenon in an open-ended way and developed a theoretical explanation based on the interpretation of what was observed (Johnson & Christensen, 2010).

According to Davids (2008) quantitative research involved the use of numerical measurement and statistical analysis of measurements to examine social phenomena. He further asserted that quantitative research places great premium on objectivity and reliability of findings and encourages replication. This study was quantitative in nature, the purpose of which was to discover the relationship between two variables and to measure the strength of that relationship.

Correlation analysis was used for the above purpose. In this regard the dependent variable was effective implementation of a quality management system and the independent variable was the human factors (leadership, people involvement, and competence factors).

The following were involved in planning and executing a research project

- (i) Identified the research problem clearly and justifying its selection, particularly in relation to any valid alternative designs that could have been used,
- (ii) Reviewed and synthesized previously published literature associated with the problem,
- (iii) Clearly and explicitly specified hypotheses (i.e., research questions) central to the research problem,
- (iv) Effectively described the data which will be necessary for an adequate testing of the hypotheses, and explained how such data will be obtained, and
- (v) Described the methods of analysis to be applied to the data in determining whether or not the hypotheses are true or false.

According to Eldabi (2012), the choice of research design is critical in every research study as it influences a large number of subsequent research activities and forms the basis for analysis of data collected. He warns that failure to work on a proper research design at the beginning might affect conclusions drawn which might be weak and/or unconvincing and, as a result, will fail to answer the research questions. What was further important is that the method of data collection produces reliable, valid and meaningful data. The main question was whether there was a direct association between human factors and effective QMS implementation.

3.3 Population

The Namibia Airports Company employed 230 employees, and this was the population of the study. Oyedele (2012) pointed out that collecting and analysing data from every potential case or group member included in a research problem is called a census. However, it is often not feasible or possible to study the entire population. He described a 'population' as the full group of potential participants to whom the researcher would generalize the findings of the study.

3.4 Sample

The stratified random sample was 50 employees. The interviewees were selected from different workstations (Hosea Kutako International Airport; Eros Airport; Ondangwa Airport; Walvis Bay Airport; and the NAC Head Office).

Mason and Lind (1996, pp. 256-297) asserted that sampling is important, and highlighted the following reasons:

- (i) Cost-effective procedure for quality control
- (ii) Physical impossibility of checking all items in the population
- (iii) High cost of studying all items in a population
- (iv) The adequacy of sample results
- (v) Contacting the entire population would often be too time-consuming.

It was therefore important for the researcher to draw a sample from the population to avoid the obvious challenges of a census and also to improve the quality of the study. It is worth noting that a sample that is too small is not likely to be representative, while one that is too large is likely to increase costs and time demands without producing significant benefits.

According to Oyedele (2012), there are two broad types of sampling, namely, probability sampling and non-probability sampling. Probability sampling involves the likelihood that any one member of the population being selected is known, while non-probability sampling is where the exact number of elements in the population is unknown, with the result that the likelihood of selecting any one member of the population is not known.

This study adopted probability sampling for the research. With probability sampling, it is easier to calculate sampling error. Oyedele (2012) defined sampling error as the difference between the statistical characteristics of the sample and those of the population from which the sample was selected. In essence, it is the degree to which a sample might differ from the population, which is unknown in non-probability sampling. The objective of good sampling is to ensure that the sampling error value is as low as possible.

There are various types of sampling designs in probability sampling. This study adopted stratified random sampling. The rationale for this sampling was to eliminate human bias in the selection while maintaining a fair representation of respondents across the company and all operational units.

3.5 Data Collection

Data can be collected in four ways according to Trochim (2009), namely, observation, panel, interview and questionnaire. This study used a questionnaire to collect data due to its cost effectiveness.

3.6 Research Instrument

A closed-ended questionnaire was designed to collect data based on the study objectives. Respondents were asked to respond to the statements on the questionnaire. The said

questionnaire consisted of two sections. The first part comprised five socio-demographic questions including gender, age, education level, and work experience and job category.

The second part consisted of statements designed to measure individual respondents' perceptions on such statements.

The questionnaire included a covering letter with twofold objectives; to get permission from the Chief Executive Officer of the NAC, and to orient the participant on the research subject. A questionnaire was appropriate for this organisation because it would not take up too much of the respondents' time, given the work pressure and busy schedules for employees to ensure aviation security and compliance at all times.

Questionnaire items and construction

A structured questionnaire was used as the data collection instrument. The questionnaire consisted of closed-ended questions. In designing the questionnaire, the researcher took the following into consideration:

- (i) The questions were structured to collect information required for successful achievement of the research objectives.
- (ii) Questions were categorized so that a small number of related questions intended to elicit information of a particular type relating to the research topic were grouped. Categories included:

- a. Socio-demographic items: this was meant to develop a 'profile' of the respondents by asking questions about gender, age group, occupation, job category.
- b. Orientation items: the purpose for this category was to orientate the respondent on the core issues relating to the research and to test his/her level of grasp of the topic areas that followed.
- c. Behavioural questions: these were meant to measure attitudes, beliefs, opinions, motives and behaviours. Attitude questions recorded how respondents felt about something; belief and opinion questions recorded what respondents believe or think is true or false. Items that focus on motives and behavioural variables elicit data on what individuals (or their organisations) did in the past, do now or will do in the future and the motives for these behaviours.
- d. Content-related questions: helped to elicit data on the major purpose and content area of the research topic.

In order to get an unbiased and uninfluenced research outcome, the researcher allowed the respondents to complete the questionnaire unhindered, and by so doing allowed the participants to indicate their own beliefs and opinions.

Number and content of questions

Every question was relevant and had a clear purpose. Clear, concise and well-constructed questionnaires generally result in a better participant response rate. All the items in the study questionnaire were relevant, concise and efficient.

Structure and layout of the questionnaire

After the researcher had decided on the number, question categories and the types of questions that would be asked, the actual structure and layout of the questionnaire was designed, based on the following principles:

Type of questions

- (i) 'Closed' questions that circumscribe the respondents' range of responses to questions are better suited to questionnaires as they readily lend themselves to coding and to quantitative analysis.
- (ii) Questions should be designed to facilitate computer analysis as this allows for rapid computation, statistical analysis and graphical presentation of data.
- (iii) Depending on the needs of the research topic and the range of data required for a comprehensive coverage of the research objectives, the typical questions formats include: single-option responses ('yes', 'no' or short answer), multiple choice responses (sets of options), rating questions (using, for example Likert scales), or ranking a set of options.

The questionnaire consisted of structured, closed-ended questions, using the Likert scale rating approach.

The wording of questions

Oyedele (2012) asserts that clear communication should be a fundamental goal of all questionnaires. Researchers took care in avoiding wording that give rise to misunderstanding, suggests research bias, or gives offence.

The researcher took care not to use words with ambiguous meanings and/or difficult terminologies that would create a gap in the understanding and interpretation of the questions.

3.7 Pilot study

According to Olivier (2011) the primary purpose of a pilot test is to detect weaknesses in the design of the instrument and to provide a sound base for determining and refining the sample.

Before proceeding with the main data collection, it is recommended that the finalised version of the questionnaire be pretested to ensure that there are no unresolved problems regarding the clarity of questions and instructions, and that the face validity is satisfactory. The subjects are drawn from the target population, and the procedures and protocols of the research project are simulated.

For this research, no intensive and elaborate pilot study was conducted. However, the questionnaire was tested on a small sample consisting of colleagues, family and friends. This assisted greatly in determining the relevance, balance and adequacy of the research questions in relation to the research objectives, and necessary changes were effected.

3.8 Data Analysis

According to Cooper and Schindeler (2003), data analysis is the process of reducing accumulated data to a manageable size, developing summaries, looking for patterns and applying statistical techniques. Data from the study was coded, processed and analysed using the computer based statistical package for social sciences (SPSS).

A Pearson Product-Moment Correlation research design was further used to determine the strength of the relationship between human factors as independent variables and effective implementation of ISO at the NAC as a dependent variable.

According to Davids (2010), the Pearson product-moment correlation coefficient is a measure of the strength and direction of association that exists between two variables measured on at least an interval scale. He further asserts that a Pearson's correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, r , indicates how far away all these data points are from this line of best fit.

3.9 Validity

According to Oyedele (2012), validity refers to the degree to which a study accurately reflects or assesses the specific concepts that the researcher is attempting to measure. He

further explains that validity is usually defined by such questions as: does the test measure what it is supposed to measure? The emphasis in this question is on what is being measured. Saunders (2009) identifies four specific types of validity that should be established prior to administering the actual study.

The researcher was guided by two of those validity types, as follows:

Face validity: This was established by asking friends, colleagues and individuals from the target population to comment on the relevance, balance and adequacy of the research instrument in relation to the research objectives.

This was done during the pilot study, where the questionnaire was given to friends, colleagues and family members to comment on.

Content validity: The researcher sought the opinion of his supervisor on the adequacy of his research instrument for modification.

3.10 Reliability

According to Oyedele (2012), reliability is concerned with the consistency or repeatability of the measurement of some phenomena. Based on this definition, it becomes clear that reliability is chiefly concerned with making sure the method of data gathering leads to consistent results.

There are three types of reliability, according to Oyedele (2012):

- (i) A parallel form of reliability, which is a measure of equivalence and involves administering two different forms of measurements to the same group of participants and obtaining positive correlation between the two forms.
- (ii) Test-retest reliability, which essentially involves administering the same research instrument at two different points in time to the same research subjects and obtaining a correlation between the two sets of responses.
- (iii) Inter-rater reliability which is a measure of homogeneity. With inter-rater reliability one measures the amount of agreement between two people who rate behaviour or object.

The researcher used the test-retest technique. Oyedele (2012) defines the test-retest technique as the only practical approach to the establishment of the reliability of the questionnaire. A respondent who has completed the questionnaire as part of its standardisation can be asked to complete it again, and his/her choices can be compared for consistency.

3.11 Limitations of the Study

The quality of data analysis of any research depends on the quality of information and the data collected in the field, as well as on the survey planning and the respondents involved. Although this study will make several contributions to organisational performance literature, it has several limitations.

Firstly, the data was collected in Namibia across the country from only one aviation institution. Therefore, the findings may be limited to such an institution. Future studies could consider conducting tests with different aviation institutions (such as Air Namibia, or the Directorate of Civil Aviation) to deal with external validity issues. In addition, this study was cross-sectional in nature. Future studies could consider a longitudinal approach.

3.12 Ethical Considerations

According to Rossouw and Van Vuuren (2010), ethics in research deals with the development of moral standards that can be applied to a situation in which there can be actual or potential harm to an individual or a group. The research methodology employed was scientifically sound and practically feasible. All participants were sensitised about the purpose of the research. Respondents were well-informed of the risks and/or benefits that could accrue to them as a result of participating.

Participation was voluntary and confidentiality was guaranteed. In addition, all participants signed a consent form. The researcher also assured the participants of the utmost safe-keeping of the raw data. The collected data would be kept in a cabinet at work and only the researcher would have access to it.

3.13 Conclusion

This chapter presented the research methodology and research design of the study. Measures taken to ensure validity and reliability were explained. The chapter also

describes the pilot study which was conducted as a fine-tuning tool for the research instrument. The next chapter presents data collected from participants, and gives a short statement of the findings at the end of each section.

This chapter presents the results of the study collected from a total sample of 50 participants at the Nairobi Airport Company drawn from eight airports and the head office. The findings are presented using tables and graphs, followed by a brief discussion. The chapter is divided into five sections: demographic characteristics, leadership factors, employee involvement factors, compliance factors and testing and interpretation of the questionnaire.

2.1.1 Population, Sample Size, and Response/Non-Response Rate

The population size in the study was 230, while the sample selected numbered 50. Out of the 50 questionnaires were distributed, and all questionnaires were returned. This constitutes a response rate of 100%, and a non-response rate of 0%.

2.1.2 Demographic Characteristics

2.1.2.1 Gender

The statistics for the responses of the respondents are presented in Figure 1.1.

CHAPTER 4 PRESENTATION AND ANALYSIS OF THE FINDINGS

4.1 Introduction

This chapter presents the results of the study collected from a total sample of 50 participants at the Namibia Airports Company, drawn from eight airports and the head office). The findings are presented using tables and graphs, followed by a brief discussion. There are five sections in this chapter (demographic characteristic, leadership factors, people involvement factors, competence factors and testing and interpretation of the hypothesis).

Population, Sample Size, and Response/Non-Response Rate

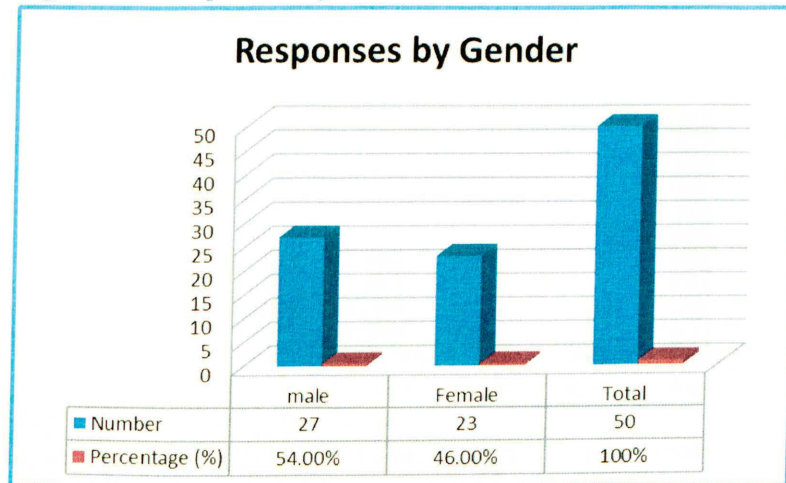
The population size in the study was 230, while the sample selected numbered 50. Accordingly, 50 questionnaires were distributed, and all questionnaires were returned. This represents a response rate of 100%, and a non-response rate of 0%.

4.2 Demographic Characteristics

4.2.1 Gender

The statistics for the responses of the respondents are presented in Figure 4.1

Figure 4.1 Responses by Gender

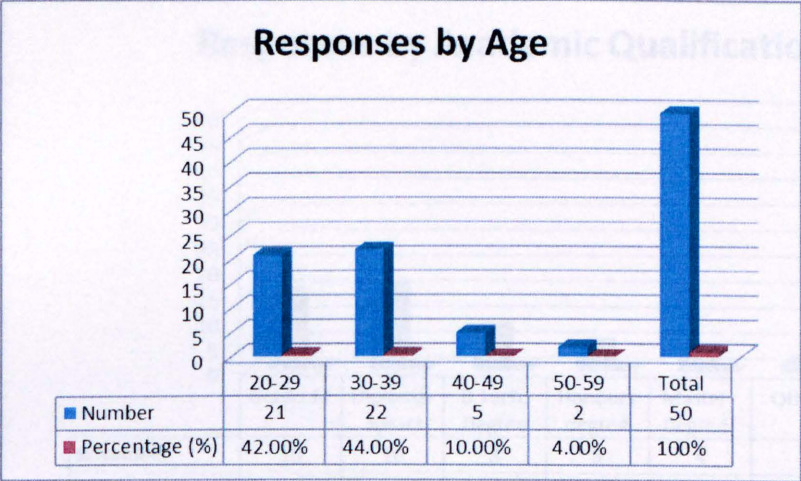


Out of the 50 respondents 27 (54%) were male and 23 (46) % were female from the Sampled target population of employees at the NAC Windhoek. This indicates that generally there were more male respondents for the study than females indicating the wide disparity between male and females in employment of this cadre at NAC.

4.2.2 Age

The responses on the respondents' by age category are presented in Figure 4.2 below

Figure 4.2 Responses by age.

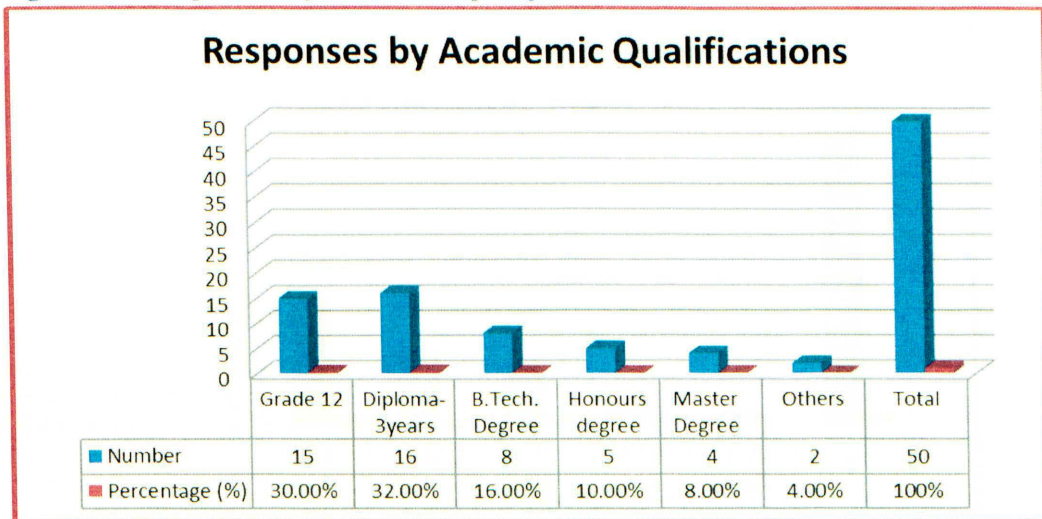


The age of the respondents lies between 20 and 59. The findings revealed that 7(14.00%) of the respondents were aged 40 year and 59. Forty-four percent and 42% were in the age categories of 30-39 and 20-29 respectively.

4.2.3 Academic qualifications

The level of academic qualification was obtained through a questionnaire. The statistics for the responses by academic qualification are presented in Figure 4.3 below.

Figure 4.3 Responses by academic qualifications

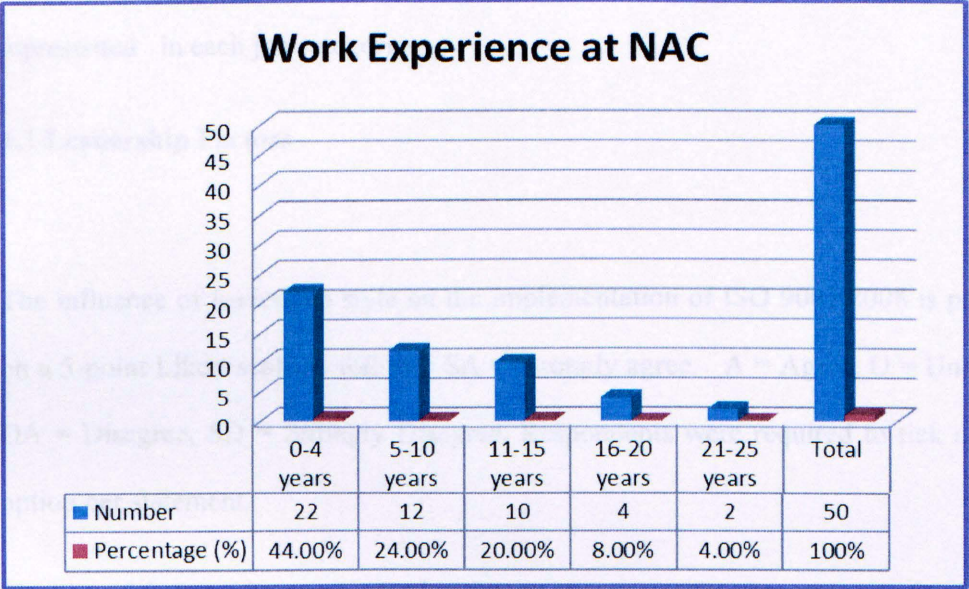


From Figure 4.3 above, it is evident that 11(22.00%) possessed postgraduate qualifications or better. Thirteen percent possessed Honours and B.Tech degrees. While 16(32.00%) were Diploma holders and 20 % were Honours degree holders. The evident qualification is in line with literature concept which states that person- job fit should emphasises matching people and jobs in terms of qualifications based on knowledge, skills and ability, (Edwards 2002). The educational qualification is important to this research as better understanding is of importance to obtain meaningful results.

4.2.4 Work experience at the NAC

The statistics for work experiences of the target population at NAC are presented in Figure 4.4 below

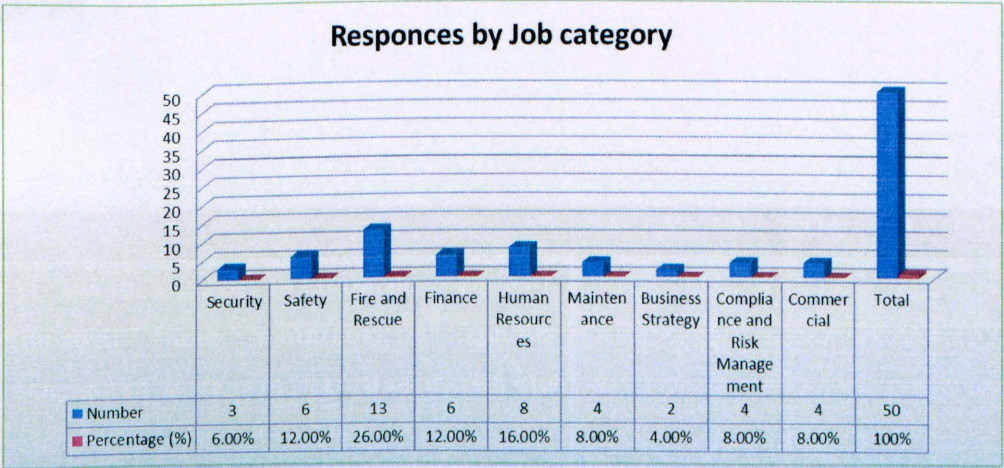
Figure 4.4 Work experiences of respondents at the NAC



4.2.5 Job category

The levels of job description of the respondents at NAC are presented in Figure 4.5 below

Figure 4.5 Responses by Job category



The findings on Figure 4.5 above seem to suggest that the respondents were fairly represented in each job categories

4.3 Leadership Factors

The influence of leadership style on the implementation of ISO 9001:2008 is presented on a 5-point Likert scale as follows: SA = Strongly agree, A = Agree, U = Undecided, DA = Disagree, SD = Strongly Disagree. Respondents were required to tick only one option per statement.

The aim of the questions on leadership factors was to test the general level of satisfaction of employees with current leadership with regard to the quality management system implementation. The purpose of the table below is to indicate the statements posed and how many respondents responded in affirmation or otherwise.

Table 4.1: Responses on the level of satisfaction of leadership style by employees (n=50)

Statement	SA	A	U	DA	SD	Total
NAC has the capacity to establish, document, implement and maintain a quality management system in accordance with the requirement of ISO 9001:2008.	6	24	11	9	0	50 (100%)
NAC top management has taken a considered decision for implementing ISO 9001 for	6	20	10	7	7	50 (100%)

organisational benefit and demonstrated commitment thereto.					
NAC is aware of the steps involved in the systematic development of a quality management system.	7	24	9	5	50 (100%)
NAC requires documents and records other than the six mandatory documented procedures and records as listed in the standard for ensuring effective, planning, operation and control of its processes.	6	12	18	8	50 (100%)
NAC's current leadership plays a pivotal role and fully committed to the implementation of ISO.	7	21	10	6	50 (100%)
NAC leadership (behaviour and values) greatly influence quality management culture.	10	13	12	9	50 (100%)
NAC's Top Management has clear and strong "customer focus", i.e. they know their customers' needs and expectations for the services that NAC renders.	8	16	8	11	50 (100%)
NAC's Top Management put in place a Quality Policy expressing overall intentions and directions related to quality.	6	10	22	8	50 (100%)
NAC carries out the planning of the quality management system.	6	18	13	6	50 (100%)
NAC's Top Management had identified a "management representative" from its own management to coordinate the activities of developing and implementing the quality management system.	6	17	14	7	50 (100%)

The NAC has the capacity to establish, document, implement and maintain a quality management system in accordance with the requirement of ISO 9001:2008

Six respondents strongly agreed that the NAC had the capacity to establish, document, implement and maintain a quality management system in accordance with the requirement of ISO 9001:2008. Twenty four participants agreed and eleven respondents were undecided. Nine disagreed and no-one strongly disagreed.

The NAC top management has taken a considered decision for implementing ISO 9001 for organisational benefit and demonstrated commitment thereto.

Six participants strongly agreed that the NAC top management had taken a considered decision for implementing ISO 9001 for organisational benefit and demonstrated commitment. Twenty agreed, while ten were undecided. Seven disagreed, and another seven strongly disagreed.

The NAC is aware of the steps involved in the systematic development of a quality management system.

Seven participants strongly agreed that the NAC was aware of the steps involved in the systematic development of a quality management system. Twenty-four agreed, while nine were undecided. Five disagreed, and another five strongly disagreed.

The NAC requires documents and records other than the six mandatory documented procedures and records as listed in the standard for ensuring effective, planning, operation and control of its processes.

Six respondents strongly agreed that the NAC required documents and records other than the six mandatory documented procedures and records as listed in the standard for ensuring effective, planning, operation and control of its processes. Twelve agreed, and eighteen were undecided. Eight disagreed, and six strongly disagreed.

The NAC's current leadership plays a pivotal role and is fully committed to the implementation of ISO.

Seven respondents strongly agreed that the NAC's current leadership played a pivotal role and was fully committed to the implementation of ISO. Twenty-one agreed, while ten were undecided. Six disagreed, and another six strongly disagreed.

The NAC leadership (behaviour and values) greatly influence quality management culture.

Ten participants strongly agreed that the NAC leadership (behaviour and values) greatly influenced quality management culture. Thirteen agreed, while twelve were undecided. Nine disagreed, and six strongly disagreed.

The NAC's top management has clear and strong "customer focus"; i.e. they know their customers' needs and expectations for the services that the NAC renders.

Eight participants strongly agreed that the NAC's top management had a clear and strong "customer focus", i.e. they knew their customers' needs and expectations for the services that the NAC rendered. Sixteen agreed and eight were undecided. Eleven disagreed, while eight strongly disagreed.

The NAC's top management put in place a quality policy expressing overall intentions and directions related to quality.

Six respondents strongly agreed that the NAC's top management had put in place a quality policy expressing overall intentions and directions related to quality. Ten agreed and twenty-two were undecided. Eight disagreed, while four strongly disagreed.

The NAC carries out the planning of the quality Management System.

Six participants strongly agreed that the NAC carried out the planning of the quality management system. Eighteen agreed, while thirteen were undecided. Six disagreed and seven strongly disagreed.

The NAC's top management identified a “management representative” from its own management to coordinate the activities of developing and implementing the quality management system.

Six strongly agreed that the NAC's top management had identified a “management representative” from its own management to coordinate the activities of developing and implementing the quality management system. Seventeen agreed, and fourteen were undecided. Seven disagreed and six strongly disagreed.

4.4 People Involvement Factors

Responses regarding the people involvement factors on implementation of ISO 9001:2008 are presented on a 5-point Likert scale as follows: SA = Strongly agree, A = Agree, U = Undecided, DA = Disagree, SD = Strongly Disagree. Respondents were required to tick only one option per statement.

The aim of the questions on people involvement factors was to gauge the respondents' perception on their involvement in the process of quality management system implementation. The statements and the responses from participants are presented in Table 4.2.

Table 4.2: Responses Employees perception of their involvement in the process of quality management systems implementation (n=50)

Statement	SA	A	U	DA	SD	Total
NAC determines the processes needed for the QMS and decides the interaction, including criteria for their effective operation and control.	6	11	19	9	5	50(100%)
NAC has a Quality Manual that describes the core elements of QMS and the interaction of various QMS processes.	6	16	11	10	7	50(100%)
The awareness training was effectively conducted for all employees.	6	18	10	7	9	50(100%)
The selection of quality champions was effectively and carefully executed.	6	15	15	8	6	50(100%)
NAC has what it takes to manage transitional change by involving people to have quality management accepted as a way of life at NAC.	8	19	8	9	6	50(100%)
NAC shares knowledge to ensure clear understanding and successful implementation of quality management system.	7	15	12	10	6	50(100%)
The decision to implement ISO at NAC and the process of implementation was communicated effectively using effective communication media.	6	13	15	11	5	50(100%)
NAC fosters teamwork and works with all staff for an effective quality management system implementation process.	7	15	10	13	5	50(100%)
My role as a quality champion is recognized and rewarded through continuous feedback and appreciation by management.	6	8	14	15	7	50(100%)
NAC has a clear defined organisational structure with levels of authority assigned to various functions and people.	6	19	8	11	6	50(100%)

Statement	SA	A	U	DA	SD	Total
NAC has an effective communication process that inform employees on how well the organisation is doing in achieving its objectives and other matters relating to quality.	7	16	8	10	9	50(100%)

The NAC determines the processes needed for the QMS and decides the interaction, including criteria for their effective operation and control.

Six respondents strongly agreed that NAC determined the processes needed for the QMS and decided the interaction, including criteria for their effective operation and control. Eleven agreed and nineteen were undecided. Nine disagreed, while five strongly disagreed.

The NAC has a Quality Manual that describes the core elements of QMS and the interaction of various QMS processes.

Six participants strongly agreed that the NAC had a Quality Manual that described the core elements of QMS and the interaction of various QMS processes. Sixteen agreed, while eleven were undecided. Ten disagreed and seven strongly disagreed.

The awareness training was effectively conducted for all employees.

Six respondents strongly agreed that the awareness training was effectively conducted for all employees. Eighteen agreed, while ten were undecided. Seven disagreed and nine strongly disagreed.

The selection of quality champions was effectively and carefully executed.

Six participants strongly agreed that the selection of quality champions was effectively and carefully executed. Fifteen agreed, while another fifteen were undecided. Eight disagreed and six strongly disagreed.

The NAC has what it takes to manage transitional change by involving people to have quality management accepted as a way of life at the NAC.

Eight participants strongly agreed that the NAC had what it takes to manage transitional change by involving people to have quality management accepted as a way of life at the NAC. Nineteen agreed, while eight were undecided. Nine disagreed and six strongly disagreed.

The NAC shares knowledge to ensure clear understanding and successful implementation of quality management system.

Seven respondents strongly agreed that the NAC shared knowledge to ensure clear understanding and successful implementation of quality management system. Fifteen agreed and twelve were undecided. Ten disagreed and six strongly disagreed.

The decision to implement ISO at the NAC and the process of implementation was communicated effectively using effective communication media.

Six respondents strongly agreed that the decision to implement ISO at NAC and the process of implementation was communicated effectively using effective communication media. Thirteen agreed and fifteen were undecided. Eleven disagreed, while five strongly disagreed.

The NAC fosters teamwork and works with all staff for an effective quality management system implementation process.

Seven participants strongly agreed that the NAC fostered teamwork and worked with all staff for effective quality management system implementation process. Fifteen agreed, while ten were undecided. Thirteen disagreed and five strongly disagreed.

My role as a Quality Champion is recognized and rewarded through continuous feedback and appreciation by management.

Six respondents strongly agreed that their roles as Quality Champions were recognised and rewarded through continuous feedback and appreciation by management. Eight agreed, while fourteen were undecided. Fifteen disagreed and seven strongly disagreed.

The NAC has a clearly defined organisational structure with levels of authority assigned to various functions and people.

Six participants strongly agreed that NAC had a clearly defined organisational structure with levels of authority assigned to various functions and people. Nineteen agreed, while eight were undecided. Ten disagreed and nine strongly agreed.

The NAC has an effective communication process that informs employees on how well the organisation is doing in achieving its objectives and other matters relating to quality.

Seven respondents strongly agreed that NAC had an effective communication process that informed employees on how well the organisation was doing in achieving its objectives and other matters relating to quality. Sixteen agreed, while eight were undecided. Ten disagreed and nine strongly disagreed.

4.5 Competence Factors

The influence of competence factors on implementation of ISO 9001:2008 is presented on a 5-point Likert scale as follows: SA = Strongly agree, A = Agree, U = Undecided,

DA = Disagree, SD = Strongly disagree. Respondents were required to tick only one option per statement.

The aim of the questions on competence factors was to gauge the respondents' perceptions on the ability of the team to carry out activities that would ensure effective quality management system implementation. The statements and the responses from participants are presented in Table 4.3 below.

Table 4.3: Responses on employees perceptions on the ability of the team to implement effective quality management systems (n=50)

Statement	SA	A	U	DA	SD	Total
NAC has documented procedures for control of documents, control of records, internal audit, control of nonconforming product, corrective action, and preventive action, that describe how these six processes and their related work activities are performed.	7	11	19	8	5	50(100%)
NAC (management and staff) is reluctant to implement and live the ideal of ISO.	6	8	23	6	7	50(100%)
Sufficient resources (funds and personnel) are allocated to a quality management system and are effectively utilised.	6	9	19	10	6	50(100%)
The selected quality champions have the discipline, attitude and willpower to successfully complete the implementation as per the plan.	8	11	19	6	6	50(100%)
The quality champions and relevant personnel are empowered to work independently to make the roll-out of this plan a resounding success.	6	11	20	7	6	50(100%)

Statement	SA	A	U	DA	SD	Total
I am empowered with the necessary skills, knowledge (competence) to drive the quality management process.	6	10	8	19	7	50(100%)
I command the understanding of ISO processes.	7	13	15	9	6	50(100%)
NAC has clear defined and measurable quality objectives that support your Quality Policy.	6	13	15	9	7	50(100%)
Employees are competent to perform assigned tasks and duties.	9	19	8	7	7	50(100%)

The NAC has documented procedures for control of documents, control of records, internal audit, control of nonconforming product, corrective action, and preventive action, that describe how these six processes and their related work activities are performed.

Seven respondents strongly agreed that NAC had documented procedures for control of documents, control of records, internal audit, control of nonconforming product, corrective action, and preventive action, that described how these six processes and their related work activities were performed. Eleven agreed, while nineteen were undecided. Eight disagreed and five strongly disagreed.

The NAC (management and staff) is reluctant to implement and live the ideal of ISO.

Six respondents strongly agreed that NAC (management and staff) was reluctant to implement and live up to the ideal of ISO. Eight agreed, but twenty-three were undecided. Six disagreed and seven strongly disagreed.

Sufficient resource (funds and personnel) are allocated to a quality management system and are effectively utilized.

Six participants strongly agreed that sufficient resource (funds and personnel) were allocated to a quality management system and were effectively utilised. Nine agreed, while nineteen were undecided. Ten disagreed and six strongly disagreed.

The selected quality champions have the discipline, attitude and willpower to successfully complete the implementation as per the plan.

Eight respondents strongly agreed that the selected quality champions had the discipline, attitude and willpower to successfully complete the implementation as per the plan. Eleven agreed, while nineteen were undecided. Six disagreed, and the remaining six strongly disagreed.

The quality champions and relevant personnel are empowered to work independently to make the roll-out of this plan a resounding success.

Six participants strongly agreed that the quality champions and relevant personnel were empowered to work independently to make the roll-out of the plan a resounding success. Eleven agreed, but twenty were undecided. Seven disagreed and six strongly disagreed.

I am empowered with the necessary skills, knowledge (competence) to drive the quality management process.

Six respondents strongly agreed that they were empowered with the necessary skills, knowledge (competence) to drive the quality management process. Ten agreed, while eight were undecided. Nineteen disagreed and seven strongly disagreed.

The understanding of ISO processes

Seven respondents strongly agreed that they commanded the understanding of the ISO processes. Thirteen agreed, and fifteen were undecided. Nine disagreed and six strongly disagreed.

The NAC has clear defined and measurable quality objectives that support your Quality Policy.

Six respondents strongly agreed that NAC had clear defined and measurable quality objectives that supported the Quality Policy. Thirteen agreed, while fifteen were undecided. Nine disagreed and seven strongly disagreed.

Employees are competent to perform assigned tasks and duties.

Nine participants strongly agreed that employees were competent to perform assigned tasks and duties. Nineteen agreed, while eight were undecided. Seven disagreed, and the remaining seven strongly disagreed.

4.6 Testing and Interpretation of the Hypotheses

The study tested six hypotheses as listed below. There were two hypotheses for each of the three main themes:

- Leadership Factors
- Employees Involvement factors
- Competence factors

With the following hypotheses:

H₁: The NAC has the capacity to establish, document, implement and maintain a quality management systems in accordance with the requirement of ISO 9001:2008 will be no association between the NAC leadership and quality management culture.

H₂: the NAC's Top Management had identified a "management representative" from its own management to coordinate the activities of developing and implementing the Quality Management System.

H3: The NAC has an effective communication process that inform employees on how well the organisation is doing in achieving its objectives and other matters relating to quality will be no association between competence and effective implementation of quality management.

H4: The NAC has a clear defined organisational structure with levels of authority assigned to various functions and people

H5: The NAC has documented procedures for control of documents; control of records; internal audit; control of nonconforming product; corrective action; and preventive action, that describe how these six processes and their related work activities are performed.

H6: The NAC has clear defined and measurable quality objectives that support the competence and effective implementation of quality management.

The six hypotheses were tested and discussion and interpretations of the hypotheses are presented.

4.6.1 Leadership factors

Hypothesis 1 (Null Hypothesis)

The NAC do not have the capacity to establish, document, implement and maintain a quality management system in accordance with the requirement of ISO 9001:2008.

To test this hypothesis, the Chi- Square (χ^2) test of goodness of fit is employed. The formula is as follows:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where;

O= The observed frequency of any value

E= Expected frequency of any value

$$E = 50 \div 5 = 10$$

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.4

Table 4.4: Hypothesis 1

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	6	10	-4	16	1.6
A	24	10	14	196	19.6
U	11	10	1	1	0.1
D	9	10	-1	1	0.1
SD	0	10	-10	100	10
Total	50				31.40

From Table 4.4 above the calculated Chi- Square value is 31.40

Degree of freedom (DF) = (Rows-1) (Columns-1)

$$= (5-1) (2-1)$$

$$= 4$$

Number of rows = 5 (5 horizontal rows of response)

Number of columns = 2 (1 for response and 1 for no response)

The Chi Square table value at $\alpha = 0.05$ and 4 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 31.40 is greater than the table value of 9.49. Therefore, we reject the null hypothesis and accept the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is a significant relationship between leadership style and quality management culture.

Hypothesis 2

The NAC Top Management has not taken a considered decision for implementing ISO 9001 for organisational benefit and demonstrated commitment thereto

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.5

Table 4.5: Hypothesis 2

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	6	10	-4	16	1.6
A	20	10	10	100	10
U	10	10	0	0	0
D	7	10	-3	9	0.9
SD	7	10	-3	9	0.9
Total	50				13.4

From Table 4.5, the calculated Chi- Square value is 13.40

Degree of freedom (DF) = (Rows-1) (Columns -1)

$$= (5-1) (2-1)$$

$$=4$$

Number of rows = 5 (5 horizontal rows of response)

Number of columns =2(1 for response and 1 for no response)

The Chi Square table value at alpha =0.05 and 3 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 13.40 is greater than the table value of 9.49. Therefore we reject the null hypothesis and accept the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is a significant relationship between leadership style and quality management culture.

Hypothesis 3. The NAC's current leadership do not play a pivotal role and fully committed to the implementation of ISO.

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.6

Table 4.6: Hypothesis 3

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	7	10	-3	9	0.9
A	21	10	11	121	12.1

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
U	10	10	0	0	0.00
D	6	10	-4	16	1.6
SD	6	10	-4	16	1.6
Total	50				16.20

From Table 4.6, above the calculated Chi- Square value is 16.40

Degree of freedom (DF) = (Rows-1) (Columns-1)

$$= (5-1) (2-1)$$

$$= 4$$

Number of rows = 5 (5 horizontal rows of response)

Number of columns =2(1 for response and 1 for no response)

The Chi Square table value at alpha =0.05 and 3 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 16.20 is greater than the table value of 9.49. Therefore we reject the null hypothesis and accept the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is a significant relationship between leadership style and quality management culture.

4.6.2 People involvement factors

Hypothesis 4 (Null Hypothesis)

The NAC do not foster teamwork and work with all staff for effective quality management system implementation process.

To test this hypothesis, the Chi- Square (χ^2) test of goodness of fit is employed. The formula is as follows:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where;

O= The observed frequency of any value

E= Expected frequency of any value

$$E = 50 \div 5 = 10$$

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.7

Table 4.7: Hypothesis 4

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	7	10	-3	9	0.9
A	15	10	5	25	2.5
U	12	10	2	4	0.4
D	10	10	0	0	0
SD	6	10	-4	16	1.6
Total	50				5.40

From Table 4.7 above, the calculated Chi- Square value is 5.40

Degree of freedom (DF) = (Rows-1) (Columns-1)

$$= (5-1) (2-1)$$

$$=4$$

Number of rows = 4 (4 horizontal rows of response)

Number of columns =2 (1 for response and 1 for no response)

To test the significance at $\alpha = 0.05$

The Chi Square table value at $\alpha = 0.05$ and 4 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 5.40 is less than the table value of 9.49. Therefore we accept the null hypothesis and reject the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is no significant relationship between teamwork and effective implementation quality management.

4.6.3 Competence factors

Hypothesis 5 (Null Hypothesis)

There is no significant relationship between competence and effective implementation of quality management.

To test this hypothesis, the Chi- Square (χ^2) test of goodness of fit is employed. The formula is as follows:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where;

O= The observed frequency of any value

E= Expected frequency of any value

$$E = 50 \div 5 = 10$$

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.8

Table 4.8: Hypothesis 5

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	7	10	-3	9	0.9
A	15	10	5	25	2.5
U	10	10	0	0	0.0
D	13	10	3	9	0.9
SD	5	10	-5	25	2.5
Total	50				6.80

From Table 4.8 above, the calculated Chi- Square value is 6.80.00

Degree of freedom (DF) = (Rows-1) (Columns-1)

$$= (5-1) (2-1)$$

$$=4$$

Number of rows = 5 (4 horizontal rows of response)

Number of columns =2(1 for response and 1 for no response)

The Chi Square table value at $\alpha = 0.05$ and 4 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 6.80 is less than the table value of 9.49. Therefore we accept the null hypothesis and reject the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is no significant relationship between competence and effective implementation of quality management.

Hypothesis 6 (Null Hypothesis)

There is no significant relationship between competence and effective implementation of quality management.

To test this hypothesis, the Chi- Square (χ^2) test of goodness of fit is employed. The formula is as follows:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where;

O= The observed frequency of any value

E= Expected frequency of any value

$$E = 50 \div 5 = 10$$

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.9.

Table 4.9: Hypothesis 6

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	7	10	-3	9	0.9
A	11	10	1	1	0.1
U	19	10	9	81	8.1
D	8	10	-2	4	0.4
SD	5	10	-5	25	2.5
Total	50				12.00

From Table 4.9 above, the calculated Chi- Square value is 12.00

Degree of freedom (DF) = (Rows-1) (Columns-1)

$$= (5-1) (2-1)$$

$$=4$$

Number of rows = 5 (4 horizontal rows of response)

Number of columns =2(1 for response and 1 for no response)

The Chi Square table value at $\alpha = 0.05$ and 4 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 12.00 is greater than the table value of 9.49. Therefore we reject the null hypothesis and accept the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is a significant relationship between competence and effective implementation of quality management.

Hypothesis 7

There is no significant relationship between competence and effective implementation of quality management.

To test this hypothesis, the Chi- Square (χ^2) test of goodness of fit is employed. The formula is as follows:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where;

O= The observed frequency of any value

E= Expected frequency of any value

$$E = 50 \div 5 = 10$$

There are 50 respondents and five response options (Strongly Agreed (= SA), Agreed (= A), Undecided (= U), Disagreed (= DA) and Strongly disagreed (= SD) as presented in Table 4.9

Table 4.10: hypothesis 7

Response	O	E	O-E	$(O - E)^2$	$\frac{(O - E)^2}{E}$
SA	9	10	-1	1	0.1
A	19	10	9	81	8.1
U	8	10	-2	4	0.4

D	7	10	-3	9	0.9
SD	7	10	-3	9	0.9
Total	50				10.40

From Table 4.10 above, the calculated Chi- Square value is 10.40

Degree of freedom (DF) = (Rows-1) (Columns-1)

$$= (5-1) (2-1)$$

$$=4$$

Number of rows = 5 (4 horizontal rows of response)

Number of columns =2(1 for response and 1 for no response)

The Chi Square table value at alpha =0.05 and 4 degree of freedom is 9.49

Decision Rule/Criterion

When the calculated Chi- Square value is greater than the table value, we reject the null hypothesis (H_0) and accept the alternative hypothesis. If the calculated Chi- Square value is less than the table value, we accept the null hypothesis.

Interpretation

From the above calculation, the Chi- Square computed value of 10.40 is greater than the table value of 9.49. Therefore we reject the null hypothesis and reject the alternative hypothesis.

Conclusion

Based on the interpretation, it is evident that there is a significant relationship between competence and effective implementation of quality management.

4.7 Conclusion

This chapter presented the questionnaire results from the study. Data was presented using tables and graphs. A short discussion of the results was given after each presentation. The general conclusion is that human factors contribute significantly to the successful implementation of a quality management system. The next chapter will discuss the findings, and will link the findings to the literature.

CHAPTER 5: DISCUSSION OF FINDINGS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the research findings, and links these findings to the contemporary literature in order to determine whether the results support or contradict the findings reported in the available literature.

5.2 Discussion of Findings

5.2.1 Demographic characteristics

With regard to the demographic factors, 54% of participants were male, as compared to 46% who were female. Of the participants, 42% were between 20 - 29 years, 44% between the ages of 30 -39, and 10% between the ages of 40 - 49, while 4% of the respondents were in the age category of 50 - 59.

The academic qualification of the participants varied from Grade 12 to a Master's degree level. Thirty percent of the respondent had a Grade 12 level of education, 32% had a 3-year diploma, 16% had obtained a B-Tech degree, and 10% were at Honours level and 8% at Master's degree level.

Respondents were well experienced, with 44% boasting 0 - 4 years of work experience in the NAC, while 24% had 5 - 10 years' experience, 20 % had 11 - 15 years, 8% had 16 - 20 years, and 4% had 21 - 25 years of NAC experience.

The job categories of the respondents were as follows:

#	Job Category	%
(i)	Security	6
(ii)	Safety	12
(iii)	Fire and Rescue	26
(iv)	Finance and Procurement	12
(v)	Human Capital and Administration	16
(vi)	Maintenance	8
(vii)	Business Strategy	4
(viii)	Risk and Compliance	8
(ix)	Commercial Service	8

The demographic factors show that young and middle-aged employees participated more than older employees. It is to be hoped that this younger age group may drive the implementation going forward, especially those who are in management. The majority of the respondents (32%) had a post Grade 12 qualification, and thus a better understanding

of operation and compliance matters. Similarly, a significant number of participants had extensive work experience at the NAC, ranging between 11 and 16 years.

5.2.2 Leadership factors

The majority of the respondents agreed with the statements on leadership factors in the study. This indicates a strong relationship between leadership (behaviour and values) and quality management culture. This assertion is fully confirmed by the hypothesis.

5.2.3 People involvement factors

The majority of the respondents agreed with the statements of the study on people involvement factors. This therefore confirms the hypothesis that there is a strong relationship between teamwork and effective implementation of a quality management system.

5.2.4 Competence factors

The majority of the respondents were undecided as to whether or not there was a relationship between competence (knowledge and skill) and a quality management drive. This is however contrary to the outcome of the study, which confirms the opposite.

5.3 Summary

From this study, it can be inferred that human factors (leadership, people involvement and competence) are key to the implementation of a quality management system. Human factors are independent variables, but an effective and successful implementation of the dependent variable, a quality management system, cannot be achieved without them.

The findings further revealed that there is general consensus with regard to all three variables (leadership, people involvement, and competence) that human factors are key to quality management implementation. The majority of ratings in this regard range between 'strongly agree' and 'agree', followed by 'undecided'. 'Disagree' and 'strongly disagree' ratings were in the minority.

5.4 Conclusion

An effective quality management system with clear standard operating procedures (both mandatory and operational or organisational specific) is key to efficient operation at the NAC. However, for this to be realised, the human factors should be taken into consideration. This is very important in that it forms a psychological contract between the employer and employee, both rationally and emotionally. Rational engagement fulfils the expectations of the employees by clearly supporting their roles in the provision of quality service. This ensures that employees' morale and motivation is boosted, resulting in

greater commitment. Apart from establishing, documenting, implementing, and maintaining a quality management system and continually improving effectiveness, the NAC had earned employee commitment and loyalty by satisfying rational engagement.

Similarly, emotional engagement or cognitive aspects of the employee, such as career advancement opportunities, quality of supervision and leadership provided, and input into decision making, can be equally satisfied.

5.5 Recommendations

The study was confined to the NAC, and dealt with only one aviation institution; thus, the extent of the problem on national and regional levels was not determined, and there may be more suggestions that could assist the NAC to improve in dealing with human factors in ensuring successful implementation of a quality management system.

The researcher therefore recommends the following:

- Leadership should adopt a quality management culture, not only in theory but in day-to-day practice
- To attain excellent people involvement, the NAC should share knowledge continuously to ensure a clear understanding and successful implementation of the quality management system.

- The NAC should foster teamwork and work with all staff for the success of the system.
- The NAC should appreciate that ISO is an expensive programme, and that sufficient resources (both funds and personnel) should therefore be allocated for effective roll-out of the programme.
- Staff members should be continuously trained, since standards change and are reviewed fairly rapidly, as informed by new developments and technological advancement.

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APPEDICES

Appedix 1: Letter requesting permission to Namibia Airports Company

The Chief Executive Officer
Namibia Airports Company
P O Box 23061
Windhoek

Dear Mr. Tamer El – Kallawi,

I Am an MBA Student candidate from the University of Namibia. I am currently conducting research on an investigation into the difficulties affecting the implementation of ISO 9001:2008: Namibia Airports Company (NAC), Windhoek, Namibia. This study is fully endorsed by the University of Namibia Management and my supervisors DR SE AKPO. The findings would benefit the Namibia Airports Company (NAC), Directorate of Civil Aviation (DCA), and aviation fraternity in general. Results from this study will assist in ensuring effective implementation of ISO 9001:2008 and compliance attainment at NAC. **Your participation will form a critical part of the study.** To assist in my research, I therefore would like to invite you to participate in this study. The survey study would require 20 minutes. The sharing of your knowledge and experience as you answer the questionnaire will be valuable to me and as such will be treated with the **strictest confidence**. No reference will be made to any individual and the information will be reported in an aggregated form. A summary of my findings will be provided upon your request. If you have any queries, please do not hesitate to contact me.

I thank you in advance for your assistance and consideration

Yours sincerely,

Olavi Hamwele (201310830)

MBA Candidate: Namibia Business School – University of Namibia

Appendix 2: Consent Form

RESEARCH STUDY: AN INVESTIGATION INTO THE DIFFICULTIES AFFECTING THE IMPLEMENTATION OF ISO 9001:2008: NAMIBIA AIRPORTS COMPANY (NAC)

CONSENT AGREEMENT FOR THE INTERVIEW

I am an MBA Student from the University of Namibia. The aim of this study is to investigate the difficulties affecting the implementation of ISO 9001:2008: Namibia Airports Company (NAC), Windhoek, Namibia. You can help in this study by consenting to complete an interview questionnaire. As a participant you will be asked to express your expert opinion and judgement on the difficulties affecting the implementation of ISO 9001:2008: Namibia Airports Company (NAC). Appendix 1 describes the procedure. The survey will require approximately 20-30 minutes and the data collection would occur over a two month period, commencing on the day I start.

If you are willing to participate in this study, please complete the details below:

I understand that I am free to withdraw my consent and discontinue my participation at any time without prejudice. I also understand that all materials in this study are confidential. I agree that the research data gathered for this study may be published, provided that neither my company nor I are identified.

Name of Participant: -----

Signed: -----

Date: -----

Researcher: Olavi Hamwele (201310830)

Signed: -----

Appendix 3: Quantitative Questionnaire

QUANTITATIVE QUESTIONNAIRE

The questionnaire is divided into four sections. The specifics information in each section is detailed below as follows: Demographic Information, Leadership Factors, People Involvement Factors and Competence Factors.

1. Demographic Characteristics

1.1 Gender

Please tick your gender in the appropriate box

Gender	Please tick here
Male	
Female	

1.2 Age

Please tick your age category in the appropriate box. Please tick only one option

Age Category	Please tick Only one category
20- 24	
25-29	
30-34	

Age Category	Please tick Only one category
35-39	
40-44	
45-49	
50-54	
55-59	
60-64	
65-69	
70-74	
75 -79	
80 and above	

1.3 Academic Qualifications

Please tick your academic qualifications in the appropriate box. You may tick more than one option.

Academic qualification	Number
Less than Grade 12	

Grade 12	
Diploma-3years	
B.Tech. Degree	
Honours degree	
Master Degree	
Others	

1.4 Work experience

Please tick your work experience category in the appropriate box. Please tick only one option

Work experience at NAC	Please tick only one category here
0-4 Years	
5-10 Years	
11-15	
16-20	
21-25	
26-30	

1.5 Job category

Please tick your job category at NAC

Job description	Pease tick only one option here
Security	
Safety	
Fire and Rescue	
Finance	
Human Resources	
Maintenance	
Business Strategy	
Compliance and Risk Management	
Commercial	

Read the questions thoroughly and give your rating on a 5-point Likert scale as follows:

SA	Strongly Agree
A	Agree

U	Undecided
DA	Disagree
SD	Strongly Disagree

2. Leadership Factors

Statement	SA	A	U	DA	SD	Total
2.1 NAC has the capacity to establish, document, implement and maintain a Quality Management System in accordance with the requirement of ISO 9001:2008.						
2.2 NAC Top Management has taken a considered decision for implementing ISO 9001 for organizational benefit and demonstrated commitment thereof.						
2.3 NAC is aware of the steps involved in the systematic development of a Quality Management System.						
2.4 NAC requires documents and records other than the six mandatory documented procedures and records as listed in the standard for ensuring effective, planning, operation and control of its processes.						
2.5 NAC's current leadership plays a pivotal role and fully committed to the implementation of ISO.						

Statement	SA	A	U	DA	SD	Total
2.6 NAC leadership (behaviour and values) greatly influence quality management culture.						
2.7 NAC's Top Management has clear and strong "customer focus", i.e. they know their customers' needs and expectations for the services that NAC renders.						
2.8 NAC's Top Management put in place a Quality Policy expressing overall intentions and directions related to quality.						
2.9 NAC carries out the planning of the Quality Management System.						
2.10 NAC's Top Management had identified a "management representative" from its own management to coordinate the activities of developing and implementing the Quality Management System.						

3. People Involvement Factors

Statement	SA	A	U	DA	SD	Total
3.1 NAC determines the processes needed for the QMS and decides the interaction, including criteria for their effective operation and control.						

Statement	SA	A	U	DA	SD	Total
3.2 NAC has Quality Manual that describes the core elements of QMS and the interaction of various QMS processes.						
3.3 The awareness training was effectively conducted for all employees.						
3.4 The selection of quality champions was effectively and carefully executed.						
3.5 NAC has what it takes to manage transitional change by involving people to have quality management accepted as a way of life at NAC.						
3.6 NAC share knowledge to ensure clear understanding and successful implementation of Quality Management System.						
3.7 The decision to implement ISO at NAC and the process of implementation was communicated effectively using the effective communication media.						
3.8 NAC foster teamwork and work with all staff for effective Quality Management System implementation process.						
3.9 My role as a Quality Champion is recognized and rewarded through continuous feedback and appreciation by management.						

Statement	SA	A	U	DA	SD	Total
3.10 NAC has a clear defined organizational structure with levels of authority assigned to various functions and people.						
3.11 NAC has an effective communication process that inform employees on how well the organization is doing in achieving its objectives and other matters relating to quality.						

4. Competence Factor

Statement	SA	A	U	DA	SD	Total
4.1 NAC has documented procedures for control of documents; control of records; internal audit; control of nonconforming product; corrective action; and preventive action, that describe how these six processes and their related work activities are performed.						
4.2 NAC (management and staff) is reluctant to implement and live the ideal of ISO.						
4.3 Sufficient resource (funds and personnel) are allocated to Quality Management System and are effectively utilized.						
4.4 The selected quality champions have the discipline, attitude and will power to successfully complete the implementation as per the plan.						

4.5	The quality champions and relevant personnel are empowered to work independently to make the roll out of this plan a resounding success.						
4.6	I am empowered with the necessary skills, knowledge (competence) to drive the quality management process.						
4.7	I command the understanding of ISO processes.						
4.8	NAC has clear defined and measurable quality objectives that support your Quality Policy.						
4.9	Employees are competent to perform assigned tasks and duties.						

THANK YOU FOR YOUR TIME