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**An investigation into the  
difficulties affecting the  
adoption of ISO 9000, a  
Quality Management  
System, in Libyan service  
and manufacturing  
industries**

**ANWAR SALIH ALI AL-MIJRAB**

**DBA**

**2010**

**AN INVESTIGATION INTO THE DIFFICULTIES AFFECTING THE  
ADOPTION OF ISO 9000, A QUALITY MANAGEMENT SYSTEM, IN  
LIBYAN SERVICE AND MANUFACTURING  
INDUSTRIES**

ANWAR SALIH ALI AL-MIJRAB

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## **ABSTRACT**

During the last two decades there has been a continuous increase in the number of developing countries which have implemented ISO 9000 as their national quality standard, as well as a continual rise in the number of companies within these developing countries who identified the ISO 9000 standard as a strategic management tool essential for effective control and best business practice. The main purpose of this research was to investigate and analyse the difficulties that affect the adoption of ISO 9000, a quality management system, in Libyan Service and Manufacturing Industries where the participating organisations ranged in size from small to large and included both service and manufacturing sectors. A review of the literature revealed a major gap in research in this area of quality management system. The findings of this thesis summarise the results from face to face semi-structured interviews conducted within Libyan Service and Manufacturing Industries, using template analysis to analyse the data from the case study the findings have possible implications for the Libyan government, the LSMI, Libyan experts and quality managers. The adoption of the ISO 9001:2000 QMS standards will develop the documentation of products and processes within the company and will hopefully produce trade benefits. The communication of the results of the current study will empower Arabic and developing countries to understand the benefits that can be attained from ISO 9001:2000 QMS certification and information garnered from examining the barriers could be used to eradicate any further problems therefore ensuring successful implementation. The distribution of the current study results by the LSMI, will lead to knowledge transfer and help organisations, among Arabic and developing countries, in the process of achieving standardisation. The research adds knowledge to the field of quality management systems (ISO 9000 in particular) within the context of developing countries, focusing on Libya, and makes a contribution that adds to the limited literature on this subject. In particular, the research fills the gap in knowledge in this area which is explicit to Libya. It is hoped by the researcher that his findings can be used in the future to assist Libyan service and manufacturing industries understand the importance of Quality Management (QM) practices, eradicate the difficulties in the adoption process and help those organisations to deal with domestic customers and to serve the local market in addition to helping the LSMI find a place in the international market by adopting ISO 9000 standards.

**Keywords:** Libya; ISO 9001:2000; QMS; Reasons; Benefits; Barriers; LSMI; LNCSM.

## **DECLARATION**

I declare that this work has not previously been accepted in substance for any degree and is not being concurrently submitted for any other degree. I further declare that this thesis is the result of my own independent work and investigation.

I also declare that I have acknowledged all sources used and assistance received in preparing this thesis.

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Signature:

Date: **5<sup>th</sup> AUGUST 2010**

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## ABBREVIATIONS

ISO	International Organisation for Standardisation
QMS	Quality Management System
LSMI	Libyan Service and Manufacturing Industries
LNCSM	Libyan National Centre for Standardisation and Metrology
ISO 9000	Quality Management System
TQM	Total Quality Management
DBA	Doctor of Business Administration
BPE	Business Process Engineering
SPC	Statistical Process Control
ATTG	Arabic Translation Task Group
SQM	Strategic Quality Management
PDSA	Plan-Do-Study-Act
PDCA	Plan-Do-Check-Act
COQ	Cost Of Quality

## Chapter 1: Introduction

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### 1.0 Introduction

The purpose of this thesis is to demonstrate an understanding gained in the area of the difficulties affecting and challenges arising during implementation of ISO 9000, Quality Management System (QMS), in Libyan Service and Manufacturing Industries. The aim of this chapter is to introduce and provide an overview of the research. It briefly explains the history and theory of the quality movement, moving on to the significance of the research, research problem, research purpose and motivations, aims and objectives, research questions, and research methodology. The chapter also provides the overall structure of the thesis.

In this thesis ISO 9000 is referred to as ISO 9000 and ISO 9001:2000, this will be discussed in chapter two.

### 1.1 The history of the quality movement

‘What does Quality mean?’

*“If you were to ask quality experts or gurus to define ‘quality’, it is likely that you would receive many different answers, although you would elicit a set of common or comparable themes, such as ‘Fitness for purpose’, ‘Right first time’, ‘What the customer wants’, ‘Conformance to standards’, ‘Value for money’, ‘Right thing at the right time’ and so on. A basic reason for differing perceptions of quality is arguably that each person has his or her own set of individual preferences” (Basu, 2004, p.4).*

Since its emergence in the last five decades, quality has remained a major focus in management thinking (Beckford, 2010). Quality techniques were first used in early times. Four thousand years ago, the Egyptians measured the rocks used in their pyramids, then the Greek and Romans measured buildings and aqueducts to ensure they conformed to requirements (Hutchins, 1991).

The growth in the modern quality movement occurred in the period between the two world wars. In the early 1900s to 1920s statistical theory was pioneered along with the beginning of factory production, the final products were inspected for the purpose of accepting or rejecting the same (Coopers and Lybrand and EFQM, 1994-5), where for the first twenty years quality control and enhancing the techniques of technical inspection were at the forefront.

In 1924, Walter A. Shewhart of Bell Telephone Laboratories introduced “Statistical Process Control (SPC)” or in other words “Control Charts” in order to keep a control over production and in 1931, Shewhart published his landmark work “Economic Control of Quality of Manufactured Product” (Besterfield, 2004). Shewhart was a statistician who developed the theory that product control could best be managed by statistics. While these techniques were applied effectively to quality control, little use was made of them in manufacturing companies until the late 1940s (Besterfield, 2004).

During the years immediately following the Second World War the importance of quality control markedly increased. In the western world manufacturing focused on productivity, in fact, markets were so starved of products, and with increasing economic wealth, the U.S. had no difficulty selling everything they produced. Organisations with unfulfilled demand were under no pressure to focus on the quality of their product, which resulted in less focus on quality control. U.S. manufacturing became complacent, thinking that they could sell any product and that the consumer did not demand quality (Beckford, 2010).

In 1946, the ‘American Society for Quality’ was founded. This organisation, through its publications, conferences, and training sessions, has promoted the use of quality control for all types of production and service (Besterfield, 2004). Shortly after World War II ended in 1946,

*“Delegates from 25 countries met in London and decided to create a new international organisation, of which the object would be ‘to facilitate’ the international coordination and unification of industrial standards”. The International Organisation for Standardisation (ISO), officially began operations on 23 February 1947, Based in Geneva, Switzerland, it created the first international standards for manufacturing, trade and communications” (ISO, 2010).*

The circumstances in Japan were just the opposite post World War II. After the devastation caused by the Second World War, Japan was focused on rebuilding its means of production. In addition, Japanese manufacturers needed to counteract the poor reputation they had that products "made in Japan" were of low quality.

From the early 1950s, Japan began focusing on serious quality efforts. Japanese teams travelled abroad to visit foreign countries to learn how other countries managed quality, and they invited foreign experts to lecture in Japan on quality management. Two of these foreign experts who went to Japan were Americans W. Edward Deming and Joseph M. Juran. Deming, who learned statistical quality control from Shewhart, gave a series of lectures on statistical methods to Japanese engineers and on quality responsibility to the largest organisations in Japan. Juran made his first trip to Japan in 1954 and further emphasized management's responsibility to achieve quality. They each had a profound influence on the Japanese quality movement. Other notable 'Quality Gurus' include western gurus Philip Crosby, Tom Peters and Armand V. Feigenbaum who was the originator of 'total quality control'. The Japanese Gurus are Kaoru Ishikawa and Genichi Taguchi (Mills, Dye and Mills, 2009; Foster, 2007; Basu, 2004; Besterfield, 2004). There have been three groups of quality gurus since the 1940s.

**“Early 1950s** Americans who took messages of quality to Japan



**Late 1950s** Japanese who developed new concepts in response to the Americans



**1970s -1980s** Western gurus who followed the Japanese industrial success”

**Source:** Adopted from DTI (2003, p.5).

Table 1.1 presents a brief introduction to each of these 'quality gurus' and their contribution to quality theory.

**Table 1.1 - Quality Movement and contribution to Quality Theory**

Quality Gurus	Contribution to Quality Theory
W. Edward Deming	<ul style="list-style-type: none"> <li>• “In 1920s, Deming worked in Western Electric Hawthorne plant. Trained in engineering and mathematical physics at University of Wyoming and Yale University, he comes to know Walter Shewhart, who influenced his thinking about improving quality through the use of statistics.</li> <li>• During World War II he worked with U.S. defense contractors to use statistics to identify systematic quality problems occurring within defense-related products.</li> <li>• He gives numerous speeches, workshops, and did a considerable amount of consulting in Japan and over the world.</li> <li>• Deming’s philosophy was to establish the best current practices within an organisation, establish the best practice as standard procedure, and train the workers in the best way.</li> <li>• His <b>14 point</b> plan is complete philosophy of management, which can be applied to small or large organisations in the public, private or service sectors. The PDCA or PDSA cycle is also known as Deming Cycle.</li> <li>• <b>Demining Prize</b>, this award has been given out every year since its inception in 1950, by Japanese at the annual quality awards and was named in his honour</li> <li>• He was widely accepted as the world’s preeminent authority on quality management prior to his death on December 24, 1993”.</li> </ul>
Joseph M Juran	<ul style="list-style-type: none"> <li>• “During his career he was the quality <b>manager</b> at Western Electric Company, a government administrator and professor of engineering.</li> <li>• He began consulting in 1950 on his ‘Cost of Quality’ approach.</li> <li>• Lectured and consulting in Japan.</li> <li>• Developed the quality trilogy-quality planning, quality control and quality improvement.</li> <li>• Juran was the first guru to emphasize that quality was achieved by communication.</li> <li>• The <b>project-by-project</b> approach advocated by Juran is a planning-based approach to quality improvement using his <b>10 steps</b> to quality improvement”</li> </ul>
Armand V. Feigenbaum	<ul style="list-style-type: none"> <li>• “Top-quality expert for GE in 1944.</li> <li>• Author of Total Quality Control in 1951. It is now in its fourth edition.</li> <li>• He was General Electric’s world-wide chief of manufacturing operations for a decade until the late 1960s.</li> <li>• Feigenbaum’s three steps to quality and four deadly sins.</li> <li>• Feigenbaum’s primary contribution to quality thinking in America was his assertion that the entire organisation should be involved in improving quality. Feigenbaum proposed <b>19 steps</b> for improving quality”.</li> </ul>

**Table 1.1 - Quality Movement and contribution to Quality Theory (continued)**

Quality Gurus	Contribution to Quality Theory
Kaoru Ishikawa	<ul style="list-style-type: none"> <li>• “He spent his life working to improve quality in Japan. His ideas were synthesized into 11 points that made up his quality philosophy.</li> <li>• First to use the term ‘total quality control’.</li> <li>• Foremost figure in Japan in terms of quality control until his death in 1989.</li> <li>• Ishikawa ‘seven basic tools to quality’ used to analyse problems and develop improvement.</li> <li>• One of the most widely of these is the Ishikawa (or fishbone or cause and effect) diagram.</li> <li>• Responsible for the creation of quality control circles”.</li> </ul>
Genichi Taguchi	<ul style="list-style-type: none"> <li>• “Taguchi, an electrical engineer, used experimental techniques to assess the impact of many parameters on a single output.</li> <li>• Taguchi’s method is a continuation of the work in quality improvement that began with Shewhart’s work in statistical quality control and Deming’s work in improving quality. Taguchi’s methods have been the most widely adopted in America and the EU.</li> <li>• He advocates three stages of quality design: System, Parameter and Tolerance”.</li> </ul>
Philip B Crosby	<ul style="list-style-type: none"> <li>• “Crosby, a guru of the late 1970s was the populist who ‘sold’ the concept of total quality management and ‘zero defects’ to United States.</li> <li>• His concept zero defects is based on the assumption that it is always cheaper to do things right the first time and quality is conformance to requirements.</li> <li>• Crosby is famous for saying quality is free. In his book ‘Quality Without Tears’ (1979) he emphasized cultural and behavioural issues ahead of statistical approach of Deming and Feigenbaum.</li> <li>• Crosby <b>14 steps</b> to quality improvement”.</li> </ul>
Tom Peters	<ul style="list-style-type: none"> <li>• “Tom Peters is noted author, consultant, and speaker who is widely recognised. Major bestseller book ‘In search of excellence’ 1982.</li> <li>• Peters provides nine aspects of excellence companies and a 45-step prescription for transformation of organisations.</li> <li>• Peters identified leadership as being central to the quality improvement process, discarding the word ‘Management’ for ‘Leadership’ “.</li> </ul>

**Source:** Adapted from (Beckford, 2010; Mills, Dye and Mills, 2009; Foster, 2007; Basu, 2004; Besterfield, 2004).

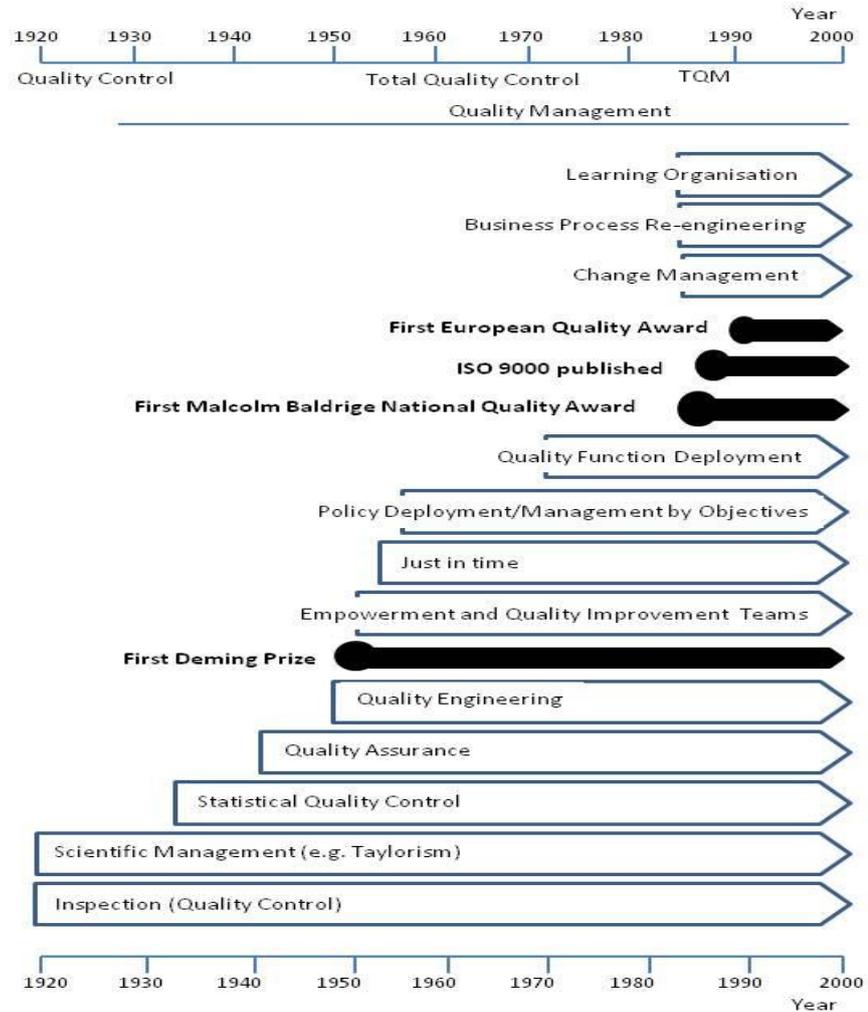
During the 1960s, Crosby’s famous ‘Zero defects’ concept focused on employee motivation and awareness. At this time the first quality control circles were formed for the purpose of quality improvement, however, Japanese workers learned and applied statistical techniques (Beckford, 2010; Besterfield, 2004).

By the late 1970s and early 1980s, U.S. companies had lost market shares in both the U.S and in the western world to the Japanese. Consequently, U.S. managers were making frequent trips to Japan in search of the Japanese secret; they found that American experts Deming and Juran each had a deep influence on the Japanese quality movement.

The British Standards Institute (BSI) was founded in London in 1901 making it the first national standards body in the world. It was instrumental in the formation of the International Organisation for Standardisation (ISO) in Geneva in 1946. In 1979 the BSI published the British Standard BS5750 for quality management; this looked at the organisation and documentation necessary to produce consistent quality (BSI Group, 2010). The first version appeared in 1987 and outlined the requirements for quality management systems in service and manufacturing industries (Bayati and Taghvi, 2007).

Total Quality Management (TQM) progressed and towards the end of the 1980s had developed in many countries outside of Japan; it had become the main theme revolving around the concept of quality control and known as the so called 'Business Excellence' or 'Excellence Model'. By the year 2000 and with the quality focus on consumer demand, the quality movement shifted beyond manufacturing into service, healthcare, education and government sectors (Beckford, 2010; Besterfield, 2004). These ideas then evolved from the pioneering work into Statistical Quality Control, Quality Assurance and Total Quality Management from the solid foundations laid by Deming, Juran and the early Japanese practitioners of quality. Therefore, researchers acknowledge that the evolution of ISO 9000 stems from its origins in inspection (Quality Control) to TQM as illustrated in figure 1.1.

**Figure 1.1 - The Evolution of Quality Management**



**Source:** Adapted from Coopers & Lybrand and EFQM (1994-95).

## 1.2 The significance of this research

The significance of the research investigated and discussed in this thesis lies in providing a more complete picture of the difficulties affecting and challenges arising during implementation of ISO 9000, quality management system (QMS) in Libyan service and manufacturing industries.

There has been a growing demand in the adoption of quality management system standards such as ISO 9000, Total Quality Management (TQM), Business Process Engineering (BPE), Business Excellence, Performance Excellence, Lean Thinking, Six Sigma, etc. (Oakland, 2003). ISO 9000 is broadly accepted as a tool for quality management systems.

The International Organisation for Standardisation (ISO) has issued standard guidelines to organisations on how to manage their business. The first version appeared in 1987 and outlined the requirements for quality management systems in service and manufacturing industries (Bayati and Taghvi, 2007). Researchers widely agree that ISO 9000 is one of the most well-known standards dealing with quality management systems (Gustafsson *et al.*, 2001).

In 1992 Libya had sanctions imposed by the United States, which meant there were regulations and laws in place whereby Libya had no rights to export or import any products. The airports and sea ports were open only for internal transportation of locally produced goods and services. Since the sanctions were lifted in September 2003, the Libyan government has begun to change their strategies and support the non-oil sector financially and motivationally to improve the quality of the service and manufacturing industries and to generate an income that will enable the country to recover fully from this regime. In the last ten years there has been an influx of companies approaching the Libyan government with regards to investing in the country. In addition to oil companies Libya is now benefitting from construction, new technology and communication investment. As previously mentioned, the non-oil sectors are considered as important industries for the future, and represent the backbone of Libya's economy and is given priority and the utmost regard as well as acknowledging that these industries now represent the major income control for Libya's economy (Otmán and Karlberg, 2007).

The Libyan government and the Libyan National Centre for Standardisation and Metrology (LNCSM) have placed a greater emphasis on achieving better quality in order to compete in both domestic and foreign markets through the implementation of quality management systems. This is crucial because gradually more European and foreign buyers have become frustrated having to verify the quality of Libyan goods they purchase, a costly and time consuming process. Therefore, the Libyan government and Libyan National Centre for Standardisation and Metrology have been persuading Libyan companies to seek ISO 9000 certification to ensure quality of products/services.

Furthermore, the quality standard has also become a subject of interest in Libya due to the fact that ISO 9000 has been widely used throughout the Arab World, Europe, and the USA as a nationally and internationally accepted quality standard (Sampio, Saraiva and Rodrigues, 2009; Ashrafi, 2008).

The process of implementing ISO 9001:2000 standards can be notoriously problematic and many organisations encounter difficulties during and after the process of certification. While there has been considerable interest in the improvement of business management in Libya, the study of quality management has been significantly less prominent, a situation that is also found in other Arabic countries (Zairi, 1996). It is therefore valuable to examine the reasons why many organisations fail to be familiar with, and understand the advantages of ISO 9000. The reasons many organisations fail to be familiar with, and understand the advantages of ISO should therefore be examined. Dory and Schier (2002) recognise that the philosophy of quality inherent in ISO standards requires employees and managers within and across departments in the organisation to work together to identify and resolve quality problems.

Empirical evidence shows that the implementation of ISO 9000 meets many different barriers in organisations throughout the world (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 has found that most of these failures result from a 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.

Another study by Sampio, Saraiva and Rodrigues (2009) suggests that the major difficulties faced in implementing ISO 9000 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 QMS in general and ISO 9000 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 Arabic countries, particularly Libya.

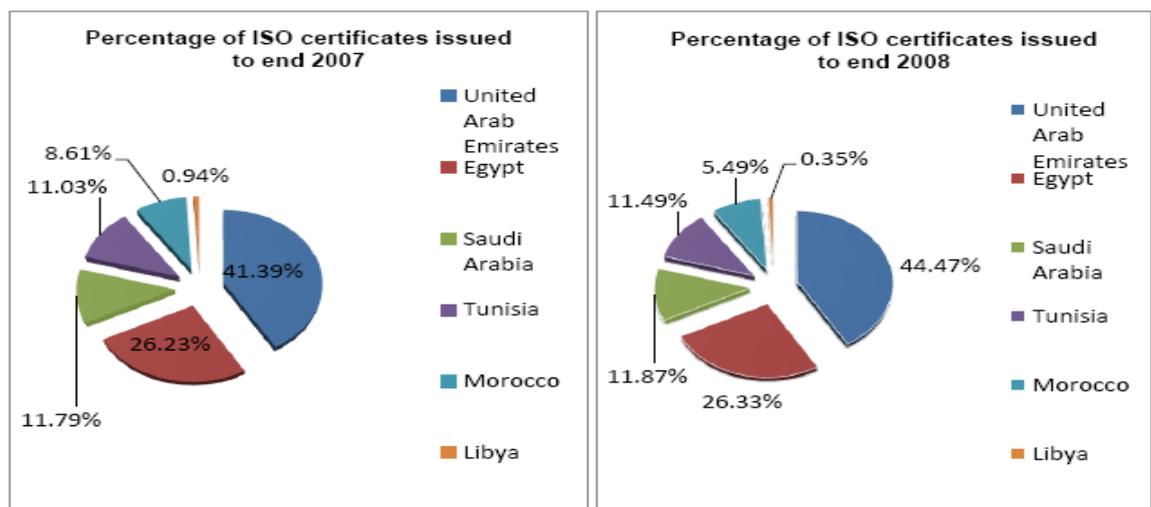
### 1.3 Research problem: ISO 9001 certification in Libya

The literature reviewed in this thesis (chapter two) shows that ISO 9000 has certain advantages and disadvantages, in some cases it is successful but in the others uptake can be slow. Despite the number of publications and the amount of research into ISO 9000, little research has been carried out in the Arab world and in particular Libya. However, as a student in the Northumbria University DBA Programme, the researcher attended various workshops, conferences and seminars, where he was approached with questions regarding why the adoption of ISO 9000 standards in Libyan service and manufacturing industries (LSMI) is still low in comparison to other Arabic countries and is in fact falling, this is illustrated in table 1.2 and figure 1.2,

**Table 1.2 - Number of ISO 9000 Certificates issued to end of 2007 and 2008**

Arab countries	No. of ISO 9000 Certificates issued 2007	Arab countries	No. of ISO 9000 Certificates issued 2008
United Arab Emirates	2422	United Arab Emirates	3283
Egypt	1535	Egypt	1944
Tunisia	690	Saudi Arabia	876
Saudi Arabia	645	Tunisia	848
Morocco	504	Morocco	405
Libya	55	Libya	26

**Figure 1.2 - Percentage of ISO 9000 certificates issued to end of 2007 and 2008**



Source for Table 1.2 and Figure 1.2: Adopted from ISO 9001:2000 Certifications

Worldwide Growth from end of 2003 to end of 2007 and from of 2004 to end of 2008 (ISO Survey, 2007 p.14; ISO Survey 2008 p.17).

A key question to ask following this evidence is why is the adoption of ISO 9000 so low in Libya? This in turn raises a further question of what the challenges and difficulties to adoption are. Therefore, the study is exploratory in nature and seeks to collect data related to the obstacles that affect the implementation of ISO 9000 QMS in Libyan service and manufacturing industries.

Libya is still considered as a 'developing country' and until recently had little investment internally or from foreign companies therefore, the implementation of any type of quality management system was deemed unnecessary. However, since the imposed sanctions were lifted, service and manufacturing organisations alike are being inspired to improve their business in order to achieve a better position in an extremely competitive market place. The challenges that ensue compel the management of those organisations to transform their long-standing traditional management systems (Hokoma, Khan and Hussain, 2008). Hence, improving business performance by implementing a successful QMS will have a positive impact in many areas, e.g. increased market share, improved service provision, increased productivity and streamlined procedures and processes.

When more Libyan companies embark on the application process, and they fully understand the concept of ISO 9000 standards, they will identify the benefits that will dramatically improve their standing in both local and international markets. Fulfilling the requirements means a constant striving to produce top quality goods and services which in the long-term can only be seen as beneficial.

#### **1.4 Research aim and objectives**

The aim of this research was to identify and analyse the difficulties that affect the implementation of ISO 9000, a quality management system (QMS) in Libyan service and manufacturing industries.

##### **The objectives of the study are to:**

- 1) Understand the quality management system requirements, philosophies and theories that are provided in ISO 9000 standards;
- 2) Build an understanding of implementation issues around ISO 9000 quality management system (QMS);

- 3) Understand the common types of difficulties affecting the implementation of ISO 9000 standards in organisations around the Arabic world;
- 4) Investigate the difficulties that affect implementation of ISO 9000, a quality management system (QMS) in a Libyan case study;
- 5) Make recommendations to ease the implementation of ISO 9000 in Libyan service and manufacturing industries.

### **1.5 Research questions**

In order to obtain comprehensive information to support the conclusion to the main research aim and objectives, the author also designed specific supporting research questions, which were derived from the literature review. The questions for this research are as follows:

1. What are the difficulties affecting the implementation of ISO 9000 standards in the Libyan service and manufacturing industries?
2. Why have the difficulties to implementing the standards occurred?
3. What could be done to remove or mitigate the difficulties to enable successful implementation of ISO 9000 in Libyan service and manufacturing industries?

### **1.6 Research strategy and methodology**

Although further detail is provided in chapter 3, the main reason that a qualitative methods approach has been chosen is to explore every aspect of the research including respondent's experiences, opinions and knowledge.

The aim of a qualitative method design is to summarise positive aspects of the approach and produce valid, rich data. In addition, a qualitative methods approach of data gathering and evaluation can increase the validity and accuracy of the information. Yin (2009) identifies that the strategy of every research project should be chosen as a function of the research situation. Each research strategy has its own specific approach to data collection and analysis of empirical data, moreover, every strategy has its own advantages and disadvantages.

As a research strategy, a case study approach was adopted in order to gain a depth of understanding of the information necessary to identify and investigate the obstacles regarding the Libyan service and manufacturing industries implementation of ISO 9000. Also, following a constructivist viewpoint, it was appropriate to apply an interpretive

paradigm, which is integral to qualitative research (Denzin and Lincoln, 2005), and which is also consistent with this as an exploratory study. The nature of the data collected from the case study was qualitative transcripts of the face to face semi-structured interviews held with case study participants.

Based on the strengths and weaknesses of the positivism and interpretivism approaches and the nature of this research, the phenomenological (interpretivism) approach has been chosen as a philosophy, the choice of interpretivism as the theoretical perspective for this research helps the researcher to interpret LSMI quality experts and managers' experiences. It takes on an inductive approach, because the researcher collects data and develops theory as a result of data analysis. It is particularly concerned with the context in which such events are taking place (Saunders, Lewis and Thornhill, 2009).

The study included two phases, in the first phase (pilot study) email interviews were conducted, followed up by telephone interviews to provide a greater degree of flexibility. In order to obtain a general perspective on difficulties regarding implementation of ISO 9000, the interviews were focused on quality professionals most likely to be aware of all aspects of the certification process. In the second phase of the study, semi-structured interviews were carried out face to face to gain more in-depth information. Interview guides were developed from the pilot study and the research strategy was designed to increase validity and reliability of the interview questions.

The data collected from the case study was analysed using Template Analysis. Amaratunga *et al.* (2002) highlighted that different types of analysing research evidence involves examining, categorising, tabulating or otherwise recombining the evidence which addresses the initial propositions of a study. King (2009) defines template analysis as a particular approach to analysing qualitative data:

*“..The data involved are usually interview transcripts but may be any kind of textual data including diary entries, text from diary entries, text from electronic “interviews” (email) or open-ended question responses on a written questionnaire”* (King, 2009).

The purpose of template analysis is basically to provide the reader with an overview of the key themes emerging from the mass of qualitative information garnered from the interviews. The themes and codes defined by King (2009) are illustrated in the Research Methodology chapter (chapter 3). King's template approach is the main data analysis technique employed for this research.

## 1.7 Structure of the thesis

This thesis is comprised five chapters. Following this introductory chapter, **chapter 2** examines the ISO 9000 QMS literature in order to arrive at an understanding of the critical success factors which form the foundation for the implementation of ISO 9000. The progress and failure of ISO 9000 in developed and developing countries, especially in Arab countries, is also reviewed and compared in the light of these findings. Additionally, the literature review enables the researcher to identify the obstacles that face the organisations seeking ISO 9000 certification which in turn will help in developing the recommendations tools of this research.

**Chapter 3** provides an overview of the research methodology, the choice of research philosophy, epistemology within philosophy, methods of study and clarification of the research strategy. The chapter presents the methods used to conduct empirical research based on the researcher's justifications of why qualitative methodology was chosen. This chapter also explains the justification for the selection of a case study approach, selection of data collection methods and semi-structured interview research method. This is followed by a description of how qualitative data were collected and analysed using Template Analysis. It also presents the ethical considerations and the limitations of the research.

**Chapter 4** presents the results from the semi-structured interviews conducted by the researcher within Libyan service and manufacturing industries (LSMI). It also provides evidence from the respondents' answers during the interviews, and additional support from previous studies taken from the literature review. The template analysis is presented and key findings highlighted.

The purpose of **chapter 5** is to draw the thesis to its conclusion by returning to the research objectives and research questions in order to consider how the thesis has made a contribution to organisational studies. Next, as a key output for a professional doctorate, the implications this research has for professional development and practice are presented. Consideration is then given to evaluative solutions and tools for LSMI, ethical issues surfaced by the thesis, before considering the limitations of the thesis and concluding by identifying possible further research projects. Finally, the researcher's personal reflection on the research journey is presented.

## **1.8 Chapter summary**

This chapter has provided an overview of the development of this thesis, including details of the background to the research and research problem. It has also provided the research aim, objectives and research questions. The chapter has provided an overview of the theoretical and methodological frameworks informing the thesis and finally, the overview, and structure of the thesis are presented. A detailed description of the literature review is to be presented in the next chapter.

### 2.0 Introduction

As the worldwide quality revolution enters its fifth decade, demand by customers for products of progressively higher quality continues to accelerate (Desatnick, 1989).

*“Quality has a long tradition in industry. In and after the Second World War all organisations focused on ‘quality control’. In the 1980s, quality management systems, as given in the ISO standards 9000 series, paved the way for a quality related business management”* (Mangelsdorf, 1999, p.419).

There has been a continuous increase in the number of countries, which have implemented ISO 9000 as their national quality standard during the last two decades, as well as a continual rise in the number of companies within these countries who identified the ISO 9000 standard as a strategic management tool essential for effective control and best business practice (Farooqui and Ahmed 2009; Prajogo, 2009). Since its advent, ISO 9000 standards have become a common research topic within management journals. Some of the more notable themes within these studies pertain to companies’ motives for and benefits of ISO 9000 implementation, as well as various key success factors. ISO 9001 is one of the basic standards in the ISO 9000 family, which contain the quality management system requirements. Firms which adopt ISO 9001 can have their quality management system assessed and upon compliance to the requirements of the standard, the firms are granted ISO 9001 certification.

A thorough literature review was conducted covering quality journals, business reports, academic investigations, and broader press commentary on ISO 9000 issues. This produced a number of statements concerning quality concepts, ISO 9000 background, quality management system principles, and motivations for pursuing ISO certification.

It also considered the benefits experienced from certification alongside the barriers encountered during registration and following certification, including the anticipated costs of certification. However, among a number of diverse studies which focused on ISO 9000 QMS, there are three main areas which might be used to explore the ISO 9000 QMS field.

These three areas are expressed in the motivations for pursuing certification and benefits experienced from certification. They are also reflected by the complications faced within registration and in following certification and the anticipated costs of certification, as displayed in figure 2.1. The main reason for this diversity is the chosen perspectives and interests of researchers studying in this field. Figure 2.1 illustrates the majority of the contexts related to this study.

**Figure 2.1: Integration of the most relevant domains to this study**

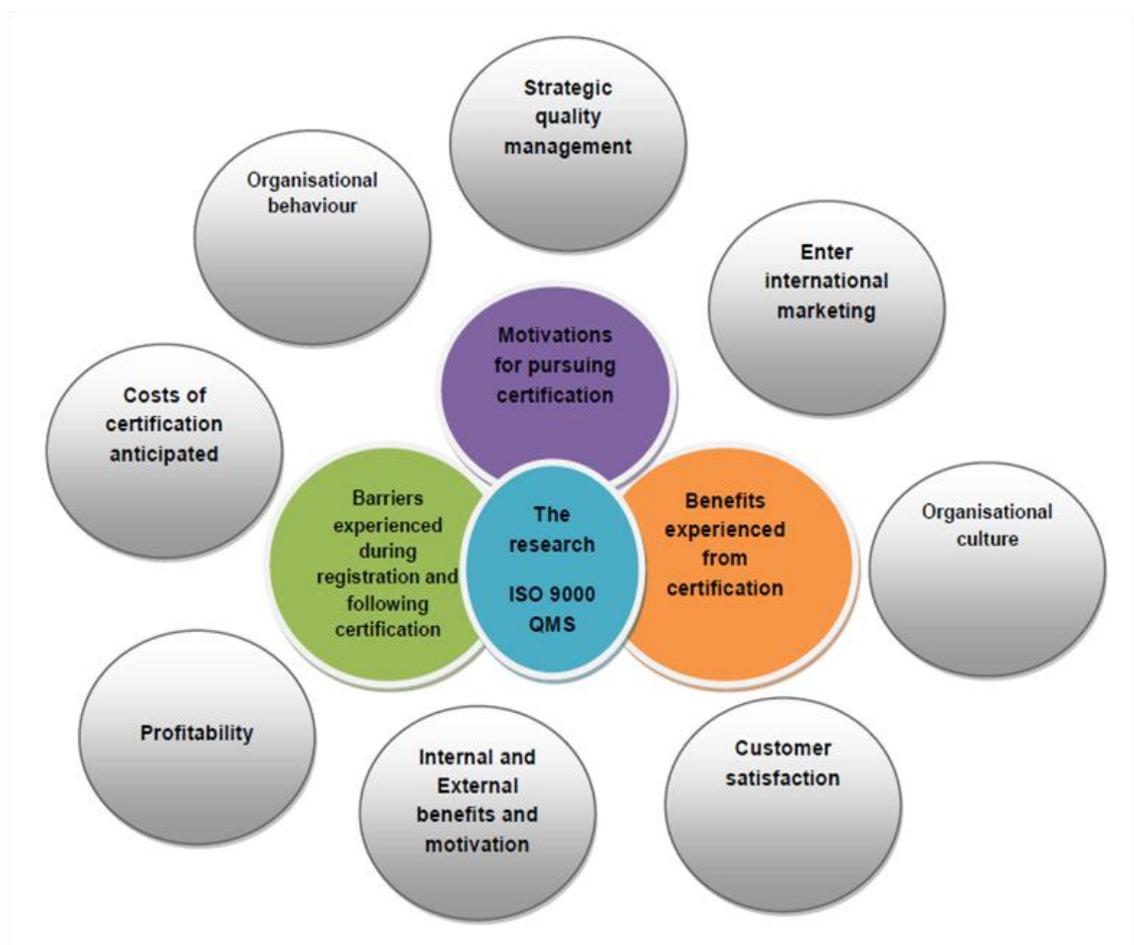


The focus of this research lies in the intersections of differing domains as illustrated in figure 2.1. Another important criticism regarding the effectiveness of the standards inheres in reluctance to credit their ability to actually improve the fields of quality, strategic quality management, to enter international marketing and quality culture (internal and external to the company). The strategic focus of quality, with respect to customer satisfaction, is also criticized. Competitiveness, quality planning, profitability, and organisation wide commitment are the major concepts that are introduced by the quality gurus like Deming, Juran, Crosby, Feigenbaum, Ishikawa and Garvin.

The improvement of these concepts over a period of time covering the latter part of the twenty first-century paved the way for the evolutionary development of quality management. Of areas which benefited from such an improvement inspection, statistical quality control and quality management system were the most significant.

The disciplines of total quality control and strategic quality management (SQM) were similarly ameliorated under the more comprehensive measures (as shown in figure 1.1). Figure 2.1.a shows a number of other contexts related and relevant to this study, but the researcher has treated them as significantly influential backgrounds, connected to the research.

**Figure 2.1.a: Integration of the wider relevant domains to this study**



As this review explains, many organisations have adopted a range of improvement approaches in response to these forces. There has been a growing demand in the adoption of quality management systems standards such as ISO 9000, Total Quality Management (TQM), Business Process Engineering (BPE), Business Excellence, Performance Excellence, Lean Thinking, Six Sigma, etc. (Oakland, 2003). ISO 9000 is broadly accepted as a tool for quality management systems. The International Organisation for Standardisation (ISO) has issued standard guidelines to organisations on how to manage their business. The first version appeared in 1987 and outlined the requirements for quality management systems in service and manufacturing industries (Bayati and Taghvi, 2007). Researchers widely agree that ISO 9000 is one of the most well-known standards, dealing with quality management systems (Gustafsson *et al.*, 2001). It presents a framework to create a system for managing quality products and services. To the end of 2008, more than 982,832 ISO 9001: 2000 certificates were issued in 176 countries and economies (ISO Survey, 2008).

The initial purpose of ISO 9000 was to provide an effective quality system reflecting an organisation's activity of producing goods and services that conform to requirements and to build confidence between suppliers and manufacturers in business-to-business transactions and in international trade, such as the ability to develop and offer products and services with market improvements in operational flexibility. Additionally, an important consideration was the desire to provide information to industries with reference to designing their own quality systems based on individual company marketplace needs (Aggelogiannopoulos, Drosinos and Athanasopoulos, 2007).

ISO 9000 standards also assists in ensuring that organisations follow specific well-documented procedures in the making and/or delivery of their products or services and ISO 9001:2000 focuses on customers' needs and expectations (Van der Wiele *et al.*, 2005). ISO 9000 standards are generic; they can be applied to all functions and all industries in different areas of human particles (Magd, 2006). This provides the basis for continuous improvement in the product or service.

This chapter begins with a brief explanation of the quality concepts including the theory and philosophy of quality. This will be followed by an introduction to ISO 9000, the background to its emergence and the series contents. The next part presents the eight quality management principles as agreed by the International Organisation for Standardisation (ISO). These principles can be used as a foundation for the production of a framework for the implementation of an effective quality management system.

The chapter continues with a critical discussion regarding why companies initially seek ISO 9000 certification, the benefits that can be obtained and the difficulties that are encountered during the implementation process, finally the positive and negative view about the ISO 9000 /QMS standards will be discussed concluding with the chapter discussion and summary.

## **2.1 Quality concept**

There are several definitions of quality presented in the literature. The term *quality* means different things to different people. The quality pioneers integrated in table 2.1 are those whose reputation is principal for their work in quality and excellence and they are also important to quality management. These new quality systems have all evolved from the pioneering work and solid foundations laid by Deming, Juran and early Japanese practitioners of quality. Definitions attributed to quality pioneers are shown in the following table:

**Table 2.1 - Definition of Quality**

Quality Pioneer	Definition / Meaning of Quality
Oxford English Dictionary	<ul style="list-style-type: none"> <li>• “Quality is the degree of goodness or excellence”</li> </ul>
Deming (1986)	<ul style="list-style-type: none"> <li>• “Quality is that of satisfying the customer, not merely to meet his expectations, but to exceed them”</li> </ul>
Juran (1992)	<ul style="list-style-type: none"> <li>▪ “Fitness for purpose or use and freedom from defences”</li> </ul>
Crosby (1979)	<ul style="list-style-type: none"> <li>• “Conformance to requirements.” The aim is zero defects, of getting it right the first time”.</li> </ul>
Feigenbaum (1986)	<ul style="list-style-type: none"> <li>▪ “The total composite product and service characteristics of marketing, engineering, manufacturing and maintenance through which the product and service in use will meet the expectation by the customer”.</li> </ul>
Ishikawa (1985)	<ul style="list-style-type: none"> <li>▪ “Development, design, production and service of a product that is most economical, most useful, always satisfactory to the consumer”.</li> </ul>
Taguchi (1986)	<ul style="list-style-type: none"> <li>• “Quality is conformance to specifications”.</li> </ul>
Grocock (1986)	<ul style="list-style-type: none"> <li>▪ “The quality of a product is the degree of conformance of all the relevant features and characteristics of the product to all of the aspects of a customer’s need, limited by the price and delivery he or she will accept”.</li> </ul>
Garvin (1987)	<ul style="list-style-type: none"> <li>▪ “Quality means pleasing customers, not just protecting them from annoyances”.</li> </ul>
Peters (1987)	<ul style="list-style-type: none"> <li>▪ “Quality is all about customers’ perceptions” “Customer satisfaction; the customer’s judgment not only determines how quality is measured but how it is defined in the first place”</li> </ul>
Price (1985)	<ul style="list-style-type: none"> <li>• “Quality is do it right first time”</li> </ul>
Kanji (1990)	<ul style="list-style-type: none"> <li>▪ “Quality is to satisfy customer’s requirements continually”.</li> </ul>

**Table 2.1 - Definition of Quality (continued)**

Quality Pioneer	Definition / Meaning of Quality
Oakland (1993)	<ul style="list-style-type: none"><li>▪ "Quality is meeting the customer's requirements".</li></ul>
Ghobadian and Speller (1994)	<ul style="list-style-type: none"><li>• "Quality is an important competitive factor and in some markets a prerequisite of survival".</li></ul>
Gupta (2006)	<ul style="list-style-type: none"><li>▪ "Quality is everyone's business"; "Quality is in the hearts of customers"; "quality is in the hands of management".</li></ul>
Beckford (2010)	<ul style="list-style-type: none"><li>• "Quality is a characteristic or attribute defined by the customer, not the supplier".</li></ul>

**Source:** Adapted from Beckford (2010); Mills, Dye and Mills (2009); Gupta (2006); Ghobadian and Speller (1994); Oakland (1993).

Quality is a crucial part of life and business. With no "quality of work", "quality of people", society may not function successfully. Quality standards have become the norm in today's business (Gupta, 2006, p.vii). Nowadays, quality approach has shifted from focusing on the product itself to focusing on the customer's requirements and goes beyond their expectations (Withers and Ebrahimpour, 2001). The quality movement has now moved beyond the manufacturing sector into such areas as service, education, healthcare, and government sectors. It is interesting to note that satisfying the customers' needs and expectations is the main factor in all these definitions. Therefore, quality is a fundamental strategic perception for further improvement in the highly competitive environment. It is linked with customer's satisfaction and their expectation.

## **2.2 Quality philosophy**

Worldwide trade is made more difficult by differences in culture, great distances, and the obstacles created by imposing national standards, which vary from one country to another. This adds challenges to the flow of international trade and the exchange of goods and services. Therefore, the need to guarantee quality to facilitate business issues has turned out to be even more crucial as competition from others is continually increasing. However, understanding quality philosophy is a vital issue for the successful implementation of a quality management system.

A number of perceptions and terms have emerged to develop the activities related to quality such as quality improvement or continuous improvement, customer's satisfaction, quality assurance, total quality management, and quality management systems. These all help to achieve quality management (Kruger, 2001). Furthermore, Juran (1989) proposed that quality improvement arises from a quality performance, and it is also considered as an infrastructure to secure annual improvement. Juran and Gryna (1988) stated that, at the beginning, organisations were required to create a quality policy which gives guidance to all managerial activities.

Quality policy should be designed by top management committees in the first instance for quality improvement agendas in organisations and to play a coordinating role to achieve aimed quality (Juran, 1989). Furthermore, Feigenbaum (1991) suggested and presented the fundamental philosophy to achieve quality improvement, he stated, all improved activities and processes in organisations should be encompassed into products or services rather than inspection. He further stated the three activities in his perception:

1. New Design Control: the production processes or services, documented procedures, and techniques employed in a way that customer requirements are understood and transferred into manufacturing specifications;
2. Purchasing Control: ensuring the quality of suppliers consistently meets the specified requirements in all terms;
3. Product Control: ensuring that all the documents associated with production and servicing conform to specified requirements (Feigenbaum, 1991, p.5-6).

In simple words, Feigenbaum (1991) suggested that, all activities and functions associated with products or services should fulfil the customer requirements from the initial stages of design control through to the manufacturing process.

Mills, Dye and Mills (2009, p.96) suggested that

*“This new philosophy impacted every part of the organisation. Take customers know what they want, for example. This fundamental shift in philosophy would be felt throughout the organisation. Now, manufacturing, marketing, customer service, and research and development had a brand-new task-identifying and satisfying the needs of customer.”*

Sun *et al.* (2000) quoted Crosby (1986) who stated that successful organisations provide solutions for their customers by meeting their requirements. To meet those requirements the top management should identify the responsibilities towards employees, customers and suppliers.

**Table 2.2 - Comparison between old and new quality philosophies**

Old quality philosophy	New quality philosophy
"Profits are number one.	Quality is number one- it leads to productivity, customer satisfaction, hence competitiveness, market share, return on investment and profitability.
Improving quality will raise costs, thereby making firms non-competitive	Improvements in quality will reduce rework and scrap, and will lessen the costs of warranties.
Employees are a cost burden-pay as little as possible and lay off when necessary.	Employees are partners with management. During economic downturn, management will work with employees to chart a new course. Lay-offs will be 'shared'.
Long-term investment is a loser for management because success isn't until they have moved on.	Long-term investment is important and should be rewarded.
Customers do not know what they want.	Customers know what they want.
Top management must portray an image of wealth and success.	Top management should be seen as part of the team. Corporate egalitarianism is increasing in popularity".

**Source:** Adopted from Mills, Dye and Mills (2009, p.96).

### 2.3 ISO 9000: background and series contents

The International Organisation for Standardisation (ISO), located in Geneva, Switzerland, is a non-governmental organisation of national standards for 176 countries and economies; ISO is well known and has a good position within the public and private sectors.

Bendell and Boulter (2004, p. 296) outline that ISO 9000 originated as:

*“The ISO 9000 series of standards has its origins in military procurement standards around the Second World War. This ultimately led to the publication of the first commercial quality management system standard BS 5750 by the British Standards Institute in 1979. In 1987, the British Standard BS 5750 was adopted with a few changes as the international standard ISO 9000.”*

In 1987 ISO developed and released quality standards, they were accepted and adopted in the most developed countries and developing countries, and since then have become the international quality standards. In 1994, ISO issued the revised standards of version of 1987. Therefore, the revised standards known as ISO 9000:1994, focused on the aspects of quality programmes; they included the twenty requirements of quality assurance. Hoyle (2001) held that, the 1994 version pointed to quality assurance, where organisations used them to assure the quality of products. The ISO 9000:1994 standards included ISO 9000, ISO 9001, ISO 9002, ISO 9003, and ISO 9004. ISO 9000 and ISO 9004 were applied to guide organisations in the development of a quality system within organisations.

Magd (2006) clarified that ISO 9001 was applied for developing quality systems models for quality assurance in organisations whose processes include design, development, production, installation and servicing. ISO 9002, applied to quality systems models for quality assurance in organisations whose processes include production and installation, but not design and development. ISO 9003 quality systems model applied to quality assurance in organisations whose processes use final inspection and testing to meet product and service quality requirements. Stevenson and Barnes (2002) reported that ISO 9000 is in fact a number of standards, which were reduced from 5 to 3 in December 2000. Table 2.3 illustrates the original and revised ISO 9000 standards.

**Table 2.3 - The ISO 9000 Series**

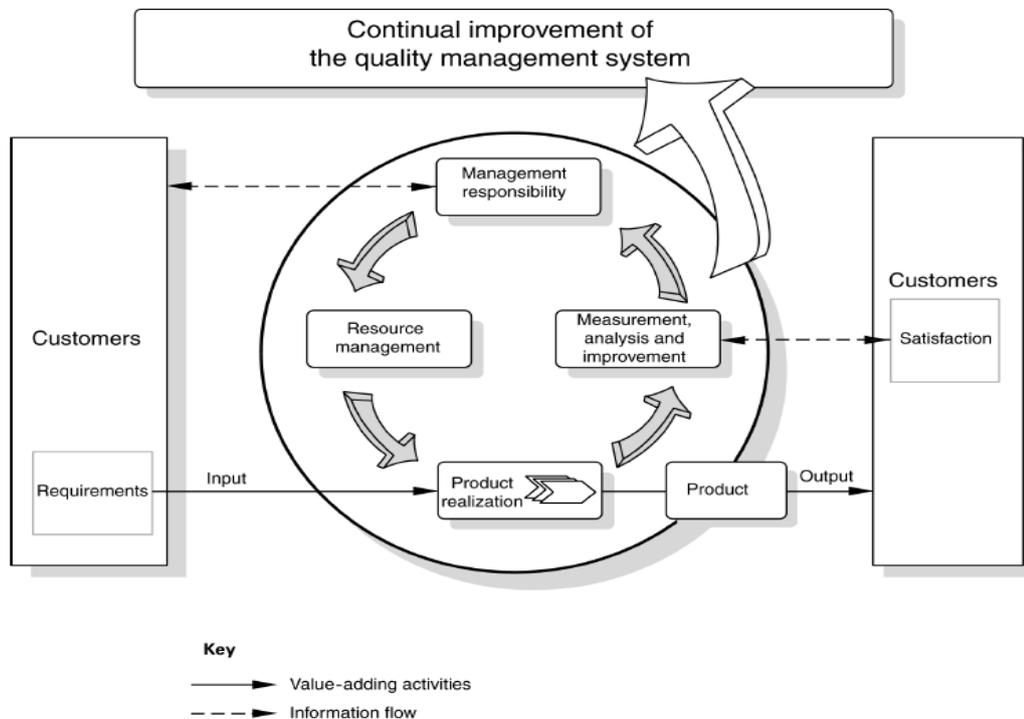
Standard	Focus
Original standards (ISO 9000)	
ISO 9000	"Quality management and assurance standards for selection and use"
ISO 9001	"Quality systems model for quality assurance in organisations whose processes include design, development, production, installation and servicing".
ISO 9002	"Quality systems model for quality assurance in organisations whose processes include production and installation, but not design and development".
ISO 9003	"Quality systems model for quality assurance in organisations whose processes use final inspection and testing to meet product and service quality requirements".
ISO 9004	"Quality management and quality system element guidelines".
Revised standards (ISO 9000, 2000)	
ISO 9000 (2000)	"Quality management system fundamentals and vocabulary-defines terminology and standards".
ISO 9001 (2000)	"Quality management systems requirements-used to assess compliance with requirements (consolidates the former ISO 9001/9002/9003 into a single document)".
ISO 9004: 2000	"Quality management systems guidelines for performance improvement-offers guidance for continual management system improvement".

**Source:** Adopted from Stevenson and Barnes (2002, p. 996).

According to ISO (2000) cited in Stevenson and Barnes (2002, p.698), the December 2000 revisions of the ISO 9000 series "take account of developments in the field of quality," and are "built on eight universal quality management principles." The eight principles are: "customer focus", "leadership", "involvement of people", "process approach", "systems approach to management", "continual improvement", "factual approach to decision making", and "mutually beneficial supplier relationships". Therefore, the eight Quality Management Principles are fundamental to the successful implementation of the ISO 9000:2000 series (Hoyle and Thompson, 2001, p.15).

The 2000 version is a set of interrelated ideas, rules and principles of quality assurance that help organisations in different sectors and size to create an effective quality management system. Tsim, Yeung and Leung (2002) added, the main purpose of ISO 9000:2000 standards is to assist organisations in effectively implementing and using their QMS by following the quality standards to satisfy the customers and aid continuous improvements. The ISO 9000 standards assist to ensure organisations follow specific well documented procedures in making products or services. The ISO 9000 process approach model is demonstrated in figure 2.2 and Biazzo and Bernardi (2003, p.156) have explained the four key elements of this model, as follows:

**Figure 2.2 - The ISO 9000 Process Approach**



**Source:** Adopted from (ISO 9000-selection and use -2009, p.2; Cianfrani, Tsiakals and West, 2009, p.6).

1. The “*management responsibility*” - encompasses the requirements for developing and improving quality management systems. This includes facilitating quality policy, planning, and defining responsibilities and authorities.
2. The “*resource management*” - encompasses the requirement to manage human and infrastructural resources for improving the quality management system.

3. *The “product realisation”* - involves the requirements for product realization processes; these include designing and developing products, production processes, monitoring, controlling, and reviewing customer needs.
4. *The “measurement, analysis - and improvement”* - the key element is to focus on customer satisfaction by managing internal audits (Biazzo and Bernardi, 2003, p.156).

ISO (2010) suggested that by applying the “process approach” an organisation should be able to gain the subsequent type of benefits:

- “Integration and alignment of processes to enable achievement of desired outcomes;
- Ability to focus effort on process effectiveness and efficiency;
- Provision of confidence to customers, and other interested parties, about the consistent performance of the organisation;
- Transparency of operations within the organisation;
- Lower costs and creation of shorter cycle times, through the effective use of resources;
- Improved, consistent and predictable results;
- Provision of opportunities for focused and prioritized improvement initiatives;
- Encouragement of the involvement of people and the clarification of their responsibilities” (ISO, 2010).

The ISO 9000 standard is based on a collection of sound commonsensical business practices. The standard addresses all aspects of the business functions, including, but not limited to, sales, design, purchasing, manufacturing, servicing and management, with the exception of finance.

## **2.4 Quality management system**

Quality management is dealing with different activities in organisations which include leadership, communications, teamwork approach, the ability to change, improving customer relations, and also search for opportunities for continuous improvement. Basically, Laszlo (2000) stated that, quality management is all about the quality of the top management.

Dick (2000) suggested that, quality management systems lead to a decrease in costs and the prices of products and services. In such a way products are improved and developed by setting standards controlling all activities across the organisation, therefore, end-product quality is more achievable. A quality management system is a structured managerial effort, integrated with scientifically planned work where implementation adds an infrastructure with which an organisation's managers can address quality issues throughout the company. To be considered successful, a quality system should ensure the quality of the finished product or service provided. Stebbing (1993) indicated that, a quality management system is a key element in obtaining competitive advantages. Some benefits have been attained by applying effective quality management such as, reduction in costs, increased productivity, customer satisfaction, and improved product quality. Tricker (2001, p.145) described a quality management system as *"an organisational structure of responsibilities, activities, resources and events that together provide procedures and methods of implementation to ensure the capability of an organisation to meet quality requirements."*

## **2.5 Quality management system-ISO 9000:2000**

ISO (2000, p.8) defined quality management systems as

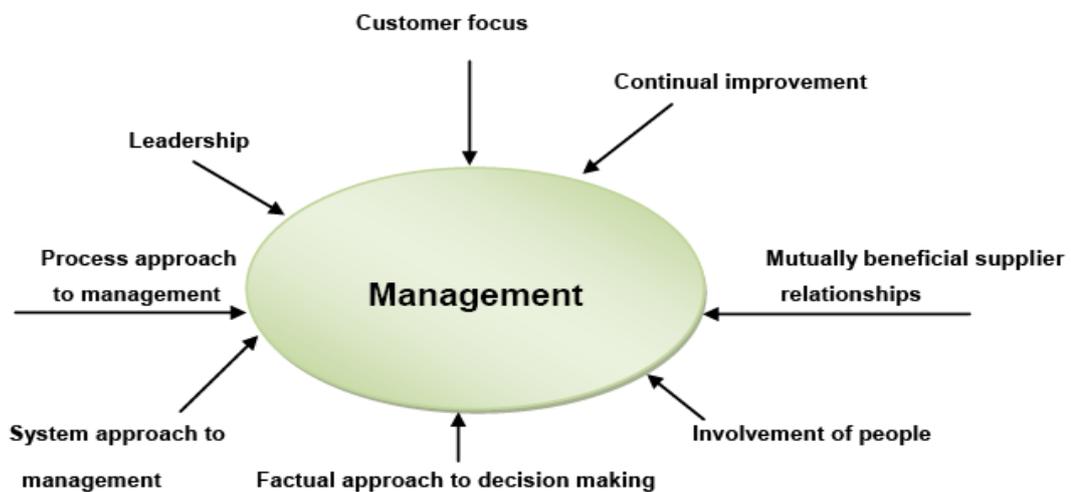
*"that part of the organisation's management system that focuses on the achievement of outputs in relation to the quality objectives."*

In 2000, the ISO 9000:1994 standards were updated and organisations were required to form the basis of the 2000 version by bridging the culture gap between the two versions. The ISO 9000:2000 standards provide a fundamental basis of quality management as management review and preventive action. A 2008 ISO survey provided a worldwide overview of certification of ISO 9001:2000 standards. Up until the end of December 2008, at least 982,832 ISO 9001:2000 certificates had been issued in 176 countries and economies. The 2008 total represents an increase of 3% from 2007 (ISO Survey, Dec.2008).

These standards are a set of principles that top management can use for setting up good management practices to underpin the organisation's management system. The ISO 9000:2000 standards are based on the quality management principles which have a good concept of quality management systems. The ISO 9000 standards increase the intersection area between quality management philosophy and quality management system in practices. ISO/TC 176 (1998) presented, the principles of quality management

are the fundamental rules leading to continuous improvement by focusing on customers' needs. As depicted in figure 2.3, the revised standards focus on the following eight quality management principles: 1. "customer focus", 2. "leadership", 3. "involvement of people", 4 "process approach", 5. "systems approach to management", 6 "continual improvement", 7. "factual approach to decision making" and 8. "mutually beneficial supplier relationships" (Biazzo and Bernardi, 2003; ISO, 2010).

**Figure 2.3 - The eight quality management principles**



Petersen (1999) notes that, the quality principles were received in Japan, after the end of World War II, during which contributions have been made in terms of practice and consolidation of ideas initiated by Deming, Juran, Feigenbaum and Crosby.

Calisir (2007) suggested that companies need to start their journey in "Quality" by understanding the principles and concepts of ISO 9001 certification. Therefore, companies also need to consider the role of quality in their organisational philosophy and business strategy before seeking certification. The ISO 9000 standards are based on eight principles that emphasise the core value and concepts of quality management. So, the researcher is going to spend a little time defining and explaining how the eight quality management principles are interpreted in the standards shown in figure 2.3.

### **2.5.1 Principle 1 - Customer focus**

Customers are the most valuable element to the organisation. Therefore, their requirements should be clearly understood and their expectations met. This concept can be achieved by involving everyone in the organisation from bottom to top management.

The ISO 9000:2000 standards take into account customer focus through addressing the requirements such as, appointment of a management representative and determination of customer's needs and expectations (Hoyle, 2001).

The need to satisfy customers can be achieved by implementing an effective quality management system using the eight fundamental principles of quality management and ISO 9000:2000 standards. This is in accordance with Hill, Self and Roche (2002) who said that a process-based quality management system like ISO 9000:2000 makes customers the focal point.

### **2.5.2 Principle 2 - Leadership**

Goetsch and Davis (2000) mentioned that leadership is the ability to motivate people to demonstrate a total willingness in accepting the objectives of the organisation. Leadership is one important element in the concept of quality management; it is based on the philosophy of improving processes and productivity and improving work methods. Leadership is to organise all processes and activities of the establishment leading to quality superiority. Raghunathan, Rao and Solis (1997) mentioned that top management should sustain clear quality values within the management system. Ludwig-Becker (1999) indicated that a good leader is a good communicator has high vision and has the ability to change. Leaders can play a significant role within organisations by creating good working environments and involving everyone in achieving the objectives of the organisation.

Hoyle (2001) stated ISO 9000 standards discussed the role of leadership through addressing internal communications and creating an effective working environment. Leadership in an organisation is represented by the involvement of managers in the setting of goals and objectives, the review and assessment activities of the whole situation towards customers, employees, competitors, technology, and quality.

### **2.5.3 Principle 3 - Involvement of people**

ISO (2010) suggested 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.”*

Hele (2003) mentioned that, involving employees and utilizing their particular skills will ultimately benefit the organisation. The involvement of people across organisations increases their abilities towards quality excellence.

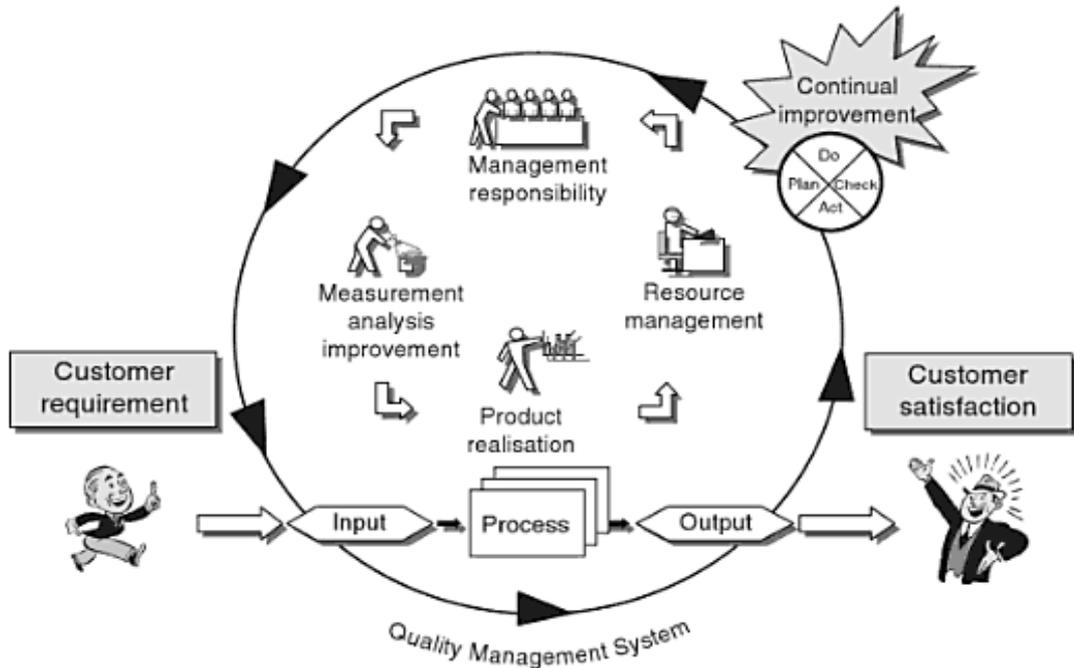
The ISO 9000:2000 standards address the quality management related human aspects through; participation in early stages, clarifying the objectives, identifying the responsibilities and authority, creating a motivated environment, and increasing internal communications (Hoyle, 2001).

### **2.5.4 Principle 4 - Process approach**

Tsim, Yeung and Leung (2002, p.247) defined the process approach as *“the application of a system of processes within an organisation together with the identification and interactions of these processes and their management.”* Therefore, the amended standards are prepared as a linked process. Essentially, the new amended standards represent the new model recognised as the ISO 9000 “process approach” Janas and Luczak (2002). This develops and improves the efficiency of quality management systems by gathering the customer’s expectations; assists in leading organisations and identifies opportunities for improvement (ISO, 2010). The process approach model is based on the integration of the following key elements: the “management responsibility”, the “resource management”, the “product realisation” and the “measurement analysis” Biazzo and Bernardi (2003, p.156).

Tricker (2005) pointed out that the four elements act as “inter-related processes”, the “output” of one process has an effect on the input of another process and so on. Hoyle (2001) noted that, the process approach not only transforms input to output, but it applies a process that has clearly identified goals and objectives based on the customers’ requirements and the continual improving process. The process approach is a set of activities that transform inputs to outputs in the frame of defined limitations and resource consumption (Colesca and Zgodavova, 2007). The basic process model is illustrated in figure 2.4.

**Figure 2.4 - The ISO 9000: 2000 Process Model**



**Source:** Adopted from Tricker (2005, p.51).

Appendix 6: shows the Arabic version of the ISO 9000: 2000 Process Model.

### **2.5.5 Principle 5 - System approach to management**

*“Identifying, understanding and managing a system of interrelated processes for a given objective improve the organisation's effectiveness and efficiency”* ISO (2010). A system is an organisation, department, business, project, etc., of basic resources to achieve a planned objective. This principle is correlated with the process approach. Pfeifer, Reissenger and Canales (2004) suggested that the structured description of processes as an entire system assists management to understand their interrelation and to guide them sufficiently. Therefore, quality management systems could be used as management tools to “support decision making” for "generic" certified companies and efficiency in achieving its objectives.

### **2.5.6 Principle 6 - Continual improvement**

Magd, Kadasah and Curry (2003) stated that, continuous improvement should be a major aim in implementing a quality management system. ISO/TC 176 SC2 (2002) presented, ISO 9000:2000 as standards of continuous improvement to achieve products of high quality and greater customer satisfaction.

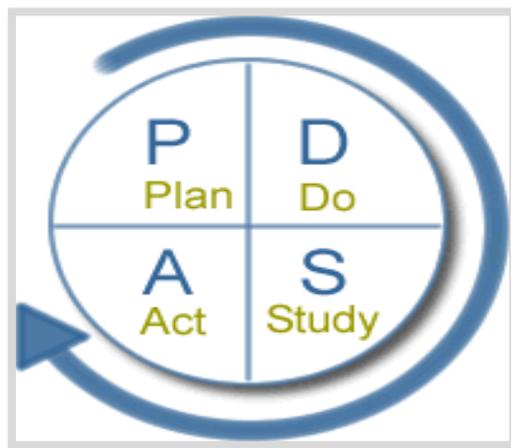
*“W. Edwards Deming said that it is not enough to improve the process; the product must too be improved. Systems need to be set up to measure improvement: processes, products, and customer service. One cannot manage what one cannot measure” (Deming, 1986 cited in Ludwig-Becker, 1999, p.208).*

According to Deming (1986) there are four steps leading to the continuous improvement of quality, Plan-Do-Study-Act. He devised this process whilst working for Dr. W.A. Shewart at the Hawthorne Works Western Electric Plant in Chicago in the 1930s. Deming explains it as the PDSA Cycle (Plan-Do-Study-Act) alternatively, the Shewhart Cycle. It has since been given many different titles such as the Deming Cycle by the Japanese or the PDCA Cycle (Plan-Do-Check-Act) and the Deming Wheel. The process could be used for the on-going improvement of almost anything.

<b>Plan</b>	Develop a plan for improvement.
<b>Do</b>	On a small scale, put the plan into motion.
<b>Study</b>	Monitor any changes or effects.
<b>Act</b>	Analyse the results and adjust the original plan, if necessary.

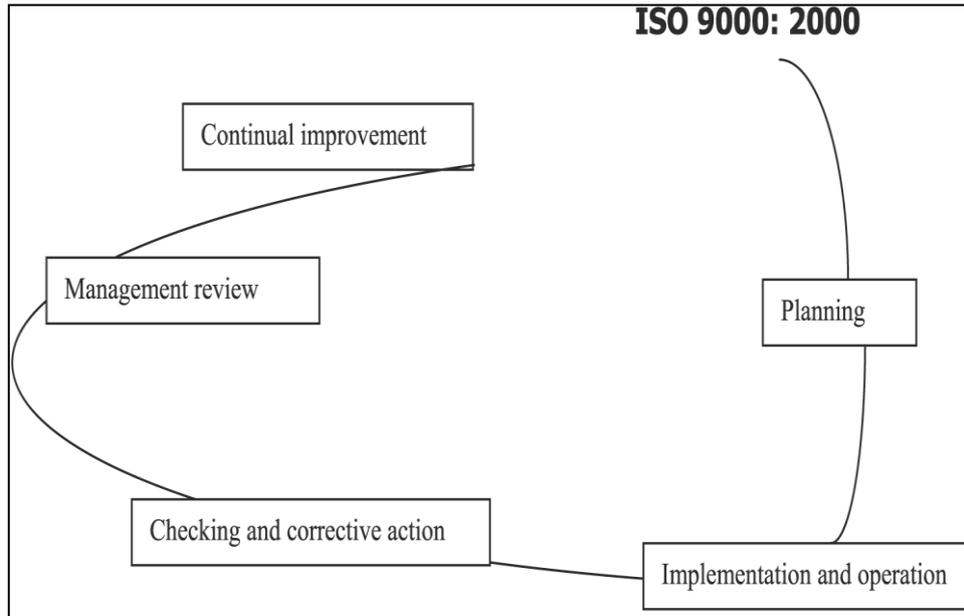
The new process-based structure of ISO 9000: 2000 is consistent with the PDSA improvement cycle (see figure 2.5 and 2.6).

**Figure 2.5 - The Deming PDSA Cycle (Plan Do Study Act)**



**Source:** Adopted from Deming (1986, p.88).

**Figure 2.6 - Continuous improvement through Deming's PDCA Circle**



**Source:** Adopted from (Ho, 2002, p.14).

Clearly, it could be recommended that PDSA is suitable and helpful for continuous improvement at every phase of the process. Additionally, ISO 9000:2000 concentrates on the strategic facet of the QMS; expressly based on customer focus, process model and continuous improvement through the use of PDSA improvement circle (Ho, 2002 cited in Magd, 2003). Deming (1986) also stated, continual improvement could increase productivity and capacity, reduce costs, increase profits and customer satisfaction.

### **2.5.7 Principle 7 - Factual approach to decision making**

*“Effective decisions are based on the analysis of data and information”* (ISO, 2010). This means that managers make decisions on the basis of various measurements within the management system (Colesca and Zgodavova, 2007). Therefore, to ensure the management of an organisation make sound decisions, information that has been properly prepared needs to be freely available. Controlling attempts can be applied for this purpose (Pfeifer, Reissenger and Canales, 2004).

## **2.5.8 Principle 8 - Mutually beneficial supplier relationships**

Every organisation uses products and services delivered by its suppliers and every organisation works more effectively when it has mutually beneficial relationships with its suppliers built on trust, sharing knowledge and integration (ISO, 2010). Pfeifer, Reissenger and Canales (2004) pointed to the fact that the description and structure of activities in a QMS will support the trust put in suppliers.

The International Organisation for Standardisation, ISO, offers a theory of management, 'requirements' and 'standards' based on 8 Quality Management Principles, which are aligned with the philosophy and objectives of most quality award programmes (ISO, 2010). *"These eight principles properly considered and integrated into the framework of ISO 9001: 2000 ensure that the parties most affected, and most responsible for extracting the benefits of the QMS have the support and tools needed to ensure the company's success. The companies that recognise this and seek to capitalise on the sense of ownership and support developed within these guidelines consistently find that the benefits range from a decline in retention-related issues, as well as an overall improvement in the work quality being produced by their employees"* (IMS, 2003, p.5).

## **2.6 Reasons for seeking ISO 9001:2000 QMS certification**

The implementation of a quality management system is a strategic choice of an organisation and its design must be influenced by the organisation's purposes, structure, and size, the products or services presented, and its process (Oakland, 2003; Cianfrani, Tsiakals and West, 2009; Hoyle, 2009).

ISO 9001 is a very understandable standard and the crucial reason for implementing a quality management system is to help organisations of all sizes, from the private or public sector, to adopt and operate an efficient quality management system created to certify that the organisation provides goods and or services that satisfy customers (Hill, Self and Roche, 2002). To quote from the introduction to the standard (Cianfrani, Tsiakals and West, 2009, p.5):

*"This International standard promotes the adoption of a process approach when developing, implementing and improving the effectiveness of a quality management system, to enhance customer satisfaction by meeting customer requirements."*

ISO 9000 was primarily aimed at manufacturing industries in global trade. Because of the attainments brought about by ISO and TQM these tools and principles are now being implemented in many service sector organisations (Calisir, 2007). Literature illustrates that organisations have a number of motives for seeking ISO 9001 certification and these vary between organisations although, there are specific reasons that have been suggested in the literature as to why companies seek ISO 9001 certification.

Several studies have been conducted with regards to the implementation of ISO 9001 in small, medium, and large size companies in both service sectors (Poksinska, Eklund and Dahlgaard 2006; Efstratiadis, Kariti and Aravitoyannis, 2000; Sarkar, 1998; Mo and Chan, 1997; Carlsson and Carlsson, 1996; Motwani, Kumar and Cheng, 1996) and manufacturing organisations (Bhuiyan and Alam, 2005; Lipovatz, Stenos and Vaka, 1999; Beattie and Sohal, 1999).

In terms of motivation, seeking ISO 9001 certification can be classified into two main categories: external and internal motivation. Sampaio, Saraiva and Rodrigues (2009) stated that external motivations are principally associated with promotional and marketing subjects, with the purpose of achieving external benefits that are commercial in nature. Internal motivations are associated with the purpose of attaining organisational improvement this could be by the structure and improvement of the quality management system. The view of White *et al.* (2009) showed that improvements in internal processes and products or service quality are internal motivations. Additionally, internal aspects include profits and productivity improvement and the simplification of a set of processes (Piskar and Dolinsek, 2006). External reasons are essentially related to "*promotional and marketing issues*", "*customer pressures*", "*improvement of market share*", etc. (Cianfrani, Tsiakals and West, 2009; Gader *et al.*, 2009; Bayati and Taghavi, 2007; Zaramdini, 2007; Corbett, Luca and Pan, 2003; Douglas, Coleman and Oddy, 2003; Llopis and Tari, 2003; Magd and Curry, 2003 ;Gotzamani and Tsiotras, 2002; Poksinska, Dahlgaard and Antoni, 2002; Adenso-Diaz and Gonzalez, 2001; Gustafsson *et al.*, 2001; Escanciano, Fernandez and Vasquez, 2001; Brown, Van der Wiele and Loughton, 1998 ).

They suggested that the majority of the organisations have been motivated by either internal or external reasons or both. To support the earlier discussions table 2.4: shows the difference between external and internal motivations for seeking ISO 9001 certification by different authors and studies.

**Table 2.4 - Internal and external motives for seeking ISO 9001:2000 QMS Certification**

No	Reasons for Seeking ISO 9001:2000 Certification	Type	Sources/Authors/Year
1	Improving internal process and product or service quality.	I	Gader <i>et al.</i> (2009); White <i>et al.</i> (2009); Zaramdini, (2007); Mersha, (2007); Jones, Arndt and Kustin, (1997).
2	Top Management decision.	I	Zaramdini, (2007); Escanciano, Fernandez and Vasquez. (2001); Brown, Van der Wiele and Loughton, (1998); Carlsson and Carlsson, (1996).
3	Improve internal efficiency and productivity.	I	Gader <i>et al.</i> , (2009) Sampaio, Saraiva and Rodrigues, (2009); Mersha, (2007); Zaramdini, (2007); Magd, (2006); Mezher, (2000).
4	Increasing organisation quality awareness	I	Sampaio, Saraiva and Rodrigues, (2009); Magd, (2008); Bayati and Taghavi, (2007).
5	A step towards TQM.	I	Chang and Lo, (2005); Ruzevicius, Adomaitiene and Sirvidaite, (2004); Liopis and Tari, (2003); Escanciano, Fernandez and Vasquez, (2001); Carlsson and Carlsson, (1996).
6	Tool to assist in the development of quality management.	I	Cianfrani, Tsiakals and West, (2009); Hoyle (2009); Zaramdini, (2007); Sampaio, Saraiva and Rodrigues, (2009).
7	Request by the government.	E	Sampaio, Saraiva and Rodrigues, (2009); Zaramdini, (2007); Singles, Ruel and Van de Water, (2001); Carlsson and Carlsson, (1996).
8	Pressure from customers.	E	Sampaio, Saraiva and Rodrigues, (2009); Zaramdini, (2007); Douglas, Coleman and Oddy, (2003); Magd, (2003).
9	To improve customer satisfaction by meeting customer requirements.	I+E	Cianfrani, Tsiakals and West, (2009); Hoyle (2009); Bayati and Taghavi, (2007); Han and Chen, (2007); Douglas, Coleman and Oddy (2003); Escanciano, Fernandez and Vasquez, (2001).

**Table 2.4 - Internal and external motives for seeking ISO 9001:2000 QMS Certification (continued)**

No	Reasons for Seeking ISO 9001:2000 Certification	Type	Sources/Authors/Year
10	To use the certificate as promotional tools for marketing.	E	Gader <i>et al.</i> , (2009); Sampaio, Saraiva and Rodrigues, (2009); Escanciano, Fernandez and Vasquez, (2001); Singles, Ruel and Van de Water, (2001); Jones, Arndt and Kustin, (1997).
11	Direct entry to new markets and increase market share.	E	Sampaio, Saraiva and Rodrigues, (2009); Corbett, Luca and Pan, (2003); Douglas, Coleman and Oddy, (2003); Llopis and Tari, (2003); Magd and Curry, (2003); Gotzamani and Tsiotras, (2002); Poksinska, Dahlgaard and Antoni, (2002).
12	Business improvement	I+E	Bayati and Taghavi, (2007); Zaramdini, (2007).
13	Quality improvement	I+E	Gader <i>et al.</i> , (2009); Sampaio, Saraiva and Rodrigues, (2009); Mersha (2007).

**Note:** I Refers to Internal motives. E Refers to External motives.

Wiele *et al.* (2001) supported the earlier studies in that the primary motivation for virtually all companies obtaining an ISO 9000 certification is external pressure from customers. It is also interesting to know that ISO 9000 is thought to be the first step towards attaining a total quality management (TQM) system (Chang and Lo, 2005; Ruzevicius, Adomaitienne and Sirvidaite, 2004; Quazi and Padibjo, 1998; Ho, 1993).

The researcher also highlights studies that were conducted and investigated by researchers in the Arab world, some of which are classed as developing countries. In terms of motivations to seek ISO 9001 certification the organisations in Arabic countries may have different motivations to those in Europe and the USA. For example, Magd and Curry (2003) after conducting a survey involving Egyptian companies, ranked the reasons, and concluded that the most significant motives for certification, were: “to maintain/increase market share”; “improve the efficiency of the quality system”; “pressures from competitors/foreign partners”; “to comply with customers’ requirements” and “to meet government demands”. Zaramdini (2007, p.480) selected the common purposes for seeking ISO 9001 certification which could motivate UAE companies. A summary of the main reasons as to why companies adopt ISO 9001 can be framed as follows: “Improving productivity and/or efficiency”; “Reducing incidents, rejections and

complaints”; “Improving processes and procedures”; “Improving relationships between employees and management”; “A step towards total quality management”; “Demand and/or pressure from customers”; “Direct entry to new market”; “Use it as a promotional and/or marketing tool”; “Maintaining and/or increasing market share”.

The previous discussion therefore shows that the reasons for seeking ISO 9001 certification become closely correlated to the benefits. Such benefits focused on documentation, standards, quality awareness, market share, customer satisfaction and competitive advantage. Similarly, Mezher (2000) stated that Lebanese companies are seeking ISO 9001 certification for many reasons including: to satisfy customer requirements; to stay in business; useful marketing tool; to improve its internal process and to improve overall competitive performance.

Another study conducted in companies in Iran by Bayati and Taghavi (2007) noted that quality certification was associated as a tool for staying competitive in the domestic and international markets. The companies believed that they had to be ISO 9000 certified in order to continue in business and they required ISO 9000 to improve the management system. Additionally customers have requested that the companies are ISO 9000 certified. Some of the reasons or motivations for Saudi Arabian companies seeking ISO certification included getting greater market access, tool to assist in the development of quality management; improve efficiency of the quality system; improve quality of products and services; procedures for better documentation; increase and understand quality awareness in the company; reducing operational waste and meeting customer or contractual requirements (Magd, Kadash and Curry, 2003). To support this, Mezher and Ramadan (1999) also indicated that the reasons for obtaining the ISO 9001 certificate in the manufacturing sector in Saudi Arabia are often related to the improvement in quality, efficiency and competitiveness.

The researcher clearly recognises from the studies, surveys and results from Arabic countries the most important reasons to seek ISO 9001 certification included to gain entry to new overseas markets, improving product and/or service quality and companies' reputations, improve efficiency of the quality system, to meet government and customers' demands, to move forward and to use as a marketing tool. Therefore ISO 9001 certification is becoming a passport for exporting to the European Union and overseas markets. Crosby (1995) cited in (Mersha, 2007, p.68) suggested that,

*“Developing countries must improve the quality of their products in order to be able to increase their trade performance...improving quality and productivity.”*

ISO certification aids this by offering new marketing opportunities for products from developing countries (Mersha, 2007). Additional studies and surveys that were conducted in companies in Singapore place great emphasis on the motives, benefits and challenges during the implementation of ISO 9000 QMS and also established that ISO 9000 certification provides a stepping stone toward TQM practices (Quazi, Hong and Meng, 2002 and Quazi and Padibjo, 1998). However; companies in Singapore are being convinced to implement ISO 9000 certification in order to meet the customers' requirements in a global market, for example; higher levels of quality, efficiency, and delivery (Farooqui and Ahmed, 2009). Gotzamani and Tsiotras (2002), who studied the motives of Greek firms seeking certification, informed that motivation was important in concluding both the degree to which the standards were adopted and the overall benefits that firms obtained from the adoption.

A survey of over 100 quality managers/representatives of ISO 9000-certified organisations in the service and manufacturing sectors of UK industry conducted by Douglas, Coleman and Oddy (2003) recognised that the major motivation for organisations adopting ISO 9000 is to be able to tender for work that without certification would be unachievable.

A number of studies in the late 1990s carried out by Brown, Van der Wiele and Loughton (1997) and Brown and Van der Wiele (1995) show that raising the market share was the highest ranked motive for implementation. A study by Van der Wiele *et al.* (2000) cited in Douglas, Coleman and Oddy (2003) supported the earlier studies that established the fact that the standard is most often adopted to satisfy the requirements of external customers and potential customers. From the literature with regards to USA firms, one of the primary reasons for seeking ISO 9001 certification is the existence of commercial relationships with European markets (Bhuiyan and Alam, 2004). It has been agreed that companies seeking ISO 9000 certification motivated by internal reasons achieve more superior results than those where the pressure comes from external reasons (Martinez-Costa, Martinez-Lorente and Choi, 2008). However, the nature and strength of motivations behind the decision to implement ISO 9000 standards plays a key role in the success of the implementation process and in the emergence of organisational problems arising from certification (Ashrafi, 2008). In particular, deciding on the motives or reasons for implementing ISO 9000 standards can predict the benefits that an organisation could gain once certified (Magd, 2006). Consequently *"researchers widely agree that the most well-known and applied standard for quality systems is the ISO 9000 series"* (Gustafsson *et al.*, 2001 cited in Bayati and Taghavi, 2007, p.140).

## **2.7 Benefits obtained by ISO 9001:2000 QMS certification**

The implications of quality improvement are well-known in the literature: ISO 9001 leads to improvement in quality and a decrease in costs, which in turn assists with attaining customer satisfaction (Han and Chen, 2007). As previously mentioned, the motives that guide companies to seek ISO 9001:2000 certification can potentially bring about a wide range of benefits, although there have been a number of criticisms of studies relating to the benefits of ISO 9001 certification. Information regarding the benefits of implementing ISO 9001 has been derived from several researchers who conducted studies in various countries; this is shown in table 2.5. The quality requirements for the implementation of ISO 9000 standards is generally based on the benefits that can be achieved and which can have change and consequence on the organisation's future.

Regarding the benefits of ISO 9001 certification, Magd, Kadasah and Curry (2003) conducted a survey of 140 ISO 9000 certified manufacturing companies in Saudi Arabia. In their paper they studied the costs, benefits and the satisfaction level with ISO 9000 implementation. They specified that the most noteworthy benefits achieved through the implementation of ISO 9000 implementation were improved efficiency in both customer service and the quality system.

Additionally, there was an enhancement in quality awareness throughout the organisation. They also expressed that the benefits of ISO 9001 certification exceeded the costs of achieving the standards, and supposed that ISO 9000 contributed to organisational survival and success and the highest costs in the implementation process were internal costs, for example, consultancy and registration fees.

In a study by Terziovski and Power (2007) they suggested that ISO 9001 certification may perhaps deliver essential business benefits if it is implemented as part of a continuous strategy. Adanur and Allen (1995) reviewed the five most often mentioned benefits of ISO 9000, including: improved supplier quality, better involvement of people, reduced customer complaints, increased business and reduced costs. In a survey of 86 ISO-certified Turkish service companies Calisir (2007) explained, that the benefits gained from certification were essentially related to "improved product quality", "reduced mistake/imperfection rate in production", and "increased overseas market share".

Levine and Toffel (2010) identified that ISO 9001 developed both management practices and production processes, and that these improvements translated into increased sales and employment. It also assists managers in learning how to reduce costs. Ragothaman and Korte (1999) confirmed that managers of smaller companies were confident that ISO 9000 registration resulted in a reduction in costs and an increase in available specialists, however, this was not the same for managers of large firms. These benefits can therefore have a great impact on an organisation. After an extensive review of the literature a collection of 20 common benefits of both an internal and external nature were carefully selected. Table 2.5 lists the 20 most common benefits, gathered and summarised from the various articles. This is an augmentation of table 2.4 translating motivations into realised benefits.

**Table 2.5 - Internal and External benefits obtained by ISO 9001:2000 QMS certification**

No	Benefits gained after obtaining ISO 9001 certification	Type	Sources/Authors/year
1	Improving internal efficiency and reducing costs	I	Gader <i>et al.</i> (2009); White <i>et al.</i> (2009); Mersha, (2007); Zaramdini, (2007); Arauz and Suzuki, (2004); Escanciano, Fernandez and Vasquez, (2001); Buttle, (1997) Jones, Arndt and Kustin, (1997).
2	Increased productivity and or efficiency	I	Gader <i>et al.</i> (2009); Sampaio, Saraiva and Rodrigues, (2009); Mersha ,(2007); Zaramdini, (2007); Magd (2006); Gotzamani and Tsiotras, (2002); Santos and Escanciano, (2002); Dick, (2000); Mezher, (2000).
3	Reduction in incidents, rejections and complaints	I	Zaramdini, (2007); Arauz and Suzuki, (2004); Santos and Escanciano, (2002); Singles, Ruel and Van de Water (2001).
4	Improved product and or service quality	I	Ashrafi, (2008); Zeng, Tian and Tam, (2007); Piskar and Dolinsek, (2006); Magd, Kadasah and Curry, (2003); Withers and Ebrahimpour, (2000); Lee, (1999);
5	Improved profitability	I	Levine and Toffel, (2010); Prajogo, (2009); Sampaio, Saraiva and Rodrigues, (2009); Ashrafi, (2008); Piskar and Dolinsek, (2006); Magd, Kadasah and Curry, (2003); Corbett, Luca and Pan, (2002); Stevenson and Barnes, (2002); Dick, (2000); Mezher, (2000).
6	Improved process and procedures	I	Levine and Toffel, (2010); Cianfrani, Tsiakals and West, (2009); Hoyle, (2009); Prajogo, (2009); Ashrafi, (2008); Zeng, Tian and Tam, (2007); Piskar and Dolinsek, (2006); Arauz and Suzuki, (2004); Pheng and Fong, (2002); Poksinska, Dahlgaard and Antoni, (2002).
7	Employees become more quality aware	I	Levine and Toffel, (2010); Chow-chua, Goh and Wan,(2003); Magd, Kadasah and Curry, (2003); Poksinska, Dahlgaard and Antoni, (2003); Gotzamani and Tsiotras, (2002); Casadesus, Gimenez and Heras,(2001); Dic,k (2000); Withers and Ebrahimpour, (2000).
8	Increased workforce motivation and retention	I	Sampaio, Saraiva and Rodrigues, (2009); Magd, (2008); Mersha, (2007); Zaramdin,i (2007); Awan and Bhatti, (2003); Gotzamani and Tsiotras, (2002); Escanciano, Fernandez and Vasquez, (2001).

**Table 2.5 - Internal and External benefits obtained by ISO 9001:2000 QMS certification (continued)**

No	Benefits gained after obtaining ISO 9001 certification	Type	Sources/Authors/year
9	Better working environment	I	Ashrafi, (2008); Bhuiyan and Alam, (2006); Poksinska, Eklund and Dahlgaard, (2006); Piskar and Dolinsek, (2006); Awan and Bhatti, (2003); Magd (2003); Dick, (2000).
10	Improved customer service	I	Levine and Toffel, (2010); Gader <i>et al.</i> (2009); Sampaio, Saraiva and Rodrigues, (2009); Ashrafi, (2008); Magd, (2008); Mersha, (2007); Zaramdini, (2007); Aldowaisan and Youssef, (2006); Magd, (2006); Piskar and Dolinsek, (2006); Singh, and Mansour-Nahra, (2006); Arauz and Suzuki, (2004); Biazzo and Bernardi (2003); Douglas, Coleman and Oddy, (2003); Magd, (2003); Chu and Wang, (2001); McAdam and Canning, (2001); Dick, (2000)
11	Increased quality awareness in the firms	I	Levine and Toffel, (2010); Prajogo, (2009); Sampaio, Saraiva and Rodrigues, (2009); Zeng, Tian and Tam, (2007); Piskar and Dolinsek, (2006); Bhatti, (2003); Magd, (2003); Tang and Kam, (2004).
12	Improved market share	E	Sampaio, Saraiva and Rodrigues, (2009); Mersha, (2007); Corbett, Luca and Pan, (2003); Douglas, Coleman and Oddy, (2003); Llopis and Tari, (2003); Magd and Curry, (2003); Gotzamani and Tsiotras, (2002); Poksinska, Dahlgaard and Antoni, (2002); Corbett, Luca and Pan, (2002); Dick, (2000); Jones, Amdt and Kustin, (1997).
13	Organisation's image in the market improved	E	Prajogo, (2009); Sampaio, Saraiva and Rodrigues, (2009); Ashrafi, (2008); Mersha, (2007); Zaramdini, (2007); Magd, (2006); Piskar and Dolinsek, (2006); Poksinska, Dahlgaard and Antoni, (2006); Wiele <i>et al.</i> , (2005); Chow-Chua, Goh and Wan, (2003).
14	Effective promotional and or marketing tool	E	Viada-Stenger, Balbastre-Benavent and Redondo-Cano, (2009); Ashrafi, (2008); Zaramdini, (2007); Nahra, (2006); Magd, (2003); Stevenson and Barnes, (2002); Awan and Bhatti, (2003) Buttle, (1997); Mo and Chan, (1997).
15	Improved supplier performance and relations	E	Lee <i>et al.</i> , (2009); Prajogo, (2009); Gotzamani <i>et al.</i> , (2007); Oke and Owaba (2007); Zeng, Tian and Tam, (2007); Magd, (2006); Awan and Bhatti, (2003); Biazzo and Bernardi, (2003); Magd and Curry, (2003) Gotzamani and Tsiotras, (2002).

**Table 2.5 - Internal and External benefits obtained by ISO 9001:2000 QMS certification (continued)**

No	Benefits gained after obtaining ISO 9001 certification	Type	Sources/Authors/year
16	Expansion to international markets	E	Prajogo, (2009); White <i>et al.</i> , (2009); Sampaio, Saraiva and Rodrigues, (2009); Hashem and Tann, (2007); Zaramdini, (2007); Zeng, Tian and Tam, (2007); Magd (2006); Chow-Chua, Goh and Wan, (2003); Ruzevicius, Adomaitiene and Sirvidaite, (2004); Casadesus <i>et al.</i> , (2001); Buttle, (1997); Tsiotras and Gotzamani, (1996).
17	Reduction in the number of customer audits	E	Lee <i>et al.</i> , (2009); Ashrafi, (2008); Zeng, Tian and Tam, (2007); Yeung and Mok, (2005); Ruzevicius, Adomaitiene and Sirvidaite, (2004); Awan and Bhatti, (2003); Gotzamani and Tsiotras, (2002); Santos and Escanciano, (2002); Stevenson and Barnes, (2002); Escanciano, Fernandez and Vasquez, (2001).
18	Increased customer satisfaction	E	Cianfrani, Tsiakals and West, (2009); Hoyle, (2009); Prajogo(2009); Sampaio, (2009); Ashrafi, (2008); Zeng, Tian and Tam, (2007); Aldowaisan and Youssef, (2006); Piskar and Dolinsek, (2006); Magd and Curry, (2003); Magd, (2006); Stevenson and Barnes, (2002); Casadesus <i>et al.</i> , (2001).
19	Greater competitive advantage	E	Koc, (2007); Oke and Charles-Owaba (2007); Poksinska, Eklund and Dahlgaard, (2006); Marcus (2005); Awan and Bhatti, (2003); Magd and Curry, (2003); Gotzamani and Santos and Escanciano, (2002); Tsiotras, (2002); Chu and Wang, (2001); Dick (2000); Withers and Ebrahimpour, (2000).
20	Establish and/or improved mutual cooperation with suppliers	E	Ashrafi, (2008); Zaramdini, (2007); Magd, (2006); Escanciano, Fernandez and Vasquez, (2001); Arauz and Suzuki, (2004)

**Note:** I Refers to Internal benefits. E Refers to External benefits.

These elements or themes (benefits) in the above table were developed from a list of a priori codes extracted from the literature in the field of study, the research aims, objectives and research questions and formed a basis for the findings in chapter 4. These codes are intended to assist the researcher in the development of the structure for the data analysis process.

### **2.7.1 Customers satisfaction**

Customer satisfaction is a regularly reviewed topic in quality management literature and is viewed as the primary purpose for improving the quality of a product or service. It can be evaluated by:

- “Number of customer compliments;
- Number of repeat customers;
- Customer retention rate;
- Level of customer satisfaction” (Han and Chen, 2007).

Martinez-Costa and Martinez-Lorente (2003) mentioned one of the main purposes of ISO 9000:2000 certification is to satisfy customers. ISO 9000 addresses the correlation between customers and organisations. Poksinska, Dahlgaard and Antoni (2002) and Brown and Van der Wiele (1995) stated that, ISO certification could build good relationships between customers and organisations, increase on time delivery, and customer satisfaction. Furthermore, Sauvage and Aptel (2004) mentioned, that ISO certification increases customer satisfaction. Vouzas and Gotzamani (2004) indicated organisations that apply an effective quality management system, would attain customers’ confidence. However a study by Han and Chen (2007) concluded that certification alone does not bring about customer satisfaction but providing higher quality products at lower prices leads to enhanced customer satisfaction.

### **2.7.2 Improve management performance**

The benefits of ISO 9000 certification has been a point of in interest within the field of research, and has attracted a great deal of attention from its practitioners. 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.

Poksinska, Dahlgaard and Antoni (2002) and Koo, Koo and Tao (1998) indicated, a number of internal benefits can be achieved in implementing ISO 9000 standards related to improving management performance these include; efficient documentation system, identifying tasks and responsibilities and developing a corporative culture. Brown and Van der Wiele (1995) indicated improving management performance is one of the key benefits that can be achieved in implementing ISO 9000 standards. Martinez-Costa and Martinez-Lorente (2003) stated ISO 9000 certification leads to the elimination of unnecessary paper work leading to a smoother workflow.

### **2.7.3 Increase quality awareness**

An increase in employees' knowledge of quality awareness is an advantage attained by the organisations with ISO 9000 certification (Magd and Curry, 2003; Casadesus, Gimenez and Heras, 2001). Furthermore, Escanciano, Fernandez and Vazquez (2001) indicated that one of the benefits ISO 9000 certification brings is to increase quality awareness and increase awareness of preventive and corrective actions. Modica and Carter (2004, p.1) supported the definitions of these authors and explained how quality awareness will increase with the implementation ISO 9001:

*"During implementation, quality awareness will increase, since all staff must be trained on ISO 9000. Staff will be required to take "ownership" of processes that they are involved in developing and improving. The QMS will also have built-in systems to report on key quality indicators, which will significantly reduce the reoccurrence of problems. This helps develop a strong quality culture, where the staff recognizes problems such as systems or process issues and works on fixing them, rather than placing blame with an individual. "The result is increased confidence in workmanship and a more confident staff" (Modica and Carter, 2004, p.1).*

### **2.7.4 Marketing tools**

ISO certification is a pre-requisite to further improvement, development, and a more advanced level of quality. Motivation is also a key component for an organisation's successful market orientation. To reiterate, ISO 9000 presupposes an organisation which aims to satisfy its customers' needs while continuously evolving. In order to attain and practise such a progressive attitude, a chain of added value, providing improvement where possible, must be considered and exercised. The management of internal processes based on customer expectations, yields greater customer satisfaction (Escanciano and Santos, 2002). Casadesus and Gimenez (2000) cited that, the Lloyd's Register Quality Assurance (1994) gained the benefits associated with certification which increased the number of new customers and occupied a place in the international market. Furthermore, Tang and Kam (1999) indicated the ISO certification brings benefits that are commercial in nature, such as, improving competitiveness in the market, increasing exports, and gaining new contracts.

### **2.7.5 Reduction of customers' assessments**

Casadesus and Gimenez (2000) cited that, Lloyds Register Quality Assurance (1994) stated a reduction in the number of audits from customers is one of the advantages of the ISO certification. Koo, Koo and Tao (1998) also indicated that ISO certification is associated with the reduction in the number of audits.

### **2.8 The barriers encountered during the implementation of ISO 9000 QMS certification**

Barriers are defined here as a problem, obstacle, rule or situation that prevents an organisation from doing something or that makes something difficult to implement. While considerable interest has been shown in the improvement of business management, the study of quality management has been significantly less prominent in Libya, a situation that is also found in other Arabic countries (Zairi, 1996). The reasons for many organisations failing to be familiar with, and understanding the advantages of ISO should therefore be examined. Dory and Schier (2002) recognise that the philosophy of quality inherent in ISO standards requires employees and managers within and across departments in the organisation to work together to identify and resolve quality problems.

Empirical evidence shows that the implementation of ISO 9000 meets many different barriers in organisations throughout the world (Fotopoulos and Psomas, 2009; Gader *et al.*, 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 has found that most of these failures result from a 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.

Another study by Sampio, Saraiva and Rodrigues (2009) suggests that the major difficulties faced in implementing ISO 9000 standards 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.

However, it is to be noted from the literature that there has been limited consideration of the theme of barriers affecting the implementation of ISO 9001:2000 standards in previous research and work studies, particularly with regard to organisations across Middle Eastern, Arabic, and African countries that have a similar working environment to Libyan organisations. In addition, the quality movement has created a number of barriers that appear to inhibit its continuing growth. These barriers have become greater as the benefits of further quality programme implementation have become more apparent.

It is important for all organisations to understand these barriers before and during QMS implementation, so that the quality system can be successfully introduced and embedded into the organisation. In this section, the researcher will describe and identify the most common difficulties faced by organisations when they seek certification.

### **2.8.1 Lack of understanding of ISO 9000 standards and its requirements**

The ideas of quality management have been widely accepted and adopted since the Second World War (Lee, Leung and Chan, 1999). After the QMS has been implemented, a lot of obstacles emerged and the most difficult task encountered by organisations is ensuring their staff understand and accept the ISO 9000 standards and its requirements (Tang and Kam, 1999). Ashrafi (2008) and Al-Zamany, Hoddell and Savage (2002) indicated that the implementation of quality programmes in developing countries has failed due to the lack of understanding of QMS. The failure of some organisations to gain the certificate is caused by a lack of understanding, on the part of top management, of ISO standards requirements and of the implementation process. In addition, Withers and Ebrahimpour (2001) indicated that one of the most common obstacles faced by eleven different European organisations included in their study was the difficulty of interpreting the ISO 9000 standards and lack of top management involvement, therefore, top management should educate themselves before taking action to seek ISO 9000 certification (Sampaio, Saraiva and Rodrigues, 2009).

Zairi (1996) identified that Arab governments and managers unfortunately believe that ISO 9000 registration will achieve miracles and lead to superior competitiveness. He stated that:

*“All Arab countries have to deal with these levels of misconception and poor understanding. ISO 9000 is only a licence to practice and only represents one pillar of the TQM philosophy. It is an essential element but not sufficient on its own” (Zairi, 1996, p.420).*

Fotopoulos and Posmas (2009); Gader *et al.* (2009); Mersha (2007); Kwai-sang, Poon and Kit-Fai (2000) quoted Olsen (1994) and Dzus and Sykes (1993) who found that most barriers that cause an organisations failure to achieve certification are related to a lack of understanding of the requirements for ISO 9000 standards, the difficulties of implementing corrective and preventative actions, the use of document and data control, and the importance of internal quality audits, respectively. Furthermore, Yahya and Goh (2001) noted that the seven most difficult requirements related to the implementation of ISO 9000 standards in Malaysian manufacturing organisations were corrective and preventative actions, management responsibilities, design control, process control, statistical techniques, document and data control and quality systems. Indeed, as shall be seen, three consequences occur when management face difficulties in fulfilling one or more of the standards requirement. These are failure to ensure conformity of products, failure to identify quality records and developing procedures to control documentation, and failure in the fulfilment of quality system requirements.

Sharp *et al.* (2003) mention that the lack of understanding of process-based-thinking, process mapping and its integration are barriers affecting successful implementation of ISO 9001:2000 in organisations in the North West of England. Motwani, Kumar and Cheng (1996) quoted Greene (1991) who demonstrated that sixty percent of difficulties associated with ISO 9000 standards implementation are document control, design control, purchasing consistency, process control and inspection and testing. Moser and Bailey (1997) noted that the lack of process control is a barrier to ISO 9000 standards implementation.

The use of quality techniques and statistical tools is a difficult requirement for most organisations to implement with regard to ISO 9000 standard. Statistical Process Control (SPC) is one of the statistical techniques used to describe and to understand the process, to improve weak points, to define effective measurements and to assess the performance for continuous improvement. According to Does, Schippers and Trip (1997) the most common reasons for failing to implement SPC are, lack of understanding of its techniques, lack of training in its techniques and poor project control after the first introduction of SPC. In addition, Fuentes *et al.* (2000) and Lipovitz, Stenos and Vaka (1999) identify that a lack of appropriate technical knowledge of the use of statistical techniques is a barrier to the implementation of ISO 9000 standards.

The obstacle of interpreting the standards appears to be a problem for European countries, and for the Arabic and Asian organisations, this was corroborated in studies done by Gader *et al.* (2009); Ashrafi (2008); Mersha (2007); Curry and Kadasah (2002);

Beskese and Cebeci (2001); Chu, and Wang (2001); Yahya and Goh (2001); Al-Khalifa and Aspinwall (2000); Dale (1999); Lee *et al.* (1999); Quazi and Padibjo (1998); Erdal and Ghosh (1997); Mo and Chan (1997); Carlsson and Carlsson (1996). Therefore, it is clear that top management need to have a good understanding of the purpose of the standards, how its requirements are implemented, ways to measure its business impact and areas in which benefits may lie.

Another study by Magd (2008, p. 4) indicated that

*“The third highest ranking problem with ISO 9001:2000 implementation in the manufacturing sector in Egypt was the lack of understanding the standards by all the departments.”*

Therefore, the obstacles with regard to ISO 9001:2000 implementation in Egypt were in line with those found in earlier studies for example, those of Dahlgaard and Antoni (2002); Bayraktar and Beskese (2001); Yahya and Goh (2001) Calisir *et al.* (2001) Fuentes *et al.* (2000). However, the ranking of the obstacles differed among studies.

### **2.8.2 Lack of top management commitment, involvement, leadership and support**

Quality gurus like Deming, Juran and Crosby mentioned that top management commitment is one of the most important factors impacting on the success potential of any QMS in any organisation. The connection between top management commitment in the organisation and the quality of products may not be direct.

Subordinates need to be encouraged by top management, in order to enable more investment in the elements for which they are responsible, thereby increasing the impact of these elements on the quality of the product. Top management's responsibility for providing commitment, leadership and the appropriate support to the technical and human processes, are important factors in quality management implementation. Top management commitment is a determinant of successful quality management. Top management has to be the first in applying and stimulating the quality management approach and they have to accept maximum responsibility for the product and the service offered. Top management has to provide the necessary leadership to motivate all employees (Farooqui and Ahmed, 2009; Lundemark and Westlius, 2006; Chin and Choi, 2003 Abraham *et al.*, 2000).

Quality management has been implemented successfully in organisations where the top management team is committed to applying and maintaining it, and is involved in the implementation processes and periodic review when they are carried out. Quality should start with the top management and flow towards lower levels of management or sometimes involve discussions starting from the bottom and working up to the top. Leaders should do more than just talk, they must change the organisation conceptually and structurally to bring leadership to life at all levels. The leader must deal with major resource decisions and new directions and not just be involved in day-to-day management (Osman *et al.*, 2001 and Liang-Tan, 1997).

Top management should become involved in quality efforts at planning, implementing and monitoring phases and not just adopt slogans for improving quality. Top management commitment encourages managers, supervisors, and employees in an organisation to invest more fully in the particular elements for which they are responsible, thereby increasing the impact of these elements on the quality of the product. Leadership should translate its commitment into a set of actions to be aimed at enhancing the ability to compile and effectively analyse relevant information with regard to customer focus, benchmarking and supplier QMS. Without the support of management, the behaviour of personnel in the organisation is difficult to change (Ashire and O' Shaughnessy, 1998).

Wahid and Corner (2009) noted that top management commitment is the most important factor in terms of successful quality management implementation, and a lack of commitment is one of the main reasons why a QMS fails in an organisation. Amar and Zain (2002) examined Indonesian manufacturing organisations and found that a lack of top management commitment to ISO 9001:2000 was a significant barrier to implementation.

Osman *et al.* (2001) point out that strong commitment to quality management is necessary to ensure employees employ quality practices. In terms of commitment, management needs to define its goals and roles. Top management commitment should be based on their understanding, knowledge and belief that quality management is of considerable importance to the organisation (Wiele *et al.*, 2001). Srinidhi (1998) and Samson (1997) point out that lack of top management involvement is an inhibiting factor in implementing QMS in Australia, New Zealand and New Jersey organisations. Lack of leadership and lack of senior management's personal involvement and acceptance of responsibility are barriers to the implementation of ISO 9000 standards in many organisations Quazi, Hong and Meng (2002); Kwai-Sang, Poon and Kit-Fai (2000); Dzus and Sykes (1993); Stebbing (1993) quoted in Olsen (1994), who found that the main

barrier that contributes to an organisations failure to maintain progress towards certification is a lack of top management support. Ashire, Golhare, and Waller (1996) outlined the idea that top management is the driver of quality management implementation. These individuals create values, goals and systems to satisfy customer expectations and to improve an organisation's performance.

Top management commitment to quality should clarify its philosophy that quality will receive a higher priority over cost. They must also demonstrate their commitment to quality by providing the human and financial resources necessary to implement QMS. To obtain the commitment from employees, top management must have a wide range of knowledge and information, including customer needs and expectations and the knowledge of regulatory and legal requirements related to their products.

Studies show that quality management has been successfully implemented in organisations as a result of commitment, support and involvement on the part of top management. According to the ISO 9001:2000 standard, top management has to establish a quality policy and objectives that have to be well communicated and understood at all levels in the organisation. Top management should conduct a management review at planned intervals, to review the continuing development, suitability, adequacy and effectiveness of the QMS, involving quality policy and objectives in comparison with the organisation's performance. Also, top management should ensure the availability of necessary resources to achieve quality objectives.

### **2.8.3 Government impact and financial support**

ISO 9000 certifications have attracted interest from industry, international organisations and governments around the worldwide. As ISO Secretary-General Alan Bryden puts it, *"International Standards are an essential tool for facilitating trade, spreading knowledge, and sharing technological advances and good management practice"* (ISO, 2010).

Consequently, ISO 9000 certifications are becoming a fundamental contractual requirement for doing business in the global market place, within economic trading blocks, between countries and with government agencies (ISO, 2010).

Mersha (2007, p.68) quoted Crosby (1995) who stated that *"developing countries must improve the quality of their products in order to be able to increase their trade performance."* Among the developing countries, the Arab world, United Arab Emirates, Egypt, Saudi Arabia, Oman, Kuwait, Qatar and Libya are encouraging organisations to

adopt and implement ISO 9000 QMS (Hokoma and Hussain, 2008; Magd, 2006; Magd *et al.*, 2003; Al-Khalifa and Aspinwall, 2000). Subsequently, the Libyan National Centre for Standardization and Metrology has placed a greater emphasis on achieving better quality through an effective quality management system in order to compete in both domestic and foreign markets

Several governments request that organisations become registered to ISO 9000 standards in order to enter the EU market which demands the certification as a necessary requirement for importing goods from other markets (Wiele *et al.*, 2001). Governments and associations have the illusion that they can ensure quality of products or services by imposing standards such as ISO 9000 that are supposed to contain all the information and actions necessary to produce quality.

In developing countries, inadequate training of employees and lack of commitment to motivate employees are key obstacles to quality (Prasad and Tata, 2003). Legal regulations and technological limitations are some of the impediments to QMS implementation (Karazewski, 2004). The Singapore government for example, has been very proactive in promoting quality and its role in supporting the quality movement has had a positive impact on all sectors in the country (Quazi and Padibjo, 1998). Similarly, the Malaysian government has allocated various funds to assist organisations with the implementation of a QMS (Idris, Suliman and Othman, 2004).

Abraham *et al.* (2000) suggest that governments must support quality development financially and through motivation programmes and laws. Government departments may require organisations to be certified in order to be eligible to tender for contracts (Brown, Van der Wiele and Loughton, 1998). In the Yemeni public sector, the selection and assessment of managers is influenced by the government, which results in appointing an unqualified person for the job (Al-Zamany, Hoddell and Savage, 2002).

Yemeni organisations have been protected from international competition by government-imposed tariffs and trade barriers. Also, lack of government support such as financial support and providing necessary strategic studies to help the organisations to develop the work, are impeding the implementation of ISO 9000 standards (Al-Zamany, Hoddell and Savage, 2002). Amar and Zain (2002) identified that insufficient funds and financial support to mobilise QM-driven activities such as initiating training programmes and providing quality resources, are difficulties encountered by Indonesian organisations in implementing QMS-ISO 9000.

The development of existing infrastructures and educational systems must represent major priorities for any government in its effort to support QMS issues (Lipovitz, Stenos and Vaka, 1999). Lack of financial resources and government support, lack of government policies and studies that identify and specify the future of African industries, lack of ISO 9000 standards awareness throughout African society, lack of government competence activities related to quality, and difficulty of trading procedures are common government barriers to the implementation of ISO 9000 standards in African organisations (Mersha, 2007). The network relationships that exist between the organisation and local authorities are often complex and can directly impact on the image and reputation of quality in Chinese organisations (Glover and Siu, 2000). Other studies done by Ashrafi (2008); Mersha (2007) and Al-Kahlifa and Aspinwall (2000), revealed that a lack of financial support and lack of pressure from governments to push organisations towards certification are major barriers inhibiting organisations.

Governments can play an essential role with regard to strategic quality planning in organisations in their countries by establishing quality regulations, import and export restrictions, the adoption of different quality standards and the degree of international economic involvement. Governments can also provide strong support in the QMS implementation process by lending moral support, legitimising quality programmes and by the licensing of instruction. However, Glover and Siu (2000) pointed out a featherbedding system created by government intervention in public sector organisations in developing countries can lead to organisations becoming overstaffed with low levels of productivity.

#### **2.8.4 Organisational culture barriers**

Organisational culture is the values, traditions, beliefs and behaviours of any company or organisation. Their very existence will therefore influence the execution of organisational change (Tucker, 2001). It can also be considered as “the glue that holds an organisation together” (Baron, 1994, p. 64, cited in Lomas, 1999, p. 31). In relation to organisational culture, culture is defined by Oakland (2000, p.22) as,

*“The beliefs that pervades the organisation about how business should be conducted and how employees should behave and should be treated.”*

Or perhaps, the culture within the organisation contains behaviour based on people interaction, norms resulting from working groups, dominant values adopted by the organisation, rules and the climate within the organisation (Oakland, 2000).

It has been suggested that culture is the umbrella which covers all the elements of social activities, and it can have a serious impact on behaviour, communication, relationships and other social parameters. Therefore, the literature emphasises the importance of culture defined in different ways and which is strongly connected with communication. Hyde and Williamson (2000, p.6) define organisational culture as,

*“A pattern of shared basic assumptions that the organisation asserts are important as guides to the way people should behave to solve its problems of external adaptation and internal integration to achieve its goals and objectives.”*

As a result, communication aims to achieve the goals and objectives in an organisation. Furthermore, good communication allows members of an organisation to exchange information to fulfil their tasks (Lee, 2005). The employees in an organisation work between two systems of values; their cultural background values system and the organisational values system, both of which usually share the same values but aim to achieve different objectives. For example, loyalty to a group is an important cultural value; on the other hand, loyalty to the organisation holds equally important values in organisational culture. Therefore, such values affect the communication behaviour of individuals in an organisation (Hyde and Williamson, 2000).

Mauil, Brown and Cliffe (2001) identified the idea that culture includes knowledge, belief, art, morals, laws, customs and habits and capabilities acquired by employees in an organisation. Culture is the adhesive material that holds the organisation together. In addition, Mauil, Brown and Cliffe (2001) quoted Vanisina (1990) who stated that in order to facilitate the implementation of an effective quality management system, the nature of an organisation and its culture must first be assessed and any requirements for change should be embedded within existing structures. Mallak, Bringelson and Lyth (1997) added that an organisation's culture provides the basis for forming and modifying the behaviours, attitudes, and values that are deemed very important to the power structure of the organisation. However, culture is often a barrier to change in quality improvement programmes. Culture change is necessary for change in attitudes and behaviours to enhance desired behaviours, thereby continuing progress in the initial change process.

Some authors propose that

*“...to implement quality programs effectively, the organisational culture should be moulded to the quality method or vice versa. It is important that this occurs at the initial implementation of the quality program, because the culture's initial experiences of the quality program will affect their future responses to quality initiatives. That is, organisational culture impacts on quality from the conception of quality within the organisation”* (Corbett and Rastrick, 2000, p.17, quoted Sinclair and Arthur, 1994, McNabb and Sepic, 1995).

In addition, Ghobadian and Gallear (1997) argued that the culture of an organisation can be influenced by education and training, employee participation programmes, improvement communication programmes, the revision of procedures and policies, reward system modification and the behaviour of top management. However, the greatest challenge with respect to removing the barriers to the effectiveness of QM is managing cultural change in adverse economic and social environments (Macedo-Soares and Lucas, 1996). Furthermore, obstacles within the organisational culture are the most important barriers to overcome in order to make an organisation successful in implementing ISO 9000 standards (Fuentes *et al.*, 2000).

The quality management system in an organisation will not work correctly when it is designed by an outsider whose culture is different from that of the organisation because change involves human behaviour and attitudes rather than the machinery or paper system within the organisation (Glover and Siu, 2000). Similarly, Taylor (1995) states that it is a mistake to adopt a quality management system that has worked in other cultures without exploring the differences.

Changing pre-formed behaviours, attitudes and values into an organisations desired behaviours is often a difficult but necessary process especially regarding quality programmes such as ISO 9000 (Mallak, Bringelson and Lyth 1997). Amar and Zain (2002) concluded that Indonesian organisations are affected by cultural barriers, as the cultural environment is frequently not in line with organisational objectives and missions. The lack of quality awareness, bureaucracy, resistance to change, and centralised decision making are inhibiting elements in terms of the ISO 9000 quality management philosophy.

#### **2.8.4.1 Lack of quality awareness**

Quality awareness is described by Crosby (1996) as a situation in which each person has to know what is going on. Therefore, the purpose of awareness is to let each person feel that they belong to a quality organisation. In addition, awareness means that staff in an organisation understands the management's quality policy and the current status of the ISO 9000 quality system and the importance of maintenance in order to continue with certification (Kwai-Sang, Poon and Kit-Fai, 2000).

Al-Zamany, Hoddell and Savage (2002) point out that the level of awareness of quality management system issues in Yemeni companies is very low and that there is a poor understanding of the importance of quality in international trade and in terms of the globalisation of world markets. It is a result of a dearth of information, education and training programmes available on quality issues.

Crosby's proposition is that there is no such thing as a quality problem. He is implying that poor management creates the quality problems. Indeed, as was seen and discussed by Hayat (2003); Sharp *et al.* (2003); Balzarova, Bamber and McCambridge (2002); Taylor, (1995), the lack of awareness is an inhibiting factor preventing the start of the certification process.

#### **2.8.4.2 Bureaucracy**

Bureaucratic culture has favoured the development of large organisations, which have contributed to economic development in many countries. However, this culture is no longer valid and should be replaced by customer and quality aspects (Claver *et al.*, 2000).

The bureaucratic culture causes many problems in organisations such as a lack of employee involvement, insufficient investment in technology, hierarchical levels, inappropriate planning, inappropriate business alliances and not being able to adapt to the market (Claver *et al.*, 2000). Nevertheless, Al-Khalifa and Aspinwall (2000) and Lipovatz, Stenos and Vaka (1999) suggest that implementing ISO 9000 standards with the associated documentation system, causes bureaucracy in organisations. Territorialism on the part of managers can also create barriers to ISO 9000 standards implementation in many organisations (Ngai and Cheng, 1997).

### 2.8.4.3 Resistance to change

In order to understand the concept of resistance to change, it is critical to define what is meant by the term resistance to change. Folger and Skarlicki (1999, p.36) define resistance as “...*employee behaviour that seeks to challenge, disrupt, or invert prevailing assumptions, discourses, and power relations.*” Low and Ling Pan (2004) note that resistance to change is a quality barrier to effective ISO 9001:2000 implementation and maintenance in Singapore organisations. Sanderson (1992) attempted to describe the resistance to change as a human reaction.

Resistance may perhaps come about due to lack of interest, misunderstanding and different assessment of the need for, or desirability of, the change and, in a few cases, may be due to low tolerance for change on the part of the individual. Indeed, a survey of Singapore companies by Quazi and Padibjo (1998) and Calingo *et al.* (1995) identified employee’s resistance to change as one of the difficulties in implementing ISO 9000 standards. Lipovatz, Stenos and Vaka (1999) recognised that the employees have a stronger feeling of being controlled by the system and consequently avoid undertaking more responsibilities as part of the quality system requirements. Therefore, the resistance to change occurs on the part of middle managers when they feel that they may be losing influence over decision-making and employees in general when given new tasks and responsibilities (Fuentes *et al.*, 2000).

Al-Zamany, Hoddell and Savage (2002) believe that moving forward in terms of continuous improvement is accompanied with the need for changing the way of thinking and the way of working through the total commitment of management. However, resistance to change occurs as a result of implementing western country’s quality management models in Yemeni organisations, which include some cultural tensions such as the fact that they are based on European cultural values.

A study by Tsim, Yeung and Leung (2002) and Moser and Bailey (1997) indicated that the implementation of the ISO 9000 system led to employee resistance because it is seen as quite a lot of extra work, particularly with regard to the preparation of documents outlining all activities at every operational level. Furthermore, a lot of employees resist adopting new changes in the organisation because they have been working with the current system for a long time and do not want the challenge of learning new skills.

Lipovatz, Stenos and Vakas (1999) noted that the avoidance of new tasks and responsibilities, change mentality and mistrust are causes of resistance to change and act as an obstacle to ISO 9000 implementation in Greek organisations. Folger and Skarlicki (1999, p. 35) identified that:

*“Employee resistance can be a significant deterrent to effective organisational change. Organisational change can generate scepticism and resistance in employees, making it sometimes difficult or impossible to implement organisational improvements.”*

Fuentes *et al.* (2000) also believe that resistance to change on the part of workers who feel they are losing influence over decision making and that new tasks and responsibilities are created in QMS implementation, create barriers to implementing ISO 9000 in Spanish organisations. In addition, the fear of losing face and avoidance of responsibilities acts as a barrier to change in Chinese organisations. Another study reported by Liang Tan (1997) quoted Maital and Maltz (1980) and Salazer (1994) who noted that some cultural barriers affecting QMS implementation include the resistance of employees in terms of behaviour, habits and relationships between leaders and employees and weak organisational performance, ethics and challenges.

A survey carried out at the Cowie Group in the UK which focused on cultural barriers, highlighted that the fear of admitting error is one of the major barriers to the implementation of effective quality improvement (Willoughby and Wilson, 1997), they declared that the employees see QMS as a tool that management could use to punish them. Indeed, a deep resentment can be created towards the quality system.

#### **2.8.4.4 Employee absenteeism**

A study by Agnaia (1997) recognised that the Libyan managers' disregard for official working hours, subsequent late arrival to work, mid-day disappearances from work and early finishes results in a delay in the performance of their duties. Such information concludes that the low value attached by the Libyan manager to time has a very negative influence on productivity. Arab researchers, such as Sulieman (1984) are in accord with this conclusion; pointing out that this problem was identified by 41 per cent of interviewed Iraqi managers who complained of relatives and friends dropping into their offices during working hours. Time-pressure also figured amongst the complaints of those Arab executives interviewed, according to Muna (1980). Al-Khalifa and Aspinwall (2000)

identified absence among employees as the most significant limitations to the implementation of ISO 9000.

#### **2.8.4.5 Wrong people in the wrong positions**

A study by Al-Zamany, Hoddell and Savage (2002, p. 242) highlighted,

*“...unqualified managers (in public owned organisations), are appointed by political decision. These managers can work as another barrier to performing the job effectively and improving it.”*

The promotion of directors and managers not based on qualifications and having the wrong people in the wrong positions are common cultural barriers affecting QMS implementation in three different Arabic countries (Qatar, Oman and Syria), (Ashrafi, 2008; Al-Khalifa and Aspinwall, 2000 and Tayara, Nasser and Ghadban, 2000).

Indeed, the majority of people consider that being promoted to a post, particularly as a manager, is the end of the learning journey. Without learning new ways of managing or producing or following the new technologies, it would be difficult to sustain a continuous improvement culture (Al-Zamany, Hoddell and Savage, 2002). Furthermore, Glover and Siu (2000) argue that managers not promoted on merit, but as a result of their allegiance, impede the level of management skills and impede implementation of ISO 9000 standards in Chinese companies.

#### **2.8.5 Lack of documentation**

The documentation of a quality management system in any organisation is affected by the difficulty and the interaction of its processes and by the competence of staff. The ideal QMS documentation, according to the new standard, is represented in the quality manual, which identifies quality policy and objectives. It also contains QMS procedures that describe the interrelated processes, work instructions and other detailed documents (ISO/TC176/SC2, 2002).

Withers and Ebrahimpour (2001) recognise unreported poor documentation as a sizeable obstacle to implementation, though empirical studies have countered this shortfall by diagnosing poor documentation as a barrier to implementation for US and non-US organisations (Carlsson and Carlsson, 1996; Vloeberghs and Bellens, 1996). In terms of ISO implementation obstacles, another study reported by Vloeberghs and Bellens (1996) identified that documentation costs had a negative impact on all

organisations. This result is not surprising since the ISO 9000 standards are highly documentation-driven and require that all documentation be updated to reflect any system change. Therefore, the negative impact of documentation costs is consistent with the findings of other studies that have reported increased costs as result of ISO 9000 certification and this has become one of the barriers to the implementation of ISO 9000 standards. Another study by Beskese and Cebeci (2001) indicated that the most commonly faced difficulty during the registration process in Turkish companies was found to be controlling documentation, understanding the requirements for standardisation, followed by changing the existing culture and system. These problems were also cited by companies in Brazil and Hong Kong (Lee *et al.*, 1999; Macedo-Soares and Lucas, 1996).

### **2.8.6 Lack of time**

Balzarova *et al.* (2004, p. 392) identified that "*Time is a factor limiting the successful implementation of a process-based management system.*" Barriers are a lack of time measured in terms of hours per person and a lack of experience amongst managers (Chu and Wang, 2001).

A study by Withers and Ebrahimpour (2001) quoted Atwater and Discenza 1993; Carlsson and Carlsson 1996; Withers and Ebrahimpour 1996; Vloeberghs and Bellens 1996, and indicated that almost 70 percent of US organisations do not track the time involved in the certification effort. Hence, time was identified as an important obstacle.

The difficulties involved in interpreting the system change was cited as an implementation problem with the same frequency as implementation time. Therefore, learning how to overcome existing institutional barriers and applying a new system or new organisational routines for quality improvement is not a speedy process, also having a short time for preparation can lead to the danger of implementing ISO 9000 standards by satisfying only the minimum requirements that assure certification. This might result in important changes that would essentially improve internal organisational procedures being omitted (Lipovatz, Stenos and Vaka, 1999). Mathews and Ueno (2001) suggested that there is little specific evidence in the literature about the problems faced in terms of ISO 9000 implementation. Not surprisingly, respondents rated lack of time as the greatest. In Finland, the biggest problems seem to be lack of time and lack of commitment, which also seems logical in very heavily self-assessment-oriented companies (Mathews and Ueno, 2001).

Surveys by Sampaio, Saraiva and Rodrigues (2009) and Brown (1997) indicated that time and lack of knowledge were the main problems faced by small and medium western Australian firms who placed considerable reliance on consultants to assist them. Another study by Gader *et al.* (2009) and Quazi and Padibjo (1997) recognised a number of barriers to ISO 9000 certification. These involved: lack of full commitment and participation on the part of top management, a scarcity of financial and human resources, limited time available for implementation, perceived employee resistance, the belief that certification in the service industry would not be advantageous, and the fact that comprehensive training and education of employees cannot be guaranteed. Comparable barriers found in companies in Singapore were noted by Calingo *et al.* (1995). Yong and Wilkinson (2001) observed that the lack of time for implementing QM or participating in improvement activities was the most prevalent complaint among QM practitioners: nearly 78 per cent of Singapore companies saw time constraints as an obstacle to QM implementation. Too little time spent on the registration process is also a barrier to implementation and to maintaining effective ISO 9001:2000 standards in Singapore companies (Low and Ling Pan, 2004). Similarly, Sharp *et al.* (2003) noted that failure to allow sufficient time for evolution is a barrier affecting the successful implementation of ISO 9001:2000 in the North West of England.

The total time needed to gain certification normally takes about one to two years depending on the company size, current level of work quality, extent of current documentation, complexity of production processes and management commitment (Stevenson and Barnes, 2001). It is impractical to change the whole company system in a short time. In addition, Balzarova, Bamber and McCambridge (2002) quoted Bamber (1998) who stated that it takes time to disseminate new ways of dealing with responsibilities and tasks within a company.

### **2.8.7 Lack of communication**

Successful communication can mark the difference between failure and success. Goetsch and Davis (2000) defined communication as the transfer of a message (idea, information, intent, emotion and feeling) that is both received and understood. Baidoun (2003, p. 158) quoted Martinez-Lorente, Dewhurst and Dale (1998), and Sureshchander *et al.* (2001), who identified that “*effective communication is important for the success of any quality initiative.*” Communication problems were raised by many organisations when implementing ISO 9000.

In terms of the ISO implementation difficulties, an empirical study by Torre, Adenso-Diaz and Gonzalez (2001) indicated that the major obstacles that organisations faced when implementing a quality system are due to a lack of communication in the area of explaining new tasks and functions in different areas of work. The maintenance of the quality system and the control of the necessary investments are also negatively affected by poor communication.

Another study reported by Tang and Kam (1999, p. 567) identified that the

*“...lack of strong support from the management and effective communication in the design team has also included significant impact on QMS.”*

In addition, Balzarova, Bamber and McCambridge (2002) quoted Thiagrayan and Zairi (1997) who indicated that effective communication involves maintaining enthusiasm, employees' full involvement, understanding roles and responsibilities in processes and enhancing personal capabilities. Therefore, culture can be studied by looking at the communication rules of the organisation (Macedo-Soares and Lucas, 1996). Another view provided by Carlsson and Carlsson (1996) regarding Swedish organisations, is that communication plays a very important role in the implementation of a new QMS, but it has often been found to be poorly managed. Al-Zamany, Hoddell and Savage (2002) noted that in Yemeni public organisations there is a lack of effective communication from top to bottom and vice versa. The reason for this is perhaps that there tends to be a lack of trust between one another and the difficulties employees have when it comes to initiating a discussion or debate with their managers about issues relating to quality.

Studies by Sampaio, Saraiva and Rodrigues (2009); Al-Zamany, Hoddell and Savage (2002); Glover and Siu (2000); Lee *et al.* (1999); Srinidhi (1998) and Mo and Chan (1997) found that no cross-functional cooperation within the organisation is present where every department has its own individual responsibility. It is a problem that is also faced with regards to certification in Hong Kong, USA and Australian organisations. The results of this study show that a lack of effective communication appears to be a problem for Western, South America, Australia, New Zealand, Asian and North African organisations.

### **2.8.8 High cost of certification**

Studies conducted by White *et al.* (2009) and Ashrafi (2008) proposed that the cost of certification, customers' double-standards in terms of attitude to certification and price, and the increased ISO maintenance overheads were factors inhibiting ISO certification.

However, the main barriers to ISO 9000 registration for small manufacturers are both cultural aspects and technical cost. Cultural issues are the same for manufacturers of any size. Technical issues include high implementation costs, inadequate resources and insufficient external assistance. Thus, a small manufacturer requires a more cost-effective and well-planned ISO implementation process (Mo and Chan, 1997). Bell (1994) however, argues that ISO 9000 is irrelevant to small organisations and considers that the high cost of achieving and maintaining the certification might damage the small business sector.

Another study by Stevenson and Barnes (2001) indicated that the relatively high cost of certification is a barrier facing most organisations; it is generated by training, time, and consultancy fees to facilitate the registration process. Fuentes *et al.* (2000) identified that the lack of financial capacity to meet implementation costs and maintaining QMS costs in Spanish organisations is one of the barriers affecting the implementation of ISO 9000 standards. Dickenson, Campbell and Azarov (2000) found the same results in that the cost of consultation, implementation and third party certification fees are very high in Russia. In addition, the cost of upgrading the infrastructure to meet international standards and the initial development costs of certification were also found to create problems.

### **2.8.9 Lack of information**

Wahid and Corner (2009) and Amar and Zain (2002) point out that a lack of information regarding quality was found to be an obstacle in a number of companies. Mersha (2007) exposed shortcomings such as lack of knowledge about quality techniques, poor materials, poor specifications, poor equipment and an absence of strong incentives for ensuring good quality. The limited exchange of information is an obstacle to implementing and maintaining effective ISO 9001:2000 in Singaporean organisations (Low and Ling Pan, 2004). Also, the lack of information and communication routes which allow necessary information to flow is an obstacle to implementing ISO 9000 standards in Spanish companies. Furthermore, a study by Najmi and Kehoe (2000) quoted Boyett *et al.* (1992); Tatikonda and Tatikonda (1996); Dale and Cooper (1994); Goodman *et al.* (1994); Zangwill (1994); Brown (1993); Katz (1993) and Laza and Wheaton (1990) as identifying that a lack of integration between the quality information system and the existing management information system is a main barrier to ISO 9000 standards implementation.

Another study by Samson (1997) noted that a failure to share information between management and shop floor employees to close the gap between improvement actions and their sequences was a barrier to implementing QMS in New Zealand and Australia.

#### **2.8.10 Lack of human resources**

Defining and implementing quality has always been a problem. Human resource management practitioners and theorists have shown a growing interest in the quality management efforts that a lot of organisations have initiated (Vloeberghs and Bellens, 1996). Human resource management is related to the availability of training processes and trained facilitators, co-operation and relationships between employees and managers, and the understanding and knowledge of employees with respect to QM (Wiele *et al.*, 2001). A study by Vouzas (2007) suggests that human resource issues can be at the core of the quality philosophy and that employee involvement and commitment is essential for the successful introduction and implementation of quality systems.

Amar and Zain (2002) recognised that human resource barriers within Indonesian manufacturing organisations indicated that related research findings with ISO 9001:2000 standards clauses lead to high turnover at the management level (clause 5.1). There is also low employee education level, low employee skills and high employee turnover (clause 6.2.1) and a lack of training and lack of achieving training targets (clause 6.2.2.5). In terms of ISO 9000 implementation obstacles, empirical evidence identified by Gader *et al.* (2009); Sampaio, Saraiva and Rodrigues (2009); Wahid and Corner (2009); Ashrafi (2008); Al-Zamany, Hoddell and Savage (2002); Amar and Zain, (2002); Wiele *et al.* (2001); Al-Khalifa and Aspinwall (2000); Fuentes *et al.* (2000); Lipovatz, Stenos and Vaka (1999); and Quazi and Padibjo (1998) suggest that the following barriers are central to the difficulties faced when it comes to ISO 9000 implementation: lack of understanding of the ISO 9000 system, lack of human resources, lack of top management support and commitment, resistance of employees with regard to change, low level of quality awareness and culture, lack of training and education programmes, failure to change employee mentality and system documentation. These obstacles, undoubtedly, are more obvious in small companies with the issues of productive time and financial and human resources being the most critical. It is clear that small firms are not in a position to qualify a satisfactory number of workers during and after the ISO 9001 implementation project, nor can they finance the cost of preparation, development and registration (Aldowaisan and Youssef, 2006). Within the Human Resources domain,

commentators have also alluded to more specific issues, referred to in the following subsection.

#### **2.8.10.1 Lack of training and education programmes**

Oakland (1996) believes that training is the most important factor when it comes to improving quality, and that training programmes should be provided and assessed and their effects evaluated. A study by Gader *et al.* (2009) found that several researchers have highlighted the importance of training and the role of human resources, and they have provided evidence of the critical factors for the successful implementation of QMS and the improvement of business performance. Therefore training and education are significant in the preparation of companies for change (Zaramdini, 2007). Newall and Dale (1990) noted that poor education and training present a major obstacle in the development and implementation of a quality programme, while a lack of understanding and the right training are considered to be large contributors to worker resistance (Whalen and Rahim, 1994).

Lipovatz, Stenos and Vaka (1999) indicated that the lack of proper training of workers is correlated with a lack of involvement, while continuous training of the managerial staff and of personnel contributes to the workers' motivation and to a decrease in the amount of preparation time needed. In fact, good training and communication can remedy obstacles related to the human factors and system implementation. They also concluded that poor education and training present major barriers to the development and implementation of a QMS in Greek companies. Training and education are important in preparing a company for change. Additionally, education and training programmes are an on-going process that facilitates quality improvement in any organisation. The training and education programme must be both formal and informal (Robert, 1996).

A lot of Western companies failed to implement QMS because they commenced the training programmes without understanding their impact on quality (Ashire and O'Shaughnessy, 1998). Moreover, insufficient training programmes have been found to be barriers in implementing ISO 9000 standards in Brazilian organisations. From the review of the literature, it is clear to see that continuous training and education and lack of training and learning by doing, appear to be problems for European, South American, Arabic, North African, Australian, Asian and New Zealand companies related to studies done by several researchers, Sharp *et al.*, (2003); Yahya and Goh, (2001); Al-Khalifa and Aspinwall, (2000); Dickenson, Campbell and Azarov, (2000); Fuentes *et al.*, (2000);

Tayara, Nasser and Ghadban, (2000); Tang and Kam, (1999); Ngai and Cheng, (1997); Samson, (1997) and Macedo-Soares and Lucas, (1996).

### **2.8.10.2 Lack of a motivational system**

Nowadays, the situation has changed radically. The existence of a broad variety of products has satisfied the basic needs of customers who, in turn, have become more demanding and more interested in quality than ever before. Companies that already possess quality take advantage of this new customer behaviour and use quality as a powerful weapon against their competitors (Gotzamani and Tsiotras, 2001).

The motivation system is divided into tangible and intangible techniques. Tangible means to show the level of recognition for the work contribution made, and relates to behaviour that is valued by top management and to the organisation's attitude to individual performance and achievement. Intangible techniques are those that top management in an organisation use to shape a person's emotions and feelings in order to motivate them. Intangible motivation has a great effect on an employee's hopes and fears, self-esteem, pride and respect (Ellecker, 1998).

A survey by Lee and Leung (1999) found that the main factors causing restrictions and barriers among departments might be inadequate or poor communication, lack of motivation, poor relationships and different management styles. These problems could be summarised in relation to personnel management, which greatly depends on work culture and practices and human relationships. Inconsistent reward systems and lack of recognition are other obstacles to implementing ISO 9000 standards in many organisations; they increase the difficulty of consolidating the implementation of the new managerial approach and associated quality practices (Ngai and Cheng, 1997 and Macedo-Soares and Lucas, 1996). Similarly, Low and Ling Pan (2004) indicated that lack of recognition, respect and reward for a good job done in terms of quality performance is a barrier to effective ISO 9001:2000 implementation and maintenance in Singaporean companies.

### **2.8.10.3 Lack of experts**

Bubshait and Al-Atiq (1999) stated that the ISO 9000 certification processes are seldom easily adopted, therefore many companies have been found to suffer difficulties, during and after the certification processes. However, contractors have recognised various

barriers that discourage the successful implementation of the ISO 9000 standards in their companies. These are: insufficient funding for full-time quality managers and experts; large expenditure - particularly in the early stages; reluctance to adopt new methods; a suffering rate of productivity resulting from the burden of learning the new skills (on top of regular duties); management interference; remote job sites, a difficulty regulating the implementation at these various sites; language-barrier related communication issues and cultural differences between employees.

Zhoa, Maheshwari and Zhang (1995) noted that unskilled employees are other inhibitors to the implementation of the QMS-ISO 9000 in organisations in India, China and Mexico. In addition, Al-Zamany, Hoddell and Savage (2002) also reported that Yemeni organisations have a shortage of skilled personnel to implement QMS, to assess processes in the company, to collect data, to analyse data and solve problems. Indeed, many other studies carried out by Sampaio, Saraiva and Rodrigues (2009); Ashrafi, (2008) and Dale, (1994) indicated that a lack of experts in quality management is a barrier to ISO 9000 implementation.

#### **2.8.11 Lack of customer satisfaction**

Tsim, Yeung and Leung (2002) identified that the essential idea of the new standard is to encourage organisations to effectively use and implement their quality management system, including: considerations for customer satisfaction, continual improvement, open communication with customers and partnership relationships. The cogent and consistent communication of mission statements and objectives defining quality values, expectations and focus, is the fundamental criteria of top management. Such a high calibre management necessarily focuses on the customer's needs and expectations and the alignment of processes to satisfy these needs (Feigenbaum, 2002; Oakland, 2000; Zairi, 1999).

Casadesus and Karapetrovic (2003) indicate that about four hundred Spanish organisations certified with ISO 9001:2000 highlighted the difficulty of analysing customer satisfaction data as being the biggest problem facing organisations. Some of the most common barriers to implementation of quality programmes are, among others: lack of commitment to satisfying customers, lack of cooperation on the part of customers, lack of integration of customer satisfaction into the firm's goals and vision, and knowledge of customer needs and expectations. In addition, a lack of usage of customer

feedback in new product design, monitoring customer satisfaction, responsiveness to customer complaints and the level of interaction with customers, are sizable problems when it comes to implementing ISO 9000 standards (Quazi, Hong and Meng, 2002; Fuentes *et al.*, 2000). Studies by Al-Zamany, Hoddell and Savage (2002) and Tayara, Nasser and Ghadban (2000) observed that the absence of the customer's voice and the lack of alternatives for the customer when it comes to accepting products are barriers impeding ISO 9000 implementation in Yemeni and Syrian companies. In addition, measurement of customer satisfaction in an organisation is an important factor in the determination of the effectiveness and implementation of the QMS, according to ISO 9001:2000. Therefore, when considering customer satisfaction requirements, top management should determine customer needs and expectations and change to meet these requirements.

### **2.8.12 Lack of employee involvement and empowerment**

Employee involvement is a process for empowering members of an organisation in decision making and to problem solving appropriate to their level in the organisation (Richardson, 1997). The involvement of employees makes the organisation more responsive to the dynamic market place and to have a more competitive business. Employees have to take more responsibility with regard to their involvement in a team, in order to exert greater authority over their work environment. Essentially, lack of employee support, participation, and involvement are some of the impediments when it comes to starting the ISO 9000 standards implementation process (Hayat and Bhatti, 2003). Glover (1993) emphasises people-oriented factors such as teamwork and empowerment, he found that the major enabler of ISO 9000 implementation was communication between managers/supervisors and staff, and that poor communication between departments was a real barrier to implementing ISO standards.

Lee (2004) found that "lack of management commitment" and "lack of knowledge" concerning ISO 9000 were the major impeding factors in quality management system implementation by small Chinese firms. Problems associated with the implementation of ISO 9000 were identified by Low (1994), these include lack of control or cooperation on the part of nominated subcontractors; high foreign labour content and shortage of skilled labour; lack of training in quality; confusing technical terms; difficulties in coping with new roles and responsibilities; insufficient checking of work on the part of site staff; poor response in filling out standard forms; lack of participation from consultants; and high staff turnover.

### **2.8.13 Lack of supplier control and cooperation**

Supplier quality management is a significant aspect of ISO 9000 implementation as difficulties relating to quality often pertain to materials and purchased parts (Zhang, Waszink and Wijngaard, 2000). Various authors agree on the fact that supply chain partnerships ought to be established, so that suppliers might be more likely to provide materials to meet customer expectations (Jennings, 2002; Thakur, 2002; Clifton, 2001; Jabnoun, 2000; Wong *et al.*, 1999). Other studies support these findings (Dayton, 2001; Lau and Idris, 2001; Thiagarajan, Zairi and Dale, 2001).

The problems associated with the implementation of ISO 9000 in terms of suppliers were identified by Quazi, Hong and Meng (2002), these include lack of good supplier relationships, supplier selection criteria, number of suppliers, supplier involvement in new products and the duration of relationship. Furthermore, another study by Zhoa, Maheshwari and Zhang (1995) found that, in terms of quality practices in China, India and Mexico, too many suppliers to one organisation is a barrier to the implementation of QMS-ISO 9000. In addition, the lack of cooperation on the part of suppliers is a barrier to the implementation of ISO 9000 standards in Spanish organisations (Fuentes *et al.*, 2000). A study by Yahya and Goh (2001) has highlighted the fact that 80 per cent of the failure of organisations when it comes to the certification audit is caused by such barriers as the lack of control of suppliers.

In the context of this discussion, table 2.6 highlights and summarises the most common barriers faced by organisations when they seek ISO 9000 QMS certification.

**Table 2.6 - The common difficulties of implementing ISO 9000 QMS**

Author	Country	Difficulties of implementing ISO 9000 QMS
Al-Zamany, Hoddell and Savage (2002)	Yemen	"Lack of governmental programmes which are needed to support quality activities, lack of sufficient knowledge of new techniques, lack of information, education and training, lack of awareness, understanding and importance, lack of trust between the employees and their manager, lack of effective communication methods that transfer their voice into goals through the organisations, lack of research of the effect of the organisations and their product and services either from the organisations or from the communities associations, the difficulty of having arguments or discussions with the managers, the absence of people involvement principles in most organisations, lack of understanding and meeting the customers' requirements and lack of continuous improvement".
Al-Khalifa and Aspinwall (2000)	Qatar	"Lack of culture change as a major problem, lack of knowledge and skills of top management, limited resources to implement change, wrong people in the wrong positions and promotions based on nationality (particularly in the case of Qatari citizens) rather than on qualifications, and difficulties associated with empowerment at lower employee levels were added, lack of time, lack of information, education and training".
Magd (2008)	Egypt	"There was a need to change the regular system to fit ISO 9000, There was a resistance to the introduction of ISO 9000, lack of understanding of the importance of ISO 9000 by all departments, ISO 9000 is time consuming, ISO 9000 implementation involves high costs, ISO 9000 involves long and bureaucratic documentation, The firms lack well-trained and experienced internal auditors, ISO 9000 standards are vague and complicated, and the surveillance visits are difficult to cope with".
Ashrafi (2008)  Ashrafi (2008) Magd (2008)	Oman  Arab World	"Difficulty interpreting the standard; time required to write the manuals; time to complete the whole process; lack of free advice; change company practices; ISO creates a stressful environment; the vagueness of the standard; the narrow focus of the standard and high cost of certification".  Language barriers and lack of awareness; lack of financial and other resources as compared to more developed countries; a shortage of people trained in QMS; awareness and promoting quality; lack of available information in the Arab language; wrong people in wrong positions; employees resistance to change; limited resources to implement change and bureaucratic culture in the organisation and rigid hierarchical and authoritative structure in the organisation".

**Table 2.6 - The common difficulties of implementing ISO 9000 QMS (continued)**

Author	Country	Difficulties of implementing ISO 9000 QMS
<p>Khalaf (2007) Ashrafi (2008) Magd (2008)</p>	<p><b>Libya and Arab countries</b></p>	<p>"Lack of awareness of the nature and objectives of working systems; the unwillingness of managers to make decisions with regards to showing clear, accurate and data that hasn't been manipulated; lack of desire for change in line with the adage (keep to what you know works best); no responsibility or power to make decisions in line with the reorganisation; setting targets and then being held accountable by higher level management; lack of policies and accounting strategies; lack of clarity in the data and irregularities would be detected by the system; unfortunately some intellectuals consider these systems Americanised and a form of neo-colonialism; these systems require a lot of time and resources and show no real dividend; low level of administration, training and education resulting in a loss of prestige and dignity among staff; unwillingness to be in an official position where you would be questioned by others during the audit; the presence of foreign languages and specifications which at the time of introduction has no Arabic translation; and does not create a culture of teamwork and quality during the first stages of training for the implementation".</p>
<p>Sampaio, Saraiva and Rodrigues 2009; Wahid and Corner 2009; Mersha 2007; Samson Rowland-Jones and Tomas 2009; Gader <i>et al.</i> 2009; Psomas and Fotopoulos 2009; Kwai-sang, Poon and Kit-Fai. 2000; Withers and Ebrahimpour 2001; Lipovatz, Stenos and Vaka 1999; McCullough and Laurie 1995; Quazi and Padibjo 1998; Zairi, 1996; Olsen 1994; Calingo <i>et al.</i> 1995.</p>	<p><b>Different barriers in organisations throughout the world</b></p>	<p>"This literature has found that most of these failures result from a 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".</p>

The elements or themes presented in sections 2.8 to 2.8.13 and summarised in the above table, provide the list of a priori codes which form the basis of the Template Analysis, explained and presented in chapter 4. These codes are intended to assist the researcher in the development of the structure for the data analysis process. Moreover, Eisenhardt (1989) and Miles and Huberman (1994) supported the above discussion and stated that researchers need to identify a number of possible crucial codes early in the study (a priori), based on the literature in the field.

## 2.9 The positive and negative views about the ISO 9000 /QMS standards

The most widely acknowledged reason for companies' pursuit of ISO 9000 was the pressure exerted by customers. The problematic results of the auditing style were also noticed as they conveyed the style as yielding both positive and limiting effects. The degree to which managers reject or avail themselves of ISO 9001 certification in the twenty first-century is largely predicated on how successfully the new ISO 9000 standards capture and meet the conformance and performance requirements of the organisation as part of a continuous improvement strategy (Ashrafi and Bashir, 2011; Sampaio, Saraiva and Rodrigues, 2009; Jang and Lin 2008; Zaramdini, 2007; Douglas, Coleman and Oddy, 2003; Magd, 2003; Terziovski, Power and Sohal, 2002). It is therefore apparent that there are both praises and criticisms of the value of ISO 9001 that affect organisations, and they are described below. They encompass the value of implementing quality management programmes and standards and the cost effectiveness especially within the culture of developing countries.

A literature review on the ISO 9000 standards' effectiveness exhibits two divergent ideas (Gotzamani and Tsiotras, 2007). The first professes a confidence in ISO 9000 and it being a positive step towards total quality management (TQM) and excellence. It maintains that ISO 9000 is conducive to improvement in quality and lower costs, which effectively aids in the attainment of customer satisfaction (Magd, 2008; Han and Chen, 2007). Conversely, the alternative school subscribes more to the negative view, the idea that organisations are mainly interested in shotgun certification with subsequent neglect of quality. The corollary of which is the emergence of "static" quality systems which fail to ensure customer satisfaction. The positive view, (Cianfrani, Tsiakals and West, 2009; Gotzamani and Tsiotras, 2007; Chang and Lo, 2005; Ruzevicius, Adomaitienne and Sirvidaite, 2004; Liopis and Tari, 2003; Escanciano, Fernandez and Vasquez, 2001) justifies itself in the faith that the ISO 9000 standards offer a fertile ground from which a company can "start with quality," and therefore facilitate the top management's commitment to quality. Furthermore, the quality assurance system, if it is conscientiously instantiated by the company, manifests as a sub-system of TQM, as its final certification promotes responsibility and a more meticulous attention to the maintenance of quality.

To reiterate, the negative view (Gader *et al.* 2009; Sampaio, Saraiva and Rodrigues, 2009; Quazi and Padibjo, 1997) is grounded in the fact that certain companies' impetuous and largely cosmetic movements to achieve certification fail to fructify into

quality. However, the main conclusion that can be drawn from the literature review on this matter is that the plurality in results of the standards' long-term contribution to the performance of certified companies, be they positive, neutral or negative, is distinguished by the ways each company choose to enact them.

Numerous studies demonstrate the effects of implementing ISO 9001 certification on the economic performance of ISO 9001 certified companies. These studies convey a positive relationship between the introduction of the ISO 9001 QMS and the improved competitiveness and performance of companies (Alic and Rusjan, 2010; Dimara *et al.*, 2004; Magd and Curry, 2003; Corbett *et al.*, 2002; Claver *et al.*, 2002; Heras *et al.*, 2002; Sharma and Gadenne, 2002; Leung *et al.*, 1999). On the other hand, some research concludes that the relationship is either negative or non-existent (Chow-Chua *et al.*, 2003; Martinez-Costa and Martinez-Lorente, 2003; Quazi *et al.*, 2002; Singels *et al.*, 2001; Abraham *et al.*, 2000). Therefore, we can conclude that the introduction of ISO 9001 does not necessarily bring economic benefits; instead, certain conditions need to be met. If the ISO 9001 standards are well applied a company's performance ought to reap significant improvements.

Alic and Rusjan (2010) and Poksinska (2010) suggest the potential benefits of implementing an internal audit, enumerating the positive results directly associated with the ISO 9001 requirements. Such benefits include actions based on identified non-conformities and on given recommendations, on stable quality management systems with well-organised documentation, a clear visibility of performance and managed processes which guarantee the stable and dependable quality of products and services to customers. In terms of significant advantages there are various examples. For instance: management tools which stimulate employees for high-level implementation of their work; independent, systematic and objective approaches to the identification and resolution of problems, and of potentially positive results. Used as a managerial tool, the benefits of the proper implementation of the audit translate as a disseminative means for widespread quality knowledge and quality culture, where information percolates to all strata of an organisation. The proliferation of good practices, with recommendations for business improvements, is a prerequisite to a competitive attitude and therefore to greater business efficiency; in such a way the principles of the implementation of quality management are redoubled. Such capillary implementation of these principles essentially encourages the development of a QMS.

The more sceptical position on the implementation of internal audits identifies problems which can arise through the nature of the standard itself (such as costs of the internal audit). There exists various potential negative results from the negligent implementation of an internal audit. The flow of labour may be interrupted because of the drive to rectify problems highlighted by the internal audit; for example, time loss due to the fixing of those fresh complications. Management time would be consumed by the formal decision making in finding solutions for problems discovered by the audit. A breakdown in the rapport between employees (between the auditors and the audited) may ensue, as the audited are told of their failings, as identified in the audit (White *et al.*, 2009). Therefore, we conclude that the effectiveness of the internal audit contributes to the achievement of business goals and improving company efficiency and that the effects on business as actuated by an internal audit are more positive than negative. However, it is imperative to note that the management's understanding of audits is a pertinent consideration when analysing the significance and effect of QMS audits (as the interested party and user of the ISO 9001 internal audit results). The way the management responds to audit findings is also a telling factor in the extent of their success.

Cost-effectiveness of quality is an important variable in measuring quality performance. Quality in terms of the expense required to achieve it. This is the expense of non-conformance, and mistakes (Crosby, 1980). Several empirical studies have confirmed the positive effect of QMS on organisation practices and intimating that ISO 9001 certification has the potential of aiding the improvement of quality and efficiency in a company. More sophisticated communications and the achievement of a competitive advantage are similarly consequential, while simultaneously securing an enlarged market share and higher stock price because of reduced costs (Gader *et al.*, 2009; White *et al.*, 2009; Magd, 2008; Mersha, 2007; Zaramdini, 2007; Bayati and Taghavi 2007; Martinez-Costa and Martinez-Lorente 2007; Casadesus and Karapetrovic, 2005; Pheng, 2001; McAdam and Fulton, 2002; Laszlo, 2000; Tsim *et al.*, 2002; Zhang, 2000; Docking and Downen, 1999). Nevertheless, the achievement of marketing benefits ranks second in accounting for variance. The cost effectiveness of the ISO 9000 standard is strongly influenced by a willingness to recommend and the organisations most likely to recommend are those who believe the ISO 9000 standard to be cost effective. Criticisms of the cost of ISO 9001 certification manifest themselves in four main directions, all of which are often found in the literature. They are: the costs of training, costs in employee time, registration fee, and consultancy, and are widely considered to be the inhibitors to ISO implementation. Critics tend to say that ISO 9001 certification constitutes extra

costs, yet fails to yield comparative benefits (White *et al.* 2009; Mady, 2009; Ashrafi 2008; Singels *et al.*, 2001; Yahya and Goh, 2001; Brown *et al.*, 1998). Then again,

*“Where ISO 9000 registration is feasible, careful consideration is needed before seeking certification. An important early step is to determine the role ISO 9000 plays in one’s industry and markets. If it becomes apparent that certification is necessary to support competitive and marketing initiatives, then the company should begin the process. But it should proceed with the knowledge that, in the short run, becoming certified will be costly, time-consuming, and disruptive. Benefits can be realized. But a long-term view is required”* (Stevenson and Barnes, 2001:50).

However, with correct application of the ISO 9000 standard the advantages will doubtless outweigh the disadvantages.

The introduction of ISO 9001:2000 was appreciated in terms of its myriad of advantages to the improvement of company quality and in terms of providing a valuable learning experience; however, there may be an alternative and more rewarding destination to reach. The fact that SMEs are unwilling or unable to practise it due to its perceived prohibitive scale and cost, in spite of their appreciation of the ISO 9000 standards’ inherent value, is reinforced by the above fact. This significant sector of the economy will remain exempt from the tangible benefits that the standard has been shown to deliver. A scaled-down or interim version of the standard may be needed to encourage more organisations to adopt this movement toward establishing a formal QMS and its implicit significant operational improvements (White, Samson, Rowland-Jones and Thomas, 2009).

The motive for adopting ISO 9001 standards and the maturity of the quality culture are significant indicators of the benefits derived from ISO 9001 certification. In terms of progress, the term culture and more specifically organisational culture in developing countries, has recently become a common feature of business parlance as well as developing into a goal. Organisational culture in developing countries can be thought of in terms of the attitudes, experiences, beliefs, and values (personal and cultural values) of an organisation, and shared significances of member of the organisation.

Due to the organisation culture, which forms the behaviour of employees over a long period of time following their involvement in ISO 9000, their perception and behaviour formulaically benefits in terms of organisation. Interested in effective and efficient ways to manage their organisations managers have begun referring to organisational culture as a management-directed phenomenon, and a tool for organisational adaptation and change. The basis of quality management wields significant influence over organisation practices and organisation values (Magd, 2008; Oke and Charles-Owaba, 2007; Singh *et al.*, 2006). In this view, culture is considered as a set of variables linked to organisational performance. The creation of organisational culture is therefore thought to be a top-down management-directed function.

This approach to organisational culture has as its central remit the job of managing, controlling, or fixing the culture of an organisation.

Among the disadvantages contained within the idea of implementing quality programmes (which include cultural change and the difficulties associated with the empowerment of lower members of the command hierarchy), were the major barriers in developing countries. Such difficulties comprised “employees’ resistance to change,” of having the “wrong people in the wrong positions,” and employee absenteeism. Other recurring complications arose from intransigence in the hierarchical structures in the organisation, “limited resources to implement change” and “bureaucratic culture in the organisation” (Gader *et al.*, 2009; Ashrafi, 2008; Mersha, 2007). Culture profoundly affects people’s behaviour but cannot be easily changed (Hoyle, 2009). The main difficulty lies in initiating changes to organisational culture within the developing countries.

However, such an impasse is not exclusive to the developing countries. The developed countries’ local organisations encountered significant complications with the instantiation of the ideals embodied in cultural change. This represented difficulties in the internalisation of a quality activity within a developed sphere (Sampaio, Saraiva and Rodrigues 2009; Ashrafi, 2008; Mersha, 2007).

The influence of national culture on organisational practices (as it acts through the shared values and the shared perceptions of organisational members) has attracted a great deal of research (Silverthorne, 2005; House *et al.*, 2004; Harvey, 1997; Pizzam *et al.*, 1997; Mendonca and Kanungo, 1996; Schein, 1996; Hofstede, 1980). This body of research has suggested that the organisational culture of Libyan service and manufacturing industries is influenced by the broader Libyan national culture.

## 2.10 Chapter discussion and summary

This chapter presented the main body of discussion and summary which have been drawn from the theories and philosophies of know quality gurus, these were explained because they are the basis of Quality Management. An extensive review of the literature was carried out by the researcher in order to gain a deep understating of issues related to QMS-ISO 9000 implementation worldwide.

ISO 9000 has led to substantial interest in the research literature as ISO 9000 is one of the most extensively adopted standards worldwide (Oke *et al*, 2009). In this study a large number of recent publications related to the motives, benefits and difficulties for adopting ISO 9000 quality management system were reviewed.

Many authors (Gader *et al.*, 2009; Sampaio, Saraiva and Rodrigues, 2009; White *et al.*, 2009; Blokdijk, 2008; Ruzevicius, Adomaitiene, Zaramdini, 2007; Gupta, 2006; Ruzevicius, Adomaitienne and Sirvidaite, 2004; Douglas, Coleman and Oddy, 2003; Magd, 2003), have established that the purposes for seeking ISO 9001 certification in the majority of organisations emerged from three perspectives. First, it could be driven by customer requests to conform to their internal quality control and supplier/seller quality assurance systems. Second, it may perhaps be driven by the organisation to implement the standards as a means or route to increasing their domestic and overseas market share where ISO certification has a value that is somewhat transferable to product quality. Third, it can be seen as a means of improving internal processes and products or service quality. Chini and Valdez (2003) also stated organisations seek certification in order to gain entry to new markets, develop a competitive edge in their domestic market, develop their internal QMS or as a direct requirement of their customers.

The researcher clearly recognises from the studies, surveys and results from Arabic countries the most important reasons to seek ISO 9001 certification included, to gain entry to new overseas markets, improving product and/or service quality and companies reputations, improve efficiency of the quality system, to meet government and customers' demands, to move forward and to use it as a marketing tool. Therefore ISO 9001 certification is becoming a passport for exporting to the European Union and overseas markets. However, the reasons indicated in the literature as to why organisations implement the QMS/ISO 9001 standards can be divided into internal and external motives. Information regarding the motives of implementing ISO 9001 has been derived

from several researchers who conducted studies in various countries; this is shown in table 2.4.

As mentioned earlier, the motives that guide companies to seek ISO 9001:2000 certification can potentially bring about a wide range of benefits, although there have been a number of criticisms of studies relating to the benefits of ISO 9001 certification. Bewoor and Pawar, (2010) found that ISO 9001 certification is supposed to provide certain benefits for organisations that can be divided into internal and external benefits. Information regarding the benefits of implementing ISO 9001 has been derived from several researchers who conducted studies in various countries; this is shown in table 2.5.

Although the literature on QMS in general and ISO 9000 in particular is clearly significant, there is a smaller literature-base focused on barriers and problems with ISO 9000 and even more so when examining Arabic countries. Therefore, in table 2.6 the researcher identified six key papers that provide an Arabic country context and which highlight the key reasons stated in the literature why organisations may have difficulties with the implementation of ISO 9000.

Based on these classifications and other difficulties established by previous researchers, as outlined in the beginning of this chapter, the researcher found that organisational difficulties, technical difficulties and organisational culture were frequently mentioned in studies by authors such as: Gader *et al.* (2009); Sampaio, Saraiva and Rodrigues (2009); Ashrafi (2008); Mersha (2007) and Al-Zamany, Hoddell and Savage (2002). The organisational obstacles are created from the company's management itself, such as weakness in leadership and top management commitment towards the implementation of the system. The technical difficulties are those which represent the obstacles that have been found by management and employees in understanding the standard's requirements. The organisational culture difficulties are those barriers that have been created from management and employee behaviours and attitudes toward the system's implementation.

Al-Zamany, Hoddell and Savage (2002) and Moser and Bailey (1997) indicated that the group of external difficulties which affect the company are those that come from outside organisations such as legislations and policies of the country's government, and also from external customers. Al-Zamany, Hoddell and Savage (2002); Erdal and Ghosh (1997) and Ngai and Cheng (1997) carried out their studies in service and manufacturing public sector organisations in developing countries. However, many important factors should be taken into consideration by any organisation's management to avoid these becoming challenges in implementation of the QMS process. For example, education and training programmes related to the system, top management commitment, employee involvement and empowerment and effective communication. Numerous challenges have appeared that affect seeking and obtaining ISO 9001 certification in developing countries and may be found to affect the Libyan service and manufacturing industries. This research is carried out in one developing country, and it is important to take this into consideration in line with other external challenges. The literature presented in this chapter aided in the achievement of the first three objectives of this research and helped the researcher to select the appropriate methodology for this research, informing the research questions and interviews questions.

Clearly, there is a large amount of information in this literature, but to summarise, all the relevant themes collected from the literature studies are organised and reported below as:

- a. Identifying reasons/motives for ISO 9000/QMS implementation;
- b. Identifying perceived benefits from ISO 9000/QMS implementation;
- c. Identifying difficulties faced within ISO 9000/QMS implementation.

The reviews and details of these aspects are reported in the earlier literature review studies in this chapter. The elements or themes presented in this section and summarised below in table 2.7, provide the list of a priori codes which form the basis of the Template Analysis, explained and presented in chapter 3 and 4. These codes are intended to assist the researcher in the development of the structure for the data analysis process. Moreover, Eisenhardt (1989) and Miles and Huberman (1994) supported the above discussion and stated that researchers need to identify a number of possible crucial codes early in the study (a priori), based on the literature in the field.

**Table 2.7** Summary of the list of a priori codes

<b>Reasons/Motives for implementing ISO 9000/QMS</b>	<b>Perceived Benefits of implementing ISO 9000/QMS</b>	<b>Barriers to implementing ISO 9000/QMS</b>
Improving internal process and product or service quality (I)	Improving internal efficiency and reducing costs (I)	Organisational culture barriers (I)
Top Management decision (I)	Increased productivity and or efficiency (I)	Wrong people in the wrong position (I)
Improve internal efficiency and productivity (I)	Reduction in incidents, rejections and complaints (I)	Bureaucratic culture in the organisation (I)
Increasing organisation quality awareness (I)	Improved product and or service quality (I)	Employees resistance to change (I)
A step towards TQM (I)	Improved profitability (I)	Employee absenteeism (I)
Tool to assist in the development of quality management (I)	Improved process and procedures (I)	Lack of motivation system (I)
Request by the government (E)	Employees become more quality aware (I)	Absence of well-organised structure system (I)
Pressure from customers (E)	Increased workforce motivation and retention (I)	Lack of expert persons (E)
Improve customer satisfaction (I+E)	Better working environment (I)	Lack of training and education of employees (I)
To use the certificate as promotional tools for marketing (E)	Improved customer service (I)	Lack of quality awareness (I)
Direct entry to new markets and increase market share (E)	Increased quality awareness in the firms (I)	Cost of ISO certification : time, training, consultation and registration (E)
Business improvement (I+E)	Improved market share (E)	Government impact (E)
Quality improvement (I+E)	Organisation's image in the market improved (E)	Lack of incoming materials quality control (E)
	Effective promotional and or marketing tool (E)	Lack of documentation (E)
	Improved supplier performance and relations (E)	Lack of time (I)
	Expansion to international markets (E)	No accredited local agencies (E)

**Table 2.7** Summary of the list of a priori codes (continued)

Reasons/Motives for implementing ISO 9000/QMS	Perceived Benefits of implementing ISO 9000/QMS	Barriers to implementing ISO 9000/QMS
	Reduction in the number of customer audits (E)	Lack of human and financial resources (E)
	Increased customer satisfaction (E)	Increased and complex paperwork (I)
	Greater competitive advantage (E)	Lack of top management support and commitment (I)
	Establish and/or improved mutual cooperation with suppliers (E)	Difficulty in understanding the requirements of standardisation (I)

**Note:** I Refers to Internal. E Refers to External.

Moreover, this literature review has raised a question that requires further exploration. This question is why the adoption of ISO 9000 in Libyan firms is still low in comparison to other Arabic countries? Are there any barriers? And it also helped the researcher to know and understand the concepts, theories, and current knowledge on quality management system-ISO 9000.

The next chapter provides an overview of the research methodology, the choice of research philosophy, epistemology within philosophy, methods of study and clarification of the research strategy. It also presents the methods used to conduct empirical research based on the researcher's justifications of why qualitative methodology was chosen and then explains the justification for selecting a case study approach, selection of data collection methods and semi-structured interview research methods. This is followed by the description of how qualitative data were collected and analysed. Finally the ethical considerations of the research are presented.

### 3.0 Epistemology within philosophy and research strategy

#### 3.1 Introduction

The purpose of this chapter is to provide an overview of the research methodology, the choice of research philosophy, epistemology within philosophy, methods of study and clarification of the research strategy. The chapter presents the methods used to conduct empirical research based on the researcher's justifications of why qualitative methodology was chosen.

*“Researchers should be clear about what is the essence of their enquiry, and should express this as ‘intellectual puzzle’ with a clearly formulated set of research questions” (Mason, 2002, p. 13).*

The design of any study begins with the selection of a topic and a research ‘methodology’. ‘Methodology’ is the theory of how research should be undertaken. It includes the theoretical and philosophical assumptions on which the research is based and what these assumptions mean for the choice of approach (Minocha, 2006). This means that a great deal of reading needs to be done along with clear thinking in order to identify the problem and area of interest (Naoum, 2007). A well-designed research plan forms the basis of the entire research process. Research can be described as a practical activity where the purpose is to discover things in a systematic way. Researchers from social sciences are usually talking about qualitative/quantitative approaches and methods of data collection. However, researchers should first of all be clear about theoretical perspective, epistemology, and their relations with methods and methodology (Crotty, 2003). This is to certify the validity and reliability of the research and make its outcome more persuasive. The methods and methodological approach of every piece of research needs to be clarified, but which methodology governs our choice and use of methods? Which theoretical perspective lies behind the methodology in question? And which epistemology informs this theoretical perspective? The answers to these questions are fundamental knowledge of all theories (Crotty, 2003). However, Crotty also points to four elements that illustrate a convincing and clear diagram and explanation of the correlation between method, methodology, theoretical perspective and epistemology:

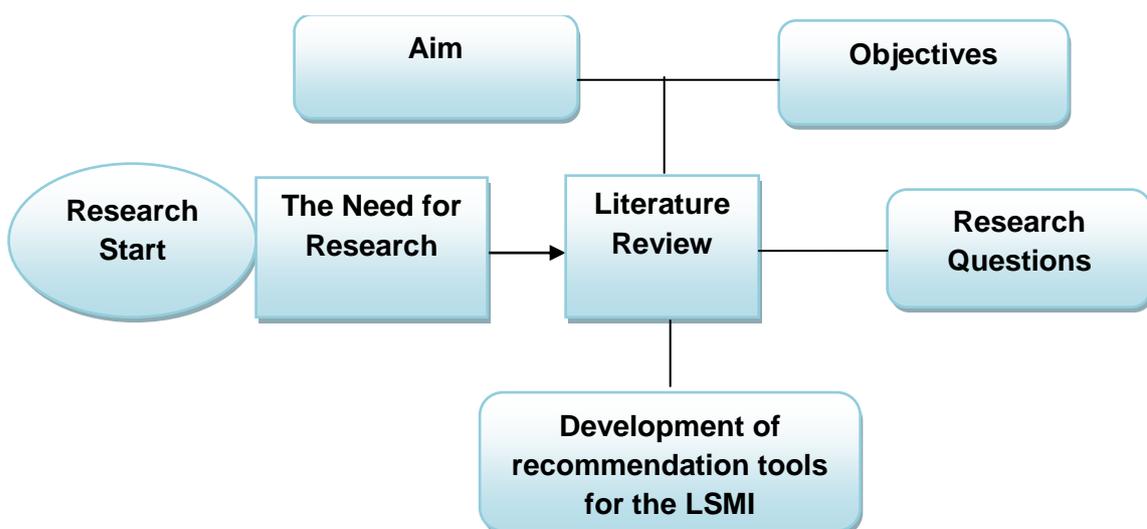
- (1) “Methods: the techniques or procedures used to gather and analyse data related to some research question or hypothesis.
- (2) Methodology: the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes.
- (3) Theoretical perspective: the philosophical stance informing the methodology and thus providing a context for the process and grounding of its logic and criteria.
- (4) Epistemology: the theory of knowledge embedded in the theoretical perspective and thereby in the methodology” (Crotty, 2003, p. 2-3).

Therefore, these four elements have assisted the researcher in the selection of the methods, methodologies and the theoretical perspective in light of the aims and objectives of this research and possible access to research subjects. Given the nature of the research, which is to investigate and analyse the difficulties that affect the implementation of ISO 9000, a quality management system, in Libyan service and manufacturing industries, the researcher reflects his own research questions and answers in these elements.

### 3.2. The research outline

It is important for us to understand what research aims, objectives and questions are before we start to talk about research methodology and methods.

**Figure 3.1 - Research outline**



### 3.2.1 Research aim

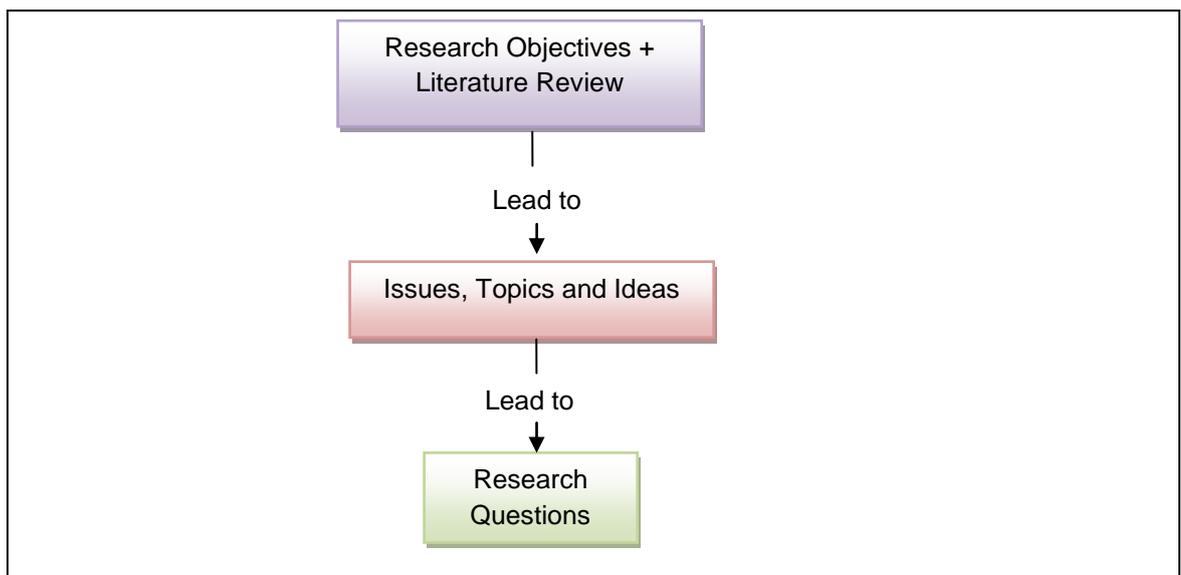
The overall aim of this research is to identify and analyse the difficulties that affect the implementation of ISO 9000, a quality management system (QMS) in Libyan service and manufacturing industries.

### 3.2.2 Research objectives

The overall objectives of the study are to:

- 1) Understand the quality management system requirements, philosophies and theories that are provided in ISO 9000 standards;
- 2) Build an understanding of implementation issues around ISO 9000, a quality management system (QMS);
- 3) Understand the common types of difficulties affecting the implementation of ISO 9000 standards in organisations around the Arabic world;
- 4) Investigate the difficulties that affect implementation of ISO 9000, quality management system (QMS) in the Libyan case study;
- 5) Make recommendations to ease the implementation of ISO 9000 in Libyan service and manufacturing industries.

**Figure 3.2 - The research objectives are translated into specific questions**



### **3.2.3 Research questions**

The research questions identify the nature of the research problem being focused on by the researcher. Research questions are important in building theory for the case study. In phenomenological research, the research is more likely to construct one or more research questions (Collis and Hussey, 2003).

The aim of this research is “to identify and analyse the challenges that affect the implementation of ISO 9000, a quality management system (QMS) in Libyan service and manufacturing industries.” In order to obtain comprehensive information to support the conclusion to the main research questions, the author also designed specific supporting research questions, which were derived from the literature review. The questions for this research are as follows:

1. What are the difficulties affecting the implementation of ISO 9000 standards in the Libyan service and manufacturing industries?
2. Why have the difficulties to implementing the standards occurred?
3. What could be done to remove or mitigate the difficulties to enable successful implementation of ISO 9000 in Libyan service and manufacturing industries?

### **3.3. Overview of research methodology and methods**

Research methodology guides the researcher's choices for research methods and techniques. Zikmund (2000) defined methodology as the procedures for collecting and analysing the required information. Methodology is concerned with both the detailed research methods through which data is collected, and the more general philosophies upon which the collection and analysis of data are based (Haralambos and Hollbon, 2008).

Adam and Healy (2000) stated that methodology is the overall approach, and within that, the individual research methods and tools used to meet a given research objective. A clear and unambiguous statement of the research objective is therefore necessary to enable the selection of an appropriate research methodology and data collection technique. However, the methodology of the research should reflect an overall strategy, because it shapes which methods are used and how these methods are used.

Silverman (2010, p.121) quoted Miles and Huberman (1984, p.42), who said, “*Knowing what you want to find out leads inexorably to the question of how you will get that information.*” The research methodology employed in this study is qualitative in nature. Hussey and Hussey (1997, p.12) describe qualitative research as an

*“..approach, which is more subjective in nature and involves examining and reflecting perceptions in order to gain an understanding of social and human activities.”*

The research follows a process and according to Saunders, Lewis and Thornhill (2009) this process can be divided into “onion layers”, as shown in table 3.1.

**Table 3.1 - The research process ‘onion’**

Layer	Approaches
1.”Research epistemology within Philosophy	Refers to epistemological, ontological and axiological Positivism, Interpretivism and Realism
2. Research approaches	Deductive, Inductive
3. Research strategies	Experiment, Survey, Case study, Grounded theory, Ethnography, Action research
4. Time horizons	Cross Sectional, Longitudinal
5:.Data collection methods	Sampling, Secondary data, Observation, Interviews, Questionnaires”

**Source:** Adapted from (Saunders, Lewis and Thornhill, 2009, p.108)

The first layer raises the question of the research epistemology within philosophy. The second layer considers the subject of the research approach that flows from our research philosophy. Thirdly, the research strategy will be examined and the fourth layer is concerned with time horizons which are applied to the research. In the fifth layer data collection methods will be identified, and then the validity and reliability of the research will be explained.

### 3.3.1 Epistemology within philosophy

Crotty (1998) suggests that in developing your research you should be concerned with asking four questions:

*“What methods do you propose to use?*

*What methodology governs your choice and use of the methods?*

*What theoretical perspective lies behind the methodology in question?*

*What epistemology informs this theoretical perspective?”* (Crotty, 1998, p. 2).

These four questions have assisted the researcher in selecting the research epistemology within philosophy, the theoretical perspective, methodologies and methods in the light of the aims and objectives of this research and possible access to research themes. Hence, the researcher is going to spend a little time at the top of the Crotty suggestions. It is important to understand what research philosophy is before selecting a research method. Saunders, Lewis and Thornhill (2009) state that research philosophy depends on the way you think about the development of knowledge. Easterby-Smith, Thorpe, and Jackson (2008) suggest that the understanding of philosophical issues is essential in helping the researcher to identify and clarify the research design.

According to Easterby-Smith, Thorpe, and Jackson (2008) identifying that there are three reasons why an understanding of philosophical issues is very useful.

**“Firstly**, it can help the researcher to refine and specify the research methods to be used in a study, that is, to clarify the overall research strategy to be used. This would include the type of evidence gathered and its origin, the way in which such evidence is interpreted, and how it helps to answer the research questions posed;

**Secondly**, it could help the researcher to be creative and innovative in either selection or adaptation of methods that were previously outside his or her experience;

**Finally**, the knowledge of research philosophy will enable and assist the researcher to evaluate different methodologies and methods, and to avoid inappropriate use and unnecessary work, by identifying the limitations of particular approaches at an early stage” (Easterby-Smith, Thorpe, and Jackson, 2008, p56).

Research philosophy refers to epistemological, ontological, methodological and axiological assumptions an undertaking that guides an inquiry in a research study, implicitly or explicitly. Our own research focus and the data collection technique or techniques we prefer are influenced by our epistemology, ontology, axiology (Saunders, Lewis and Thornhill, 2009).

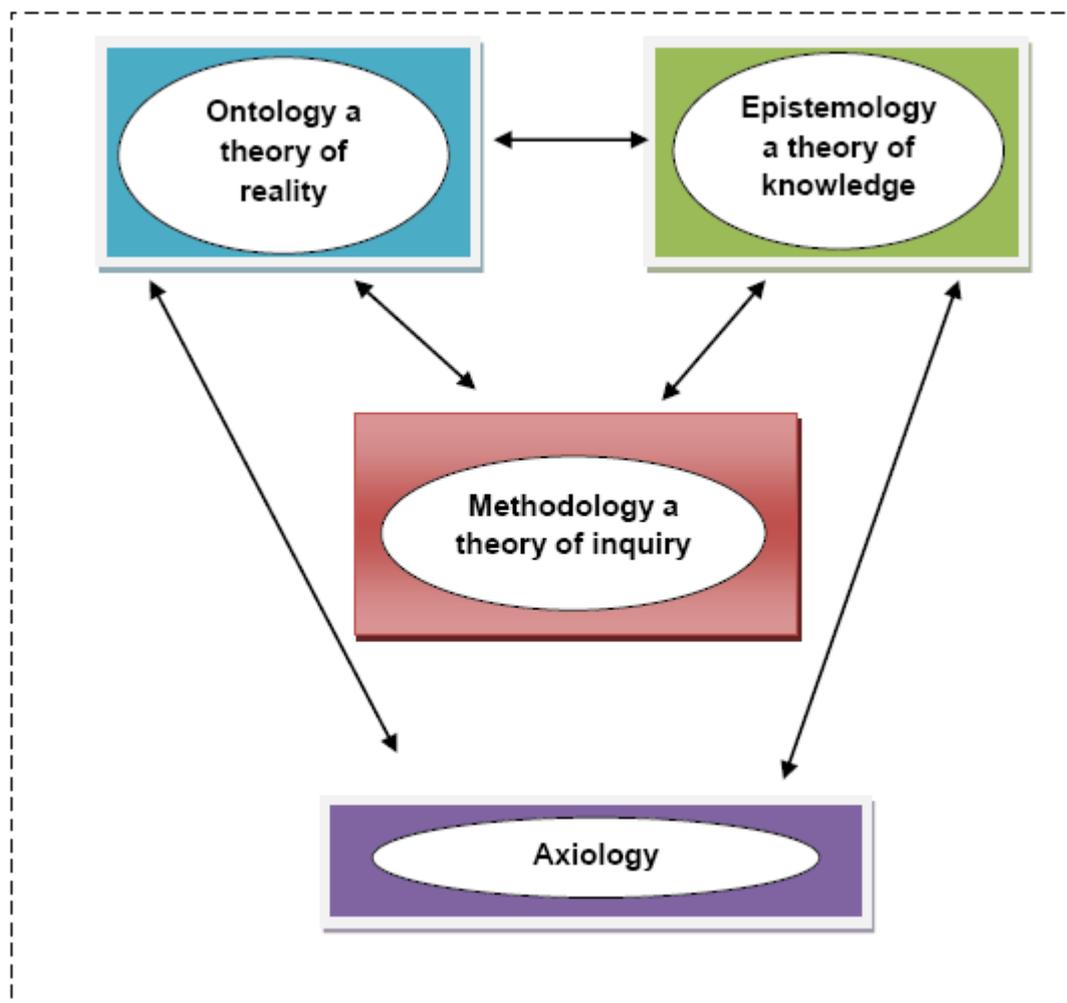
According to Klenke (2008, p.17) researchers should classify selection inquiry concepts according to their stance on the following three questions:

- **“The ontological question**  
What is the form and nature of reality and, therefore, what is there that can be known about it?
- **The epistemological question**  
What is the nature of the relationship between the knower or would-be knower and what can be known?

- **The methodological question**  
How can the inquirer go about finding out whatever he or she believes can be known?
- **The axiology question**  
What is of value, what is worthwhile?"

The researcher understands that the first three questions; the ontological, the epistemological and the methodological, which form the research triangle, shown in figure 3.3, are all about essences to do with truth. What is really, truly, there? What is the nature of the truthful knowledge of it? By what method can the truth be achieved? The axiological question is about values of being, about what human conditions are to be valued simply by virtue of what they are (Klenke, 2008, p.17).

**Figure 3.3 - The research triangle**



**Source:** Adapted from (Klenke, 2008, p.18).

Table 3.2 shows some comparisons of three research philosophies in business and management research, taken from Weber (2004, p. iv) and Saunders, Lewis and Thornhill, (2009).

**Table 3.2 - The differences between positivism and interpretivism in management research**

<b>Metatheoretical assumptions about:</b>	<b>Positivism</b>	<b>Interpretivism</b>
<b>Ontology</b>	Person (researcher) and reality are separate	Person (researcher) and reality are inseparable (life-world)
<b>Epistemology</b>	Objective reality exists beyond the human mind	Knowledge of the world is intentionally constituted through a person's lived experience
<b>Axiology</b>	Research is undertaken in a value free way, the researcher is independent of the data and maintains an objective stance.	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective.
<b>Research object</b>	Research object has inherent qualities that exist independently of the researcher	Research object is interpreted in light of meaning structure of person's (researcher's) lived experience
<b>Method</b>	Statistics, content analysis	Hermeneutics, phenomenology, template analysis etc.
<b>Theory of truth</b>	Correspondence theory of truth: one-to-one mapping between research statements and reality	Truth as intentional fulfilment: interpretations of research object match lived experience of object
<b>Validity</b>	Certainty: data truly measure reality	Defensible knowledge claims
<b>Reliability</b>	Replicability: research results can be reproduced	Interpretive awareness: researchers recognise and address implications of their subjectivity

**Source:** Class notes originally adopted from Jorgen Sandberg. Published in Weber (2004, p. iv) and Saunders, Lewis and Thornhill (2009, p.119).

Consequently figure 3.3 and table 3.2 helped the researcher summarise and clarify the epistemology, ontology, methodologies, axiology and interpretivism approach in the light of the aims and objectives of this research. The following paragraphs explain in detail the three dimensions of research philosophies, the researcher will then explain and describe the differences between a positivism and interpretivism approach and why interpretivism was chosen for the research.

The first term, epistemology, is our own view regarding what can be considered as acceptable knowledge in a field of study, how the researcher conceptualises knowledge and what she / he considers constituting warranted knowledge (Saunders, Lewis and Thornhill, 2009).

*“Epistemology has traditionally been conceived as a branch of one the grand divisions of philosophy, methodology, or ways we as human beings come to know the world”* (Von Krogh and Roos, 1995, p.7). Epistemology is normally concerned with the source, nature, and limit/validity of knowledge (Crotty, 2003). To some extent, epistemology is a theory of knowledge, or in other words, the knowledge of knowledge. There are two central questions asked in epistemology which form the two components of epistemology:

1. What is knowledge? Or what should count for knowledge?
2. How do individuals or social entities know? Or in other words, by which processes do individuals or social entities, come to know of the world? (Bryman and Bell, 2003).

From the above arguments, the researcher clarifies and justifies that epistemology deals with the question about knowledge, such as: How do we know things? What can we know? Therefore, the emphasis is on the criteria that allow the researcher to decide what kind of evidence is gathered and from where and how it can then be interpreted in order to provide answers to the research questions.

The second term, ontology is used in philosophy to describe efforts to understand and clarify what it means for something to exist. Ontology is involved with the nature of reality (Saunders, Lewis and Thornhill, 2009). Blaikie (2000, p.8) explained ontology as,

*“claims and assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other. In short, ontological assumptions are concerned with what we believe constitutes social reality.”*

According to Hay (2006) ontology reasonably comes before epistemology. However, we cannot know what we are competent of knowing (epistemology) until such time as we have developed a set of assumptions about the nature of the context in which that knowledge has to be acquired (ontology).

As previously defined, the ontological approach for this research will be subjectivism which means social entities are considered as social constructions built up from the

perceptions and participants open to their experiences and opinion (Saunders, Lewis and Thornhill, 2009). This position is often referred to as constructionism (Bryman and Bell, 2008).

One of the benefits of this approach is the close relationship between the researcher and the participants, whilst allowing participants to tell their stories in their own terms and provide issues in relation to interviews questions (Merriam, 2009). Through these stories and topic issues the participants are able to explain their views of reality and this gives the researcher the opportunity to gain a better understanding of the participants' actions. Therefore, the researcher has used a "constructivist" interpretation of the expressed opinions and experiences given by quality experts and managers of the Libyan service and manufacturing industries.

The third term, axiology refers to the role of value and ethics in research (Klenke, 2008).

*"Axiology is a branch of philosophy that studies judgements about value. Although this may include values we possess in the field of aesthetics and ethics, it is the process of social enquiry with which we concerned here. The role that your own values play in all stages of the research process is great importance if you wish your research results to be credible"* (Saunders, Lewis and Thornhill, 2009, p.116).

Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective. However, at all stages in the research process the researcher will be demonstrating his own values.

### **3.3.2 Constructionism**

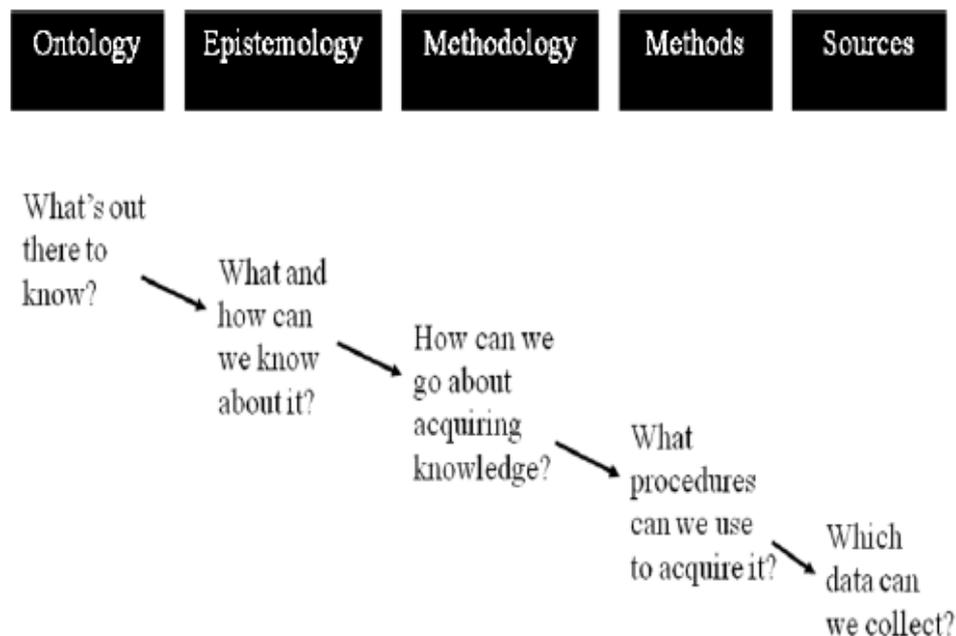
The foundation of constructionism originated in a text by Berger and Luckman published in 1966. They affirmed that from an ontological perspective a description of 'reality' that individuals encompass comes from a range of social persuasions such as personal communication and theoretical relationships. This viewpoint of 'reality' changes with new experiences (Smollan, 2009. p. 141). Constructionism is one of a collection of approaches that are conveyed as interpretive methods (Easterby-Smith, Thorpe, and Jackson 2008).

Remenyi *et al.* (1998, p. 35) highlighted that it is crucial to study "*the details of the situation to understand the reality or perhaps a reality working behind them.*" As Saunders, Lewis and Thornhill (2009) recently mentioned constructionism is associated

with the epistemological situation of interpretivism which emphasises the essentials of exploring the subjective meanings motivating the actions of social actors (the customers you might plan to study) so that a researcher can understand these actions.

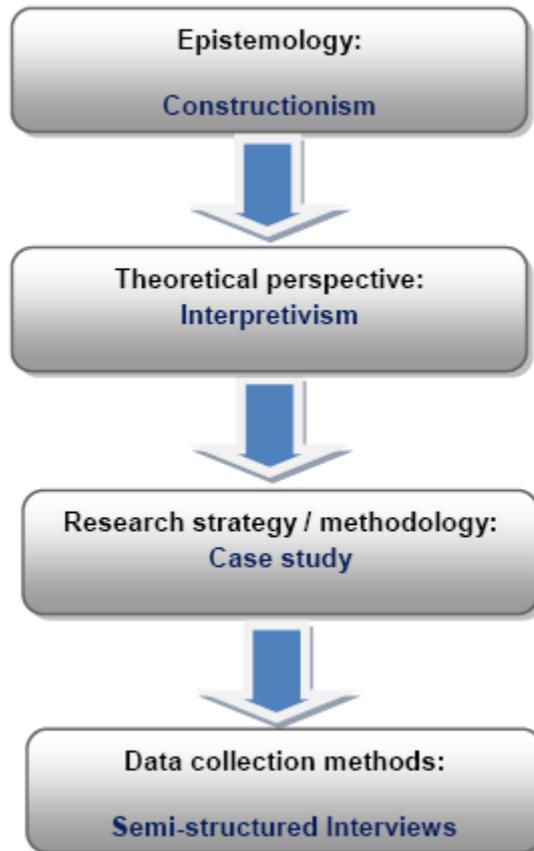
An alternative epistemological viewpoint can be described as constructionism; constructionists typically reject the objectivists' view of human knowledge contending that there is no objective truth waiting to be discovered. Truth therefore exists only through interaction with the realities of the world. This view assumes meaning is constructed rather than discovered (Crotty, 2003). The researcher's epistemology belongs to that of constructionism, and takes an interpretivism theoretical perspective for the research questions and also its epistemological perspective which is seen to be consistent with the research nature and its aim and objectives. As previously discussed, the researcher would like to present a clear picture for the reader to understand his research philosophy, methodology and strategy of research by exploring it in the two diagrams below:

**Figure 3.4 - The interrelationship between the building blocks of research**



**Source:** Adopted from Hay, 2002, p. 64.

**Figure 3.5 - Research main stages**



**Source:** Adapted from Crotty (2003).

### **3.3.3 Philosophical theoretical perspectives**

On locating the epistemology governing qualitative research, it is important to reflect upon the theoretical perspectives and assumptions which drive it. All research (whether quantitative or qualitative) is based on some underlying assumptions about what constitutes 'valid' research and which research methods are appropriate. Therefore it is necessary to appreciate the significance of these assumptions.

For the purpose of this study, the most pertinent philosophical assumptions are those relating to the underlying epistemology which guides the research. Epistemology refers to the assumptions about knowledge and how it can be obtained (Hirschheim, 1992).

Crotty (2003, p. 8) states that the theoretical perspective can be described as:

*“The philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria methods and linking the choice and use of methods to the desired outcomes.”*

It forms a set of assumptions that researchers can typically bring to their chosen methodology and there is a variety of theoretical perspective approaches that can be reflected within the author’s research (Crotty, 2003).

Carson (2001) noted that the first perspective, positivism, relates directly to the epistemology of objectivism, assuming that individuals have direct access to the real world. Positivism subscribes to the theory that it is possible to obtain hard, secure objective knowledge about the external reality. Studies by Crotty (2003); Candy (1991) and Kim (2003) have defined positivism as a research paradigm that seeks to solve major practical problems, searches for law-like generalisations and discovers precise causal relationships through statistical analysis.

Easterby-Smith, Thorpe, and Jackson (2008) found the key idea of positivism is that the social world exists externally and its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition. The paradigm associated with the objectivist epistemology is commonly known as positivism.

The second perspective, interpretivism holds that individuals do not have access to the real world, suggesting that their knowledge of the perceived world (or world) is meaningful in its own terms and can be understood through careful use of interpretivist procedures (Carson 2001). Therefore, this approach sits comfortably within the constructionist view. As noted by Easterby-Smith, Thorpe, and Jackson (2008) the essence of interpretivism is that reality is determined by people rather than by objective and external factors. They also point out that the two theoretical perspective philosophies are:

- Logical Positivism uses quantitative and experimental methods to test hypothetical deductive generalisations;

- Phenomenological (interpretivism) Science inquiry uses quality and naturalistic approaches to inductively and holistically understand and explain a phenomenon, rather than search for external causes or fundamental laws (Easterby-Smith, Thorpe and Jackson, 2008).

Based on the strengths and weaknesses of the positivism and interpretivism approaches (summarised in table 3.3) and the nature of this research, the phenomenological (interpretivism) approach has been chosen as a philosophy. It takes on an inductive approach, because the researcher collects data and develops theory as a result of data analysis. It is particularly concerned with the context in which such events are taking place (Saunders, Lewis and Thornhill, 2009).

**Table 3.3 - Strengths and weaknesses of research approaches**

Theme	Strengths	Weaknesses
<b>Positivism approach (quantitative data)</b>	<ul style="list-style-type: none"> <li>• They can provide wide coverage of the range of situations.</li> <li>• They can be fast and economical.</li> <li>• Where statistics are aggregated from large samples, they may be of considerable relevance to policy decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• The methods used tend to be rather inflexible and artificial.</li> <li>• They are not very effective in understanding processes or the significance that people attach to actions.</li> <li>• They are not very helpful in generating theories.</li> <li>• Because they focus on what is, or what has been recently, they make it hard for policy makers to infer what changes and actions should take place in the future.</li> </ul>
<b>Phenomenological (interpretivism) approach (qualitative data)</b>	<ul style="list-style-type: none"> <li>• Data gathering methods seem more natural than artificial.</li> <li>• Ability to look at change processes over time.</li> <li>• Ability to understand people's meaning.</li> <li>• Ability to adjust to new issues and ideas as they emerge.</li> <li>• Contribute to theory generation.</li> </ul>	<ul style="list-style-type: none"> <li>• Data collection can be tedious and require more resources.</li> <li>• Analysis and interpretation of data may be more difficult.</li> <li>• Harder to control the pace, progress and end-points of research process.</li> <li>• Policy makers may give low credibility to results from qualitative approach.</li> </ul>

**Source:** Adopted from Amaratunga *et al.*, (2002, p.20).

### **3.4 Methods of study**

The above discussions have presented how constructionism and interpretivism draw a clear way in which the researcher identifies the theoretical perspective that lies behind the methodology. Following on from the above, the researcher's epistemological and philosophical paradigms, the justification of qualitative approach selection for this study will be discussed in this part. Furthermore, the methodology and methods in earlier studies are also critically reviewed.

#### **3.4.1 Selection of research approach**

It is crucial to categorise the research approach in terms of whether it is inductive or deductive. The two most commonly explained research approaches, deductive and inductive, comprise the steps of data collection and theory development, just in reverse order (Saunders, Lewis and Thornhill, 2009). Continuing the top-down development of the research strategy, when considering whether to take an inductive or deductive research approach, Saunders, Lewis and Thornhill (2003) point out that the approach to research can either be deductive or inductive.

Yin (2009), states that the best methods to use for a study depend on the purpose of the study and the accompanying research questions. In business research either deductive or inductive approaches can be used. Furthermore, the option chosen relies mainly on the type of problems analysed (Hussey and Hussey, 1997). The research approach is deductive when a theory and the hypothesis (or hypotheses) are developed and a research strategy is designed to test the hypothesis, or it is inductive when the data is collected and the theory is developed as a result of data analysis. Additionally, the deductive approach owes more to positivism and the inductive approach more to interpretivism, although it is believed that such labeling is potentially misleading and of no practical value (Saunders, Lewis and Thornhill, 2009).

Table 3.4, lists the main differences between deductive and inductive research approaches, and as can be seen, the inductive research approach is considered the most appropriate for an interpretivism research philosophy. Involving elements of an inductive approach is referred to as a qualitative methods approach. This research can best be classified as an inductive approach.

*“Inductive reasoning is applicable to business and management studies where established and accepted theories are unlikely to be available” (Remenyi, Money and Sherwood-Smith, 2000, p.75).*

**Table 3.4 - Major differences between deductive and inductive approaches to research**

Deduction emphasises	Induction emphasises
Moving from theory to data	Moving from data to theory
Common with natural sciences	Common with social sciences
Collection of quantitative data	Collection of qualitative data
A highly structured approach	Flexible structure to permit changes
Need to explain causal relationships between variables	Gaining an understanding of meanings humans attach to events
Necessity to select samples of sufficient size in order to generalize conclusions	Less concern with the need to generalise
Researcher independence of what is being researched	A realisation that the researcher is part of the research process

**Source:** Adopted and modified from Saunders, Lewis and Thornhill, (2009, p127).

The purpose of the research methods in this thesis are to identify, explore, describe and explain the key features evident in the general inductive approach and draw on a set of procedures that can be used for the analysis of qualitative data. The inductive approach is a methodical procedure for analysing qualitative data where the analysis is directed by precise objectives. However, the main reason the researcher selected an inductive approach is to allow the research findings to develop from the common, leading or essential themes inherent in raw data, without the restraints enforced by structured methodologies.

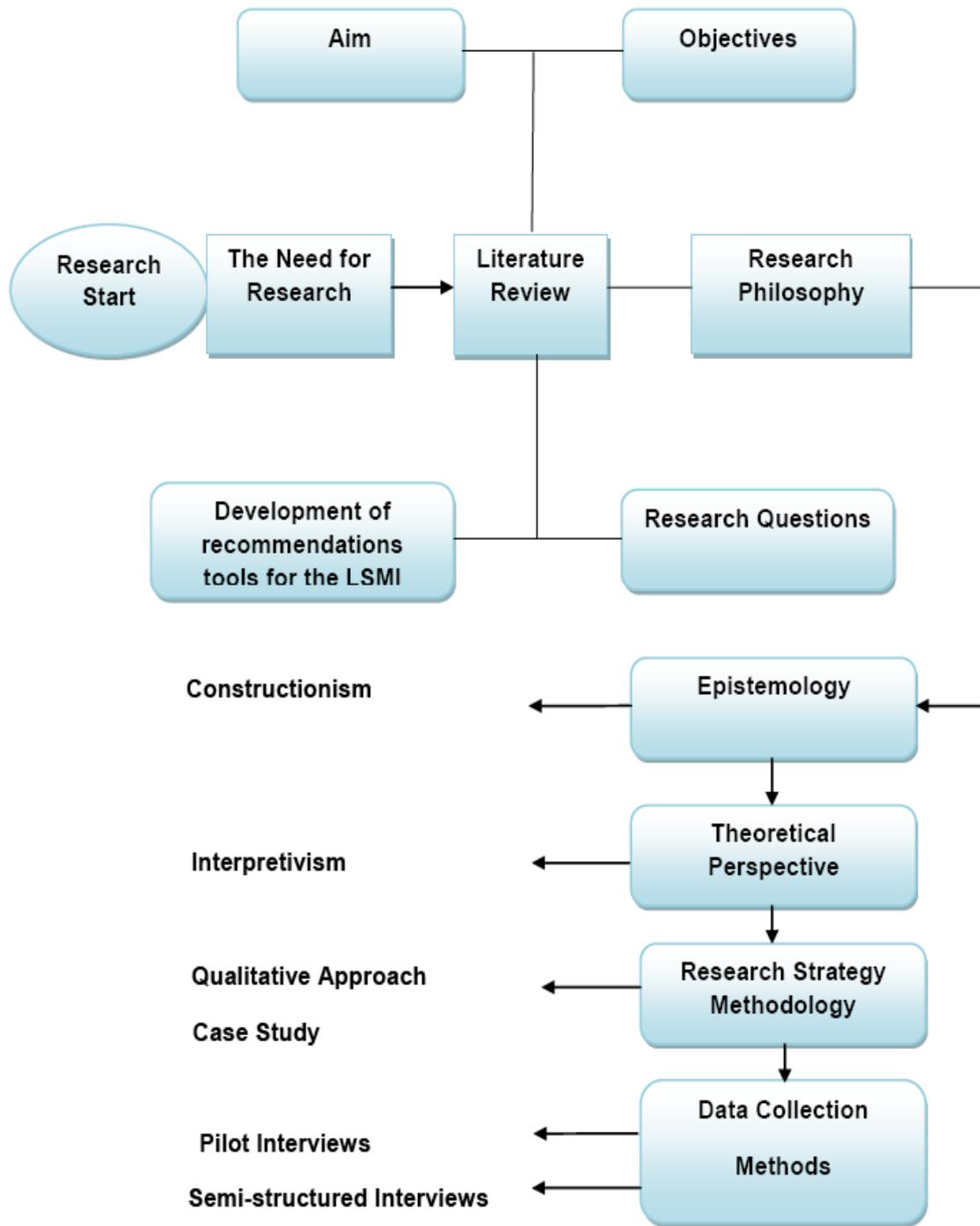
The following are some of the purposes underlying the development of the general inductive approach. These purposes are similar to other qualitative analysis approaches in that they:

1. *“Condense extensive and varied raw text data into a brief, summary format;*
2. *Establish clear links between the research objectives and the summary findings derived from the raw data and to ensure these links are both transparent (able to be demonstrated to others) and defensible (justifiable given the objectives of the research);*
3. *Develop a model or theory about the underlying structure of experiences or processes which are evident in the text raw data”* (Thomas, 2003, p.2).

Amaratunga *et al.* (2002) noted that there are two types of research approaches concerning data collection methods, qualitative research and quantitative research. Qualitative research is a source of well-grounded rich descriptions and explanations of processes in identifiable local contexts whereas quantitative research is where the research emphasises careful control and measurement by assigning numbers to measurements (Hussey and Hussey, 1997).

According to Dayman and Holloway (2002) qualitative research focuses on words rather than numbers. Furthermore, qualitative research can be attuned to change, sequences of events and behaviours and the transformation of culture. From the above discussion, the researcher selected a qualitative approach which is very powerful for giving insights, results and for assisting in making influences and drawing conclusions. Therefore, this research was designed to follow the process illustrated in figure 3.6.

Figure 3.6 - The research approach



The key features of qualitative and quantitative research are listed in table 3.5.

**Table 3.5 - Key features of qualitative and quantitative research**

Qualitative	Quantitative
Uses small samples	Uses large samples
Concerned with generating theories	Concerned with hypothesis testing
Data is rich and subjective	Data is highly specific and precise
The location is natural	The location is artificial
Reliability is low	Reliability is high
Validity is high	Validity is low
Generalise from one setting to another	Generalise from sample to population

**Source:** Adopted from Hussey and Hussey (1997, p.54).

Creswell (2003) defines the qualitative approach as an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting. The quantitative approach can be described as a logical and linear structure, in which hypothesis take the form of expectations about likely causal links between the constituent variables stated in the hypotheses, thus leading to the rejection or acceptance of the theoretical proposition (Eldabi *et al.*, 2002). Based on those features, and that the research is inductive, a qualitative approach was chosen for both the first and second phase of the study.

Marshall and Rossman (1999, p.33) argued that

*“Qualitative methodologists have described three major purposes for research: to explore, explain or describe the phenomenon of interest.”*

The authors stated that the purpose of exploratory study is to:

1. Identify or discover important categories of meaning;
2. Investigate phenomena;
3. Generate further research.

And the purpose of explanatory study is to:

1. Identify plausible relationships shaping the phenomenon;
2. Explain the patterns related to the phenomenon in question.

Creswell (2003) argues that for an exploratory case study the use of a qualitative approach is believed to be the most appropriate. The researcher chose qualitative data collection methods because the focus of this research is an exploratory case study and uses exploratory research questions. Therefore an exploratory case study is appropriate for the purpose of this research for the following reasons:

- The researcher attempts to explore and identify why or what the difficulties are that affect the implementation of ISO 9000 standards in the Libyan service and manufacturing industries;
- The case study was the primary research methodology used in this research, in order to gain an in-depth understanding of the information necessary to identify these issues. These issues cannot easily be explored through a survey or questionnaire, therefore, in this exploratory case study, the researcher conducted in depth semi-structured interviews, with quality experts, which were subsequently used as a data collection tool. Furthermore, this type of interviewing and research questioning reflected the exploratory nature of the study by exploring awareness of specific aspects of ISO 9000 as well as giving an insight into the problems;
- The researcher chose a qualitative exploratory study because there has been little written about the research topic especially with regards to Arab countries, specifically Libya. This approach allows the researcher to listen to participants and build an understanding based on their ideas.

In deciding the most suitable methods for collecting the required data, it is important to note that based on the literature review it was clear that the majority of research about ISO 9000 has been conducted via qualitative approaches, predominantly through interviews, observation, and focus groups (see table 3.6).

### **3.4.2 Reflections on qualitative methods research**

There can be little doubt that qualitative methods research is becoming far more common than when it was first written about. A qualitative research design is a general type of research that includes qualitative research data, techniques and methods. This method design involves research that uses qualitative data (texts) and additional means (text analysis). Qualitative methods use inductive scientific methods, have few forms of data collecting and produce eclectic and pragmatic reports (Bryman, 2008).

In order to address a research question or a set of research questions, researchers must devise a strategy or, as Bryman suggests, “*a general orientation to the conduct of social research*” (Bryman, 2004, p.19).

It is important to understand that qualitative methods research means adopting a research strategy employing one type of research method (Bryman, 2007). Additionally, qualitative methods research means working with similar types of data; it may also involve the use of similar investigators, sometimes similar research terms working in similar research paradigms. For these reasons qualitative method research is often referred to as few-strategy research (Bryman, 2001). The collection of qualitative data within the case study is currently most commonly called qualitative methods research (Tashakkori and Teddlie, 2003).

A study by Creswell (2003) argues that for an inductive qualitative study the use of a qualitative approach is considered appropriate. Also, as Gilmore and Carson (1996) mentioned, qualitative research methods are compatible for the nature of service and manufacturing industries.

According to Creswell (2003, p.30) exploratory qualitative study means,

*“that not much has been written about the topic or the population being studied, and the researcher seeks to listen to participants and build an understanding based on their ideas.”*

Amarantuga *et al.* (2002) suggested that one major feature of qualitative data is that they focus on naturally occurring, ordinary events in a natural setting, so it gives a real life view. Their richness and holism, with strong potential for revealing complexity are other features of qualitative data. Moreover, the fact that such qualitative data is typically collected over a sustained period makes it powerful for studying any process. Qualitative data, with the emphasis on people’s lived experience is fundamentally well suited for locating the meaning people place on the events, processes and structures of their perceptions and assumptions. The qualitative research approach allows the researcher to gain a deeper understanding of particular research questions.

*“The primary reason that this approach was chosen is to investigate every aspect of the research including responders’ experiences, opinions and knowledge”* (Ali, Zairi and Mahat, 2008, p. 7).

Therefore, the main reason for engaging in a qualitative research approach is to find answers to questions such as 'What'? 'Why'? Or 'How', which means data is gathered in the form of words rather than quantified numbers. Without research questions, the researcher particularly one at the beginning of his or her career would most likely be adrift in the setting for a long time before stumbling across a focus (Bailey, 2007).

Evolving from these discussions has been a body of literature devoted to issues of worldview, design, typology, nomenclature, analysis, and evaluation of qualitative methods studies and a lot more remains to be achieved because the field of qualitative methodology is still developing.

### **3.4.3. Justification of a qualitative approach selection**

It is essential for us to understand and provide evidences from the literature review as to why we need qualitative methods before selecting qualitative methods for research purposes. Qualitative methods research is characterised as research that contains elements of qualitative approaches (Brewer and Hunter, 2006; Miles and Huberman, 2002; Patton, 1990; Howe, 1988; Reichardt and Cook, 1979). However, empirical evidence show that this research has similarities to the ones conducted by numerous other researchers, including (Balan, 2009; Wahid and Corner, 2009; Sroufe and Curkovic, 2008; Larson and Kerr, 2007; Psychogios and Priporas, 2007; Lin and Wu, 2005; Berg, 2005; Lagrosen, 2004; Hepner, Wilcock and Aun, 2004; Boiral, 2003; Braun, 2003; Grigg and McAlinden, 2001; Curkovic and Pagell, 1999; Douglas *et al.*, 1999; Tai and Hsu, 1999), it has been found that most of these empirical studies used qualitative methods to conduct data collection. Table 3.6 shows evidence from the literature review of the qualitative methods that have been used in the ISO 9000, quality management system area. Based on these empirical evidences, this research intends to use qualitative methods in order to increase validity and reliability of the data collected in order to investigate and analyse the difficulties that affect the implementation of ISO 9000, a quality management system (QMS) in Libyan service and manufacturing industries.

**Table 3.6 - Evidences of the qualitative methods**

Author and year	Research focus	Research strategy & Data collection methods
Wahid and Corner (2009)	Critical success factors and problems in ISO 9000 maintenance	Exploratory case study Face to face interviews
Balan (2009)	Major changes in the quality management of the qualitative market research	Exploratory research In-depth interviews
Viada-Stenger <i>et al.</i> (2009)	The implementation of a quality management system based on the Q tourist quality standard. The case of hotel sector	Case study Semi-structured interviews
Tang and Lee (2009)	The effect of organisational factors on managerial satisfaction with ISO 9001 quality standard certification :an empirical study	Case study In-depth interviews
Sroufe and Curkovic (2008)	An examination of ISO 9000:2000 and supply chain	Exploratory case study Structured interviews
Larson and Kerr (2007)	Interrogation of process management tools to support TQM implementation: ISO 9000 and activity-based costing	Case study Several qualitative interviews
Psychogios (2007)	Understanding Total Quality Management in context: Qualitative research on managers awareness of TQM aspect in Greek Service industry	Exploratory case study Semi-structured interviews
Lin and Wu (2005)	Managing knowledge contributed by ISO9001:2000	Case study Semi-structured interviews
Berg (2005)	An investigation in attitudes to formal quality management system	Exploratory case study In-depth Interviews
Lagrosen (2004)	Quality management in global firms	Case study In-depth Interviews
Hepner, Wilcock and Aung (2004)	Auditing and continual improvement in the meat industry in Canada	Case study In-depth Interviews
Boiral (2003)	ISO 9000: outside the Iron Cage	Case study In-depth interviews
Braun (2003)	How organisations will meet the ISO 9001:2000 training requirement	Case study Semi-structured interviews
Grigg and McAlinden (2001)	A new role for ISO 9000 in the food industry? Indicative data from UK and mainland Europe	Case study Semi-structured interviews
Douglas <i>et al.</i> (1999)	Maximizing the benefits of ISO 9000 implementation	Exploratory case study Semi-structured interviews

The main reason that a qualitative method approach has been chosen is to explore every aspect of the research including respondent's experiences, opinions and knowledge. The aim of a qualitative method design is to summarise positive aspects of the approach and produce highly accurate data. In addition, a qualitative method approach of data gathering and evaluation can increase the validity and accuracy of the information. In research it is important to use a qualitative research method when conducting detailed research.

It is also useful to consider the use of research methods in management and organisational researches that exhibit a rich diversity of qualitative methodological approaches, for example Balan (2009) employed qualitative methods in examining the relevance of social networks for individuals' careers within academia. Tai and Hsu (1999) stated the use of qualitative methods is present when the researcher needs a synthetic strategy in order to gather information relevant to the organisational process involved and the data to describe the process.

### **3.5 Research strategy**

The chosen research strategy is a case study. Saunders, Lewis and Thornhill (2009) described research strategy as a general plan of how to answer the research questions that have been set. What matters is that the chosen strategy is appropriate for the type of research questions and objectives; therefore, the research strategy must be clearly defined, including how the research question will be answered. In addition, a number of researchers have explained a range of research strategies separately, whilst emphasising that they are not mutually exclusive and the success of the research depends on the way in which primary data is collected, analysed and produced (Saunders, Lewis and Thornhill, 2009 and Easterby-Smith, Thorpe and Jackson, 2008).

According to Robson (2002) there are three kinds of traditional research strategy:

- Experiment, measuring the effects of manipulating one variable against another variable;
- Survey, which is to collect standardised information from selected groups of people;
- Case study which is the development of detailed, intensive knowledge about a single case or multiple cases of a small number of related cases.

Yin (2009) added another five strategies to the previous three primary research strategies in social sciences: experiment, survey, archival analysis, histories and case studies. The relevant situations for different research designs are summarised in table 13. He claims that each strategy has certain advantages and disadvantages, which are determined by three conditions.

- “The type of research questions posed;
- The extent of the control an investigator has to cover the actual behavioural events;
- The degree of focus on contemporary as opposed to historical events” (Yin, 2009, p.8).

Table 3.7 shows these three conditions and presents how each one is related to the five major research methods being discussed.

**Table 3.7 - Relevant situations for different research methods**

Strategy	Form of research question	Requires control over behavioural events?	Focuses contemporary events?
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes/No
History	How, why?	No	No
Case study	How, why?	No	Yes

**Source:** Adopted from Yin (2009, p.8).

The three conditions are related to the five major research methods. Therefore the researcher will explain further the relationship. The first condition covers the research questions of this research as follows:

1. What are the difficulties affecting the implementation of ISO 9000 standards in the Libyan service and manufacturing industries?
2. Why have the difficulties to implementing the standards occurred?

3. What could be done to remove or mitigate the difficulties to enable successful implementation of ISO 9000 in Libyan service and manufacturing industries?

Yin (2009, p.9) notes that, a basic classification scheme for the type of questions is the familiar series: “Who,” “What,” “Where,” “How,” and “Why” questions”. Consequently research questions 1 and 3 start with a “what” question, these are exploratory questions, and are suitable for conducting an exploratory study. As an exploratory study, any of the five strategies can be used for,

*“.. an exploratory survey (testing, for instance, the ability to survey start-ups in the first place), an exploratory experiment (testing, for instance, the potential benefits of different kinds of incentives), or an exploratory case study (testing, for instance, the importance of differentiating “first time” start-ups from entrepreneurs who had previously started other firms” (Yin, 2009, p.9).*

Therefore, the existing study is an exploratory case study by nature. Indeed, an exploratory case study is appropriate for the purpose and research questions of this research.

The “How” and “Why” questions are likely to favour the use of case studies Yin (2009, p.9) for example, research question 2 belongs to the exploratory case study which is: “Why have the difficulties to implementing the standards occurred?” This type of question is appropriate for conducting an exploratory study and interviews. Interviews are both essential and significant sources of case study information because most case studies are about human affairs or behavioural events. The case study is the preferred method in exploratory contemporary events (Yin, 2009).

To summarise, the researcher notes that the most important step to be taken in a research study is defining the research questions, and asks how the research questions will be answered, and then linked to the methods to be used in the research. For that reason, the chosen research strategy is a case study.

### **3.5.1 Case study approach**

Bogdan and Biklen (2007) point out that a case study provides a detailed examination of one setting, or a single subject, a single depository of documents, or a particular event. Merriam (1998, p.19) noted:

*“A case study design is employed to gain in-depth understanding of the situation and meaning for those involved. The interest is in the process rather than outcomes, in context rather than a specific variable, in discovery rather than conformation. Insights gleaned from case studies can directly influence policy, practice and future research.”*

The aim of the research design is to satisfy the research aims and objectives. Yin (2009, p.26) defines the research design as a plan that *“guides the investigator in the process of collecting, analysing and interpreting observations.”* The case study was the primary research methodology used in this research, in order to gain the depth of understanding of the information necessary to identify and investigate the difficulties regarding the Libyan service and manufacturing industries to implement ISO 9000-QMS. Also, because this study is from a constructivist viewpoint, it was appropriate to apply an interpretive approach, which is integral to qualitative research (Denzin and Lincoln, 2005). Furthermore, as indicated this research is an exploratory study and in accordance with Yin (2009) who suggested that the type of research questions are an important factor in determining the design of each research. In addition, the development of case study design needs to maximise four conditions related to design quality; construct validity, internal validity, external validity and reliability. There are a variety of definitions and documented differentiators of the case study research methodology (Riege, 2003; Eisenhardt, 2002; Gillham, 2000). However, the following definition of case study research captures many of the common elements of the many available definitions. Robson (2002) defined a case study as a research strategy that focuses on the exploration of a complex phenomenon and related context.

According to Yin (2009, p.18) the definition of a case study is *“an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon are not clearly evident.”* In addition, Yin (2003, p12) quoted Schramm (1971) who stated that *“the case study tries to illuminate a decision or set of decisions: why they were taken, how they were implemented and with what results.”* This allows the researcher to determine not only what happened but also why it happened. Furthermore, Saunders, Lewis and Thornhill (2009) suggest that the case study is used if the researcher wishes to gain a rich understanding of the context; and it is a worthwhile way of exploring existing theory.

A study by Bell (2005) notes that the case study method is particularly appropriate for individual researchers, because it gives the opportunity for one aspect of the problem to be studied in depth within a limited time scale.

The great strength of the case study method is that it allows the researcher to concentrate on a specific instance or situation and to identify, or attempt to identify, the various interactive processes at work. Eisenhardt (2002) suggested that case studies are required to study quality management issues, which may be contextually defined, or situation dependent. This supports the selection the of the case study method in this thesis.

Balzarova, Bamber and McCambridge (2004) point out that the intangible nature of the research elements such as culture change, resistance to change and continual improvement in some organisations deems the case study essential by the researcher. Similarly, Yeung and Cheng (2004) indicated that the case study research method is the proper method to study the ISO 9000 standards implementation in its natural setting. It allows the much more meaningful questions of 'Why' and 'How' to be answered with full understanding of the nature and complexity of the phenomenon.

Another key element of case study research is that it provides researchers with the methodology required to observe and explain "*contemporary events over which the researcher has little or no control*" (McGuire, 1998).

A study by Blau *et al.* (1996) draws attention to some problems in the case study, namely the fact that generalisation is not usually possible and they question the value of the single events. However, Bryman (1995) noted that the generalisability of the research may be enhanced when using a second case study or a multiple case study approach to research. Eisenhardt (2002) states a further contention surrounding the case study methodology involving the selection of either a single case study or multiple case studies and numerous levels of analysis. Although the numbers of variables change from case to case; clusters of issue dimensions build into recognisable themes, which in turn provide insights, thus reinforcing and challenging current thinking and managerial action or preferences. Dooley (2002, p.340) quoted Herling, Weinberger and Harris (2002) who found that

*"It is important that the researcher use specific tools for specific data collection. The study must be well constructed to ensure construct validity, internal validity, external validity, and reliability. To pass these tests of validity and reliability, explicit attention must be paid to the design of the research study and to the processes used in the collection of the data, the analysis of the data, and the reporting of the findings."*

Furthermore, in case study research, a single case can improve the quality of data collection and research findings (Yin, 2009 Miles; and Huberman, 1994). For this research, the researcher chose a single case study approach to increase external validity and reliability because comparative results could be analysed through template analysis techniques, thus removing the issue of observer bias. Following the case study methodology proposed by Yin (2009), the aspect of reliability was addressed through a series of procedures during the case design phase, data collection, and the use of procedures for coding and analysis. Firstly, during the case design phase, a detailed case protocol was created in order to enable a systematic data collection. Secondly, each interview was conducted face to face, voice recorded, and finally transcribed from Arabic to English. In this way, a high degree of reliability and validity of the data was ensured. Therefore, thirteen companies, among the biggest service and manufacturing companies in Libya were selected for the study. A case study approach was appropriate to explore a deeper level of information than that acquired from a quantitative survey approach. The reasons behind selecting a single case study approach are:

- To answer the research questions and to increase the validity and reliability of the data collection;
- To acquire quality information from experts in the field of quality management systems within the chosen case study;
- To increase the number of available specialists in the field of quality of QMS;
- To gain an in-depth understanding of the implementation issues around the ISO 9000, QMS;
- To understand the common types of difficulties affecting the implementation of ISO 9000 standards.

### **3.6 Case selection and analytical framework**

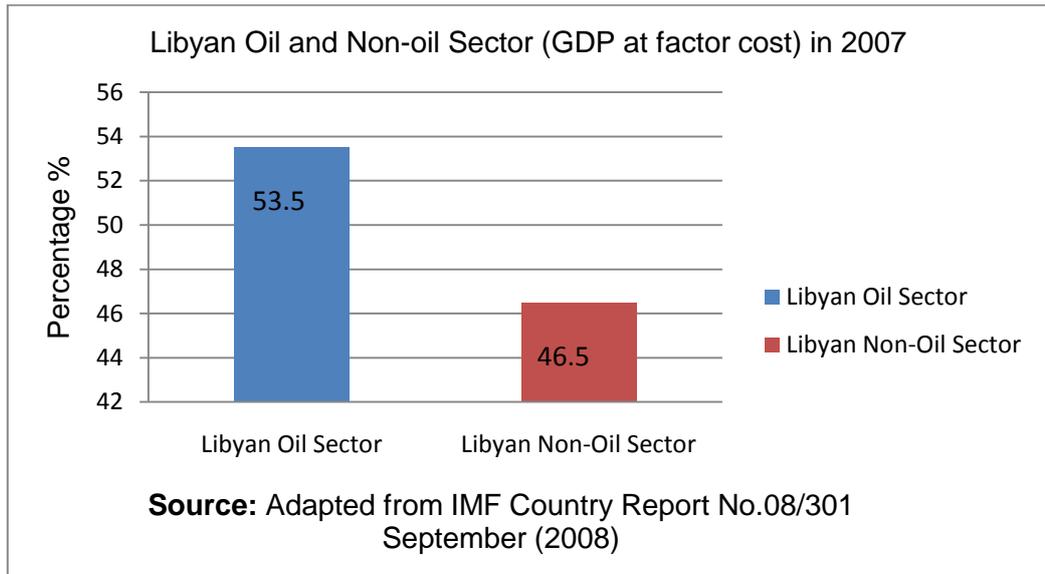
As previously mentioned, the researcher's purpose for this study was to explore and analyse the difficulties that affect the implementation of ISO 9000 (QMS) in Libyan service and manufacturing industries. The researcher will continue with an explanation of the selection of the case study, data collection and data analysis methods. Finally a summary of the chapter is presented.

### **3.6.1 Justification of selecting case study**

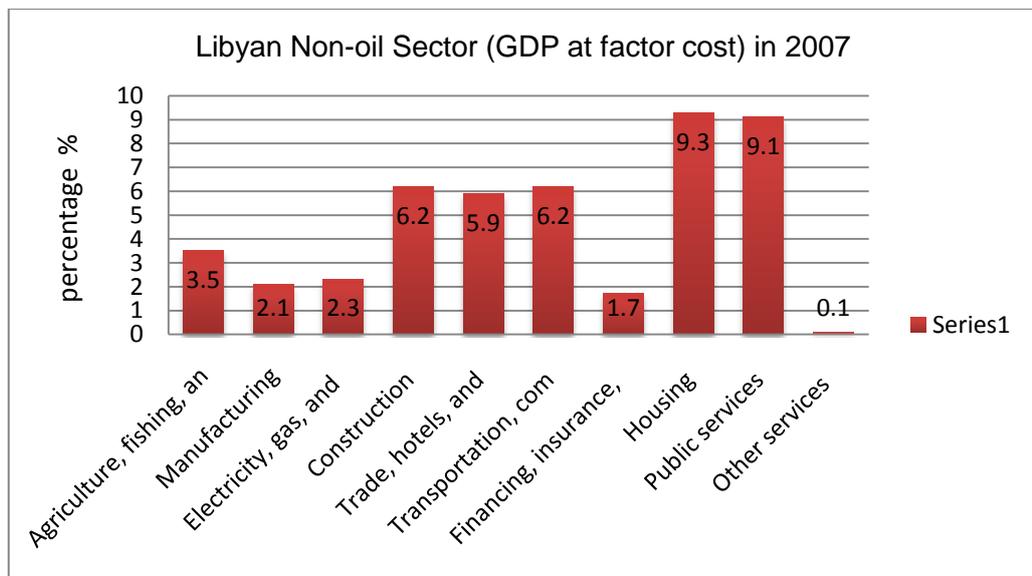
It is essential to have an overview and background information of Libya as the present study has set its boundary in the context of Libyan service and manufacturing industries. Libya was comparatively poor until the discovery of oil and natural gas in the early 1960s. Since then, the Libyan economy has been based mainly on oil (Growth Domestic Product at factor cost in oil sector 53.5% and non-oil sector 46.5% in 2007), (IMF, 2008). The overall GDP is described in figures 3.7 and 3.8, below. From the 1990s, the Libyan state changed its economic policies and strategies in order to find other incomes to support the economy (rather than oil). As such, future growth was formed from non- oil sectors. The question arises here as to why non- oil sectors turned out to be the income to support the Libyan economy? The evidence to answer this question is explained below.

Libya had sanctions imposed by the United States in 1992, which meant there were regulations and laws in place whereby Libya had no rights to export or import any products. The airports and sea ports were open only for internal transportation of locally produced goods and services. Since the sanctions were lifted in September 2003, the Libyan government began to change their strategies and support the non-oil sector financially and motivationally to improve the quality of the service and manufacturing industries and to generate an income that would enable the country to recover fully from this regime. In the last ten years there has been an influx of companies approaching the Libyan government with regards to investing in the country. In addition to oil companies Libya is benefitting from construction, new technology and communication investment. As mentioned previously, the non-oil sectors or industries are considered as important industries for the future, representing the backbone of Libya's economy and are given priority and the utmost regard as well as acknowledging that these industries now represent the major income control for Libya's economy (Ozman and Karlberg, 2007).

**Figure 3.7 – Libya GDP for (Oil and Non-oil sector)**



**Figure 3.8 - Libya GDP for (Non- oil sector)**



During 2003, the United Nations and the United States lifted economic sanctions over Libya, since then, Libya has begun a process of economic improvement. Efforts are being made to modernise the economy as part of a broader campaign to reintegrate with the international community. Initial steps include applying for WTO membership, cautiously reducing subsidies, and announcing plans for privatisation (Otman and Karlberg, 2007).

**Figure 3.9 - Libya Map**



**Source:** Adopted from [www.fco.gov.uk](http://www.fco.gov.uk)

As Libya enters a new era of economic development, the Libyan service and manufacturing industries will play a vital role. Foremost among Libyan non-oil industries is iron and steel, cement, electricity, inspection and services, construction, food and textile industries (Hokoma *et al.*, 2006).

### **3.6.1.1 Company profiles**

Libya is rapidly becoming more accessible today and the country is observing fast growth and investment in the oil and gas sector as well as in the service and manufacturing sectors which include the inspection and service industries, production of petrochemicals, iron, steel and aluminium, in addition to a growing tourism sector.

The capacity of Libyan service and manufacturing industries has been increasing and started in authority just after 1969. In the late 1970s, the industry sector (including service and manufacturing) was proposed by the Libyan government which had assumed control over those aspects of industrial production that were deemed sensitive or too large for the domestic private sector.

Libyan service and manufacturing industries are one of the largest service and manufacturing sectors operating in Africa. Based in Tripoli, Benghazi, and Misrata LSMI is one of the largest sectors in Libya (Otman and Karlberg, 2007). The Libyan manufacturing industry encompasses manufacturing works, factories and plants, fabrication of finished products, parts and materials, production of iron, steel, aluminium and cement to food processing and manufacture of textiles and handicrafts. These companies produce goods and services which include;

- Aluminium and Metals;
- Cement;
- Crystal and Glass;
- Electronics and Electrical;
- Pharmaceuticals;
- Machinery and Tools;
- Marble and Stones;
- Medical Equipment (Health);
- Packaging;
- Paints and Coatings;
- Paper Making;
- Plastics;
- Textiles.

The Libyan inspection and services industries specialise in inspection works, food inspection, industrial inspection, oil inspection, medical inspection, survey, testing activities, auditing and issuing inspection certificates and conformity as well as calibration services and carrying out the system of follow up for productions. The works and function of inspection and conformity include the following:

- Inspection during the process of manufacturing;
- Inspection during loading and discharging goods;
- Inspection of the means of transport ( a vessel; a container; or a truck);
- Surveying the temperature of cooling trucks;
- Tracing the cargoes to the sea, land and airports and conformity of supplying goods regarding the quantity, weight and quality;
- Inspection services of machinery, equipment and imported materials of all types, as well as food commodities of all kinds;
- Oil Inspection; Medical Inspection; Industrial Inspection and Food Inspection

The company profiles are summarised in table 3.8 below.

**Table 3.8 – Company’s profiles and interviewees**

LSMI	Sector	Company Size and Industry	Nature of Business	Locations	Start ISO 9001: 2000 Process Date	Gained ISO 9001: 2000 Certification Date	Number of Interviewees and Professionals
Company 1	Public	Large Manufacturing	Iron & Steel	Misurata City	2001	2002	1. Head of Quality Management System. 2. Quality Manager.
Company 2	Public	Large Manufacturing	Cement	Benghazi City	2003	2004	1. Head of Quality Management System.
Company 3	Public	Large Service	Transport	Tripoli City	End 2006	July 2008	1. Head of Quality Management System. 2. Quality Manager.
Company 4	Private	Medium Manufacturing	Food	Tripoli City	Jan 2008	July 2008	1. Head of Quality Management System.
Company 5	Public	Large Manufacturing	Electronics	Tripoli City	Jan 1999	Aug 1999	1. Head of Quality Management System. 2. Quality Manager.
Company 6	Private	Medium Service	Inspection and Services	Tripoli City	March 2004	October 2004	1. Head of Quality Management System.
Company 7	Public	Large Manufacturing	Pharmaceuticals	Al 'Aziziyah Town	2007	2009	1. Quality Manager and Management Representative.
Company 8	Private	Medium Service	Inspection and Services	Tripoli City	July 2004	Nov 2004	1. Quality Manager.
Company 9	Private	Large Service	Inspection and Services	Tripoli City	2004	2004	1. Head of Quality Management System.
Company 10	Private	Small Service	Inspection and Services	Tripoli City	2004	2005	1. Head of Quality Management System.
Company 11	Public	Large Service	Engineering	Tripoli City	2005	Aug 2005	1. Quality Manager and Management Representative.

**Table 3.8 - Company profiles and interviewees (continued)**

LSMI	Sector	Company Size and Industry	Nature of Business	Locations	Start ISO 9001: 2000 Process Date	Gained ISO 9001: 2000 Certification Date	Number of Interviewees and Professionals
Company 12	Public	Large Service	Standards	Tripoli City	Oct 2005	June 2006	1. Head of LNCSM. 2. Head of Quality Management System.
Company 13	Public	Medium Service	Inspection and Consultancy	Tripoli City	1999	2000	1. Head of Quality Management System and Management Representative.

Considering the importance of service and manufacturing industries in developments around the globe and especially for Libya, these service and manufacturing industries were considered for investigation in order to identify and analyse the difficulties that affect the implementation of ISO 9000, quality management system (QMS) in Libyan organisations. Thus, the research was designed to conduct a single case study approach regarding ISO 9000 certification in Libyan service and manufacturing industries.

The use of a single case study approach provides rich data and the generalisability of research may be enhanced. Comparisons allow the special features of cases to be identified much more readily (Bryman, 1989). Yahya and Goh (2001) who cited that Calingo *et al.* (1995) studied and found a number of barriers facing certified organisations in implementing ISO 9000 standards, this supports the selection of ISO 9000 certified companies. Furthermore, a single case study allows the researcher to use multiple sources of data in order to explore the research questions which in turn, promotes the validation of data collection through semi-structured interviews.

The researcher decided to use a single case study to do an in-depth investigation and analysis of different factors facing the QMS implementation in Libyan companies. To understand more about the impact of the Libyan authorities on ISO 9001:2000 standards implementation, the researcher chose to interview managers of certified Libyan service and manufacturing industries. Therefore, in this research a single case study has been chosen to provide a comprehensive understanding of the various issues in the organisations relating to the quality management system.

### **3.6.2 Time horizon**

Another important issue is the period of time that the researcher needed to focus his study. As always, "*it depends on the research questions,*" (Saunders, Lewis and Thornhill, 2009, p.155).

There are two time horizons known in the literature – cross-sectional and longitudinal. Researchers have two choices, either a cross-sectional research design or a longitudinal research design.

- **Cross-sectional studies:**

According to Sekaran (2003), a cross-sectional study is a study that can be done where data are collected once, possibly over a period of weeks or months or years to answer the research question. Most field studies conducted are cross-sectional in nature because of time, effort, and costs involved in collecting data over several time periods. However, *“they may also use qualitative methods. Many case studies are based on interviews conducted over short period of time”* (Saunders, Lewis and Thornhill, 2009, p.155).

- **Longitudinal studies:**

Robson (2002) points out that, in some studies, the researcher might want to study people or phenomena at several points in time in order to answer a research question. For example, the researcher might want to study the behaviour of a group of people before and after something happened. Because the data is collected at two different periods of time, it is not a cross-sectional study or a one-time study, but a study carried out longitudinally across a period of time.

Given the nature of the research the researcher therefore used a cross-sectional method, since data are gathered just once over a period of three months. The current research has a cross-sectional time horizon as it is identified as being suitable for the research aim and the researcher's resources. Firstly, the researcher was given a limited period of time which constrained the ability to conduct a longitudinal examination. Secondly, the present research questions are not involved in analysing the variance of the research variables over a period of time but focused on exploring and revealing new contextual insight by suggesting new interpretations and theoretical assumptions (Easterby-Smith, Thorpe and Jackson, 2008; Robson, 2002). Because the study was based in a specific period of time, the main purpose of the investigation was to gain the depth of understanding of the information necessary to identify and investigate the difficulties regarding the Libyan service and manufacturing industries implementing ISO 9000-QMS.

### **3.6.3 Selection of data collection methods**

Maanen (1983) points out that, within the research process, data collection and its analysis play an important role, because it will ensure the author reaches his goals; consequently selecting the best techniques is a key issue.

Miles and Huberman (1994) highlight the significant features of reliability and validity in qualitative research, just as much as in quantitative research. To improve reliability in qualitative research, an adequate amount of time should be spent with the participants to obtain reliable information and to validate the accuracy of response (Lincoln and Guba, 1985). Saunders, Lewis and Thornhill (2009) mentioned that the use of interviews could assist researchers to collect reliable data that is related to the research questions and objectives. Sekaran (2000) pointed out that by using semi-structured interviews the researcher can clarify doubts and ensure that the respondents understand the questions and the responses are also understood by the interviewer. Company documents will also be used as another source of data collection to satisfy the requirements for the research validity and reliability. Being consistent with social constructionism and interpretivism philosophical approaches, the researcher used semi-structured interviews as the main method at high and low levels in the first and second phase, because of the flexibility it provides. Open-ended questioning was used as a means of relaxing the interviewees and providing them with the opportunity to explain in more detail, and in their own words, in the hope of extracting more useful data. It ensures that the author was not trying to impose any bias on the interview.

Mason (2002) cited that the semi-structured interview is characterised by three characteristics:

- A relatively informal discussion rather than a formal question and answer format;
- No need for the researcher to have a structured list of questions, the researcher could have a range of topics, themes or issues to cover;
- The data is generated via the interaction.

#### **3.6.3.1 Validity and reliability of data collection methods**

Hedrick, Bickman and Rog (1993) state that, researchers must maximise validity to ensure credibility, they also mentioned that a valid piece of research provides a clear explanation of the phenomenon under study and controls all possible biases that could distort the research findings. It is also important however, to know that without validity in

research, reliability cannot be achieved. In research methodology literature, qualitative research needs to be evaluated through its validity and reliability. The word validity is considered as internal or external validity.

According to Amaratunga *et al.* (2002, p.29) it was noted that external validity

*“refers to the extent to which any research findings can be generalised beyond the immediate research sample or setting in which the research took place.”*

While internal validity

*“refers to what is identified as the causes actually produce what has been interpreted as the ‘effect’ or ‘response’ and checks whether the right cause-and-effect relationships have been established.”*

However, reliability as Yin (2009) pointed out is the extent to which a test or procedure produces similar results under constant conditions at all times. From the definitions of internal validity and reliability, Amaratunga *et al.* (2002) underlined that reliability deals with the data collection process to ensure consistency of results whereas internal validity focuses more on the way such results support conclusions. Furthermore, the goal of reliability is to minimise the errors and biases in the research. In relation to case study design, adopted by the researcher for this research, and to validate and ensure reliability the researcher chose one of the most important sources of case study information, the interview. Interviewees were experts in the field of quality management within the chosen case study; this enabled the researcher to acquire valuable, reliable, and up to date information.

### **3.6.3.2 Data collection instrument**

Yin (2009) notes that researchers can use six sources of evidence: documents, interviews, direct observation, archival records, participant observation and physical artefacts. Table 3.9 includes six sources of evidence and their strengths and weakness. The multiple sources of evidence provide multiple measures of the same phenomenon (Yin, 2009). Furthermore, Yin states that *“the various sources are highly complementary and a good case study will therefore want to use as many sources as possible”* (p.102).

**Table 3.9 - Six sources of evidence: strengths and weakness**

Source of evidence	Strengths	Weakness
<b>Documentation</b>	<ul style="list-style-type: none"> <li>• Stable- can be reviewed repeatedly.</li> <li>• Unobtrusive-not created as a result of the case study.</li> <li>• Broad coverage-long span of time, many events and many settings.</li> <li>• Exact-contains exact names, references and details of an event.</li> </ul>	<ul style="list-style-type: none"> <li>• Biased selectivity, if collection is incomplete.</li> <li>• Retrievability can be low.</li> <li>• Access- may be deliberately blocked.</li> <li>• Reporting bias-reflects (unknown) bias of author.</li> </ul>
<b>Archival records</b>	<ul style="list-style-type: none"> <li>• Same as above</li> <li>• Precise and quantitative.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above.</li> <li>• Accessibility due to privacy reasons.</li> </ul>
<b>Interviews</b>	<ul style="list-style-type: none"> <li>• Targeted-Focuses directly on case study topic.</li> <li>• Insightful- provides perceived causal inferences.</li> </ul>	<ul style="list-style-type: none"> <li>• Bias due to poorly constructed questions.</li> <li>• Response bias.</li> <li>• Inaccuracies-interviewee gives what interviewer wants to hear.</li> </ul>
<b>Direct observation</b>	<ul style="list-style-type: none"> <li>• Reality- covers events in real time.</li> <li>• Contextual-covers context of event.</li> </ul>	<ul style="list-style-type: none"> <li>• Time-consuming.</li> <li>• Selectivity-unless board coverage.</li> <li>• Reflexivity-even may proceed differently because it is being observed.</li> <li>• Cost-hours needed by human observers.</li> </ul>
<b>Participant observation</b>	<ul style="list-style-type: none"> <li>• Same as above for direct observation.</li> <li>• Insightful into interpersonal behaviour and motives.</li> </ul>	<ul style="list-style-type: none"> <li>• Same as above for direct observation.</li> <li>• Bias due to investigators manipulation of events.</li> </ul>
<b>Physical artefacts</b>	<ul style="list-style-type: none"> <li>• Insightful into cultural features.</li> <li>• Insightful into technical operations.</li> </ul>	<ul style="list-style-type: none"> <li>• Selectivity.</li> <li>• Availability</li> </ul>

**Source:** Adopted from Yin, (2009, p.102).

In this research, the field study was conducted in Libya, using a qualitative data approach in the first and second phase of the study, which represents respondents' telephone interviews, individual semi-structured interviews and analysis of documents. The researcher aimed to achieve the triangulation of data therefore reducing the case study bias, also satisfying the requirements for the research's validity and to enhance reliability.

#### **3.6.4 Generation of interview questions**

Questions about the ISO 9000 standard implementation issues were generated and used in the interviews, with different levels of staff in the organisations, based on an extensive review of the literature in the area of ISO 9000 standards. The researcher generated similar interview questions for every management level in every case study. The interviews contained selected difficulties statements that were derived from the literature. Semi-structured interviews were conducted to the targeted respondents in the case study companies after conducting the pilot interviews. The interview responses gave an indication to the researcher about the type of difficulties that may face the case study implementing ISO 9000 standards, thus helping the researcher draw his conclusion and make recommendations for this research.

#### **3.6.5 Conducting a pilot study**

The aim of the pilot case study was to enable the researcher to determine and interpret any problems that may appear within the interview questions, for example, misunderstanding of questions from respondents, repetition of questions and the length of questions (Cooper and Schindler, 2008). This will allow the researcher to remedy the problems before the questions are used with the selected case study organisations (Crimp and Wright, 1995). In addition, conducting the pilot study will develop an insight into the barriers of ISO 9000 that are particular to Libyan service and manufacturing industries. The researcher was also aware that pre-testing avoids the time and cost of mistakes and enhances the accuracy of the findings.

The interview questions were finalised for use in the main case study after conducting the pilot studies therefore, the validity and reliability of data collected were increased. To ensure the data is collected and analysed properly, it is essential to ensure the interviewees do not have a problem with understanding and answering the questions.

The main source of the pilot study data for this research was obtained from the emails and follow up telephone interviews undertaken with three quality managers in the two companies (Company 1 and 2). The “interview” (email) questions were submitted to the targeted respondents and followed up by telephone contact enabling them to offer their opinion regarding the difficulties affecting ISO 9000 QMS standards implementation in both companies. At the end of the interviews, the participants were asked to add their comments and any suggestions they would like included in the interview questions. Template analysis adopted from King (2009) was used to analyse the data from the recorded pilot interviews and the results and feedback from the piloted interviews helped the researcher to achieve the above goals.

### **3.6.6 Conducting the main case study**

As mentioned above, a small-scale pilot research was conducted to improve the interview questions by checking out the problems connected with answering the questions, plus the time needed to complete each interview. This pilot study allowed the researcher to remedy the problems before the questions were used with the selected main case study organisations. This also allowed the researcher to measure the reliability of the designed questions and ensured the suitability of the data analysis technique for this research. After these preparations, the researcher started the main research with obvious direction.

### **3.6.7 Sample of research**

Sampling is the process of selecting participants (e.g., professionals, managers, organisations) from the population of interest for this research. Sekaran (2000, p.267) defines a sample as,

*“The process of selecting a sufficient number of elements from the population so that by studying the sample and understanding the properties or the characteristics of the sample subject it would be possible to generalise the properties or characteristics to the population elements.”*

However, qualitative research does demand strategic considerations in sample selection, this is in line with Mason (2004, p.136) who believes that, *“the key issue for qualitative sampling is how to focus, strategically and meaningfully, rather than how to represent.”*

The interpretive description study draws upon purposive and theoretical sampling techniques because both offer ways of capturing the “*expected and emerging variations within the phenomenon under study*” (Thorne, Reimer-Kirkham and O’Flynn-Magee, 2004, p.6). For the purpose of this research, in choosing the sample type and size, the researcher adopted both purposive and theoretical sampling.

Purposive sampling was used at the beginning of this study and is employed when the researcher needs a specific group of participants in order to best represent the aims and objectives of the research study, additionally, the purposive sampling proved a useful tool in this study because it helped the researcher identify who he was looking for, and through their identification focus on a strategy for locating them. This explanation was proved and adopted from Sarantakos, (1998). Another goal of the sample stage of the study was to investigate the questions in order to obtain high-quality results, also, to ensure the selected sample could provide rich details and fit the purpose of the research, it was therefore necessary to choose organisations that provided regular ISO 9000 programmes to its employees. To achieve this; the researcher had statistically estimated the characteristics of the population from the Libyan service and manufacturing sample and extra attention was given to this issue before the final sampling decision was made. In order to select the most suitable interviewees, interview informants’ individual intelligence, knowledge, time, and ability to reflect their experience were taken into account.

In relation to the sampling size of this research an important consideration in sample design is the choice of sample size, the main point of theoretical sampling was applied. For the importance of the theoretical sampling, Bryman (2008) stated that instead of it being a single stage process it is an on-going process, it is to carry on sampling theoretically until a category has been saturated with data. In order to identify the research samples size, the researcher selected 17 professionals (quality managers) for the main study from the 13 companies operating in Libya (as mentioned in chapter four; table 4.1).

### 3.6.8 Interviews

Rubin and Rubin (1995, p. 1) observed that "*qualitative Interviewing is a way of finding out what others feel and think about their worlds.*" Although the interview was the primary data-gathering tool for this research a semi-structured interview technique was selected where questions were cautiously designed to present sufficient evidence for the purpose of the research. The choice of the semi-structured interview is appropriate given that Bahrain and Noor (2008, p.1604) argue,

*"Semi-structured interviews were employed because it offers sufficient flexibility to approach different respondents differently while still covering the same areas of data collection."*

In discussing the different types of interviews Bryman (2004) and Robson (2002) found that the semi-structured interview is one of the primary data collection methods in qualitative research and the most common type of interviews in qualitative studies. Additionally, Horton, Macve and Struyven (2004, p.340) noted that,

*"semi-structured interviews were chosen in order to allow the interviewees a degree of freedom to explain their thoughts and to highlight areas of particular interest and expertise that they felt they had, as well as to enable certain responses to be questioned in greater depth, and in particular to bring out and resolve apparent contradictions."*

Robson (2002) proposed that, semi-structured interviews are useful because the interviewer is able to respond to the 'non-verbal-cues' of the interviewee and move with the pace of the interview. As previously mentioned, the semi-structured interview intended for this research offered an opportunity for the researcher and interviewees to interact with each other. Another advantage is that the researcher will have a list of themes and questions to be covered, although these may vary from interview to interview. Nevertheless, semi-structured interviews also help the researcher to gather valid and reliable data that are relevant to the research question and objectives. The semi-structured interviews were recorded using a digital voice recorder in order to secure an accurate account of the conversations and avoid losing data since not everything can be written down during interview. Also, the digital voice recorder is appropriate to record and transfer information to the researcher's computer, making it easier to sort, edit and play back the interviews voice files. To avoid complication, every voice file was

numbered and labelled with the name of the interviewee in order. Three different types of semi-structured interviews were employed in the study email, telephone and face-to-face individual interviews.

Bryman (2008) mentions that when face-to-face interviews are not possible for the qualitative researcher then there is the possibility of telephone and online or email interviews. Therefore, because of time constraints for the pilot study and the distance between the United Kingdom and Libya, the researcher decided to conduct the pilot interviews firstly by e-mail and followed them up by telephone. Sarantakos (1998) noted that telephone interviewing was accepted following the Second World War. Robson (2002) recommends that telephone interviews build up a good relationship with the interviewee. However, email interviews carry a different type of difficulty since the written text replaces the visual and verbal cues of the face-to-face and telephone interviews. Robson (1993) says that the lack of person-to-person contact can have an impact on the motivation of the interviewee to participate in the actual interview.

Johnson and Chambers (2000) suggest that entrance to targeted industries and interview informants can be problematic since not all interviewees have sufficient motives or interests to be interviewed. The researcher made good use of personal contacts that were established before approaching the probable participants; this was done by email and telephone. When the probable participants showed an interest, invitation letters, interview schedules, information sheets and consent forms were sent to the companies to be distributed to the quality professionals, management representatives and heads of the quality management system wishing to participate in this study.

The interviews were done in two-phases, in the first phase (pilot interviews) the researcher conducted three email interviews, followed up by telephone interviews due to the great degree of flexibility it provides. In order to obtain a general perspective on the difficulties regarding implementation of a QMS, the researcher chose to focus the interviews with professionals most likely to be aware of all aspects of the certification process. In the second phase of the study, the descriptive part, fourteen semi-structured interviews were carried out to gain in-depth information. Open-ended questions were developed, building on the evidence from the pilot interviews and used as a means of encouraging candid responses from the selected respondents, in relation to the implementation of ISO 9000 QMS and to increase the validity and reliability of the data. All individual interviews were done face-to-face, recorded, transcribed, translated and analysed by the researcher.

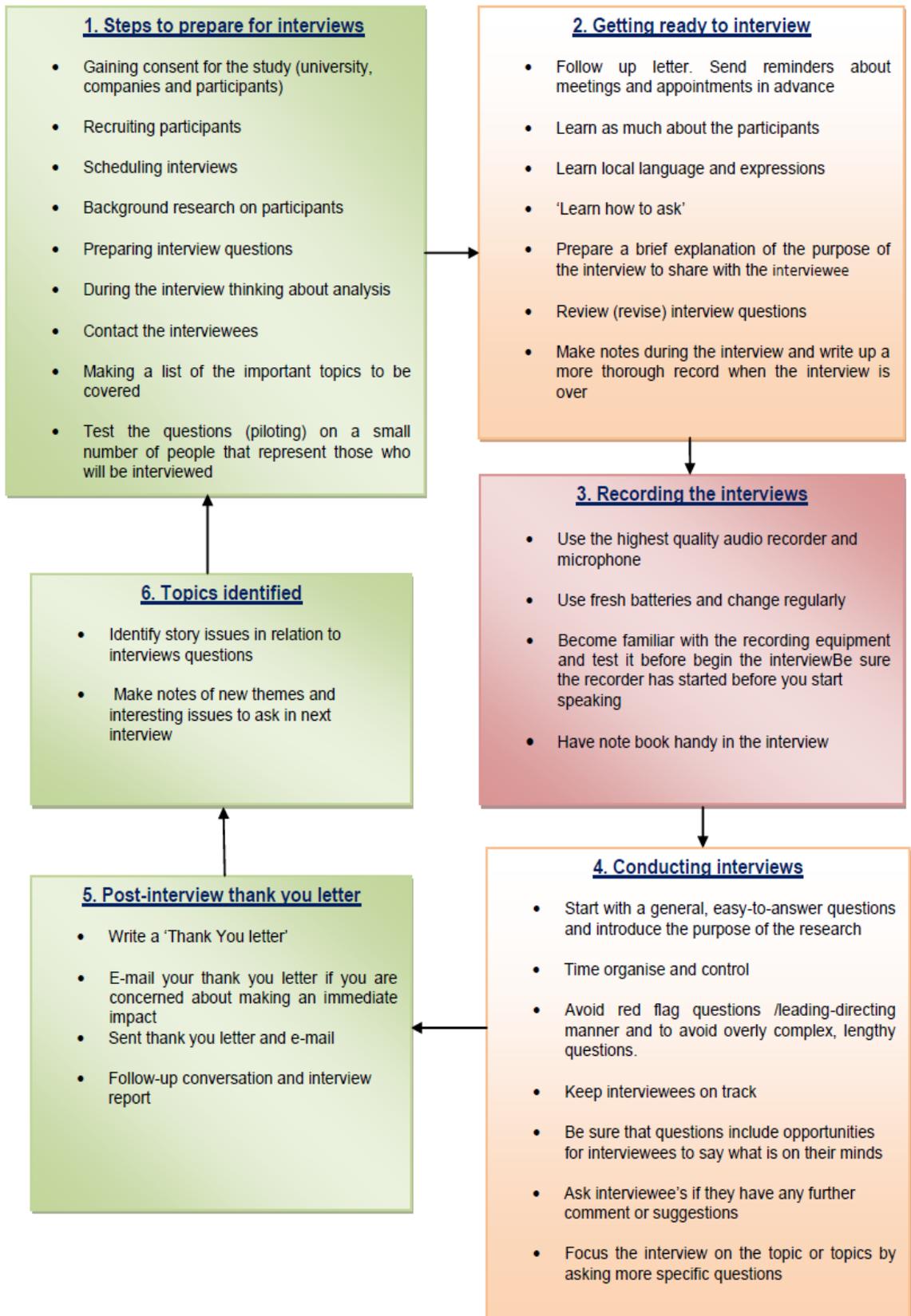
### **3.6.8.1 Planning and conducting a successful interview**

According to Saunders, Lewis and Thornhill (2009) when conducting semi-structured interviews initial impressions are very important during the opening stages. Hawley (2008, p.1) suggests that,

*“A researcher’s skill in conducting interviews has a direct impact on the quality and accuracy of research findings and subsequent decisions about design. Skilled interviewers can conduct interviews that uncover the most important elements of a participant’s perspective on a task or a product in a manner that does not introduce interviewer bias.”*

In accordance with the above suggestions the researcher designed the following interview planning strategy comprising six main stages. This strategy is shown in figure 3.10.

**Figure 3.10 - The steps for interview process**



**Source:** Adapted from Quan (2007)

To avoid any misunderstanding caused by language barriers, the majority of the interviews were conducted in Arabic rather than English, however an English and Arabic version of the written interview questions was given to all respondents. Following the above steps for the interview process, each interview started with general, easy-to-answer questions to relax the interviewees and encourage them to speak freely. At the end of each interview the researcher requested the interviewee's permission to have follow-up conversations if there were any problems in relation to the interviews thus allowing the researcher the opportunity of remaining in contact so that any points could be clarified. The summary of all the interview information is shown in table 3.10.

**Table 3.10 - Summary of preparing and conducting a successful Interview**

LSMI	Prepare Interview	Recording and Conducting the Interview	Post-Interview Thank you letter
C.1	<ol style="list-style-type: none"> <li>1. Contacted by phone and e-mail.</li> <li>2. Informed consent signed</li> <li>3. Interview questions were sent to interviewees two days early by e-mail.</li> </ol>	<ul style="list-style-type: none"> <li>• 1.5 hrs lasted</li> <li>• 1.2 hrs lasted</li> </ul> (Digital voice recorded + notes in both interviews) Interviewee read the interview questions before the interview	<ol style="list-style-type: none"> <li>1. Sent thanks –letter</li> <li>2. Filed the tape and the interview notes.</li> <li>3. Contact after the interview (phone call), clarify some points.</li> </ol>
C.2	<ol style="list-style-type: none"> <li>1. Contact the interviewer by phone and e-mail.</li> <li>2. Consent form signed.</li> <li>3. Interview questions were sent to interviewees two days early by e-mail.</li> <li>4. Send reminders about meetings and appointments in advance</li> </ol>	<ul style="list-style-type: none"> <li>• 1 hour lasted</li> </ul> (Digital voice recorded + notes). Interviewee read the interview questions before the interview. Make notes of interesting issues to ask next interview.	<ol style="list-style-type: none"> <li>1. Write a 'thank you letter'.</li> <li>2. Sent 'thank you letter' and e-mail.</li> <li>3. Filed the tape and the interview notes.</li> </ol>
C.3	Same as above Send reminders about meetings and appointments in advance	<ul style="list-style-type: none"> <li>• 1 hour lasted</li> <li>• 1 hour lasted</li> </ul> (Recorded + notes in both interviews) Interviewee read the interview questions before the interview. Make notes during the interview and after.	<ol style="list-style-type: none"> <li>1. Write a 'thank you letter'.</li> <li>2. Sent 'thank you letter' and e-mail.</li> <li>3. Filed the tape and the interview notes.</li> </ol>
C.4	Same as above Be sure the tape has started recording before you start speaking.	<ul style="list-style-type: none"> <li>• 1 hour (Recorded + notes )</li> </ul> Identify story issues in relation to interviews questions. Make notes of interesting issues to ask next interview.	<ol style="list-style-type: none"> <li>1. Sent thanks –letter</li> <li>2. Filed the tape and the interview notes.</li> <li>3. Contact after the interview (phone call), clarify some points.</li> </ol>
C.5	Same as above Send reminders about meetings and appointments in advance	<ul style="list-style-type: none"> <li>• 1 hour lasted</li> <li>• 1.5 hour lasted</li> </ul> (Recorded + notes in both interviews) (Interviewee got the questions and prepared it well).	<ol style="list-style-type: none"> <li>1. Write a 'thank you letter'.</li> <li>2. Sent 'thank you letter' and e-mail.</li> <li>3. Filed the tape and the interview notes.</li> </ol>

**Table 3.10 - Summary of preparing and conducting a successful Interview (continued)**

LSMI	Prepare Interview	Recording and Conducting the Interview	Post-Interview Thank you letter
C.6	Same as above	<ul style="list-style-type: none"> <li>1 hour (Recorded + notes)</li> </ul> <p>(Interviewee got the interview questions in advanced but had no time to prepare it)</p>	<ol style="list-style-type: none"> <li>1.Sent thanks –letter</li> <li>2. Filed the tape and the interview notes.</li> <li>3. Contact after the interview (phone call), clarify some points.</li> </ol>
C.7	Same as above Send reminders about meetings and appointments in advance	<ul style="list-style-type: none"> <li>1.2 hour (Recorded + notes)</li> </ul> <p>Interviewee read the interview questions before the interview.</p> <p>Make notes during the interview and after.</p>	<ol style="list-style-type: none"> <li>1. Write a 'thank you letter'.</li> <li>2. Sent 'thank you letter' and e-mail.</li> <li>3. Filed the tape and the interview notes.</li> </ol>
C.8	Same as above	<ul style="list-style-type: none"> <li>1 hour (Recorded + notes)</li> </ul> <p>Interviewee did not check e-mail of the interview questions before the interview time.</p> <p>The interviewer gives the interviewee time to read the interview questions and prepare it before the interview.</p>	<ol style="list-style-type: none"> <li>1.Sent thanks –letter</li> <li>2. Filed the tape and the interview notes.</li> <li>3. Contact after the interview (phone call), confirmed some answers.</li> </ol>
C.9	Same as above	<ul style="list-style-type: none"> <li>1.1 hour (Recorded + notes)</li> </ul> <p>Interviewee read the interview questions before the interview.</p>	Same as above
C.10	Same as above Phone call reminder about the interview	<ul style="list-style-type: none"> <li>1 hour (Recorded + notes)</li> </ul> <p>Interviewee did not have private room for the interview available.</p> <p>The interviewer waited for the interviewee 2 hours to conduct the interview.</p>	<ol style="list-style-type: none"> <li>1. Write a 'thank you letter'.</li> <li>2. Sent 'thank you letter' and e-mail.</li> <li>3. Filed the tape and the interview notes.</li> </ol>
C.11	Same as above Phone call reminder about the interview	<ul style="list-style-type: none"> <li>1.5 hour (Recorded + notes)</li> </ul> <p>Identify story issues in relation to interviews questions.</p> <p>Make notes of interesting issues to ask next interview.</p>	<ol style="list-style-type: none"> <li>1.Sent thanks –letter</li> <li>2. Filed the tape and the interview notes.</li> <li>3. Contact after the interview (phone call), confirmed some answers.</li> </ol>

**Table 3.10 - Summary of preparing and conducting a successful Interview (continued)**

LSMI	Prepare Interview	Recording and Conducting the Interview	Post-Interview Thank you letter
C.12	<p>Same as above</p> <p>Send reminders about meetings and appointments in advance</p>	<ul style="list-style-type: none"> <li>• 1.5 hour lasted</li> <li>• 1 hour lasted (Recorded + notes in both interviews)</li> </ul> <p>Clarify issues in relation to interviews questions and comments.</p> <p>Make notes during the interview and after.</p>	<p>1.Sent thanks –letter</p> <p>2. Filed the tape and the interview notes.</p> <p>3. Contact after the interview (phone call), clarify some points.</p>
C.13	<p>1. Contacted by phone and e-mail.</p> <p>2. Informed consent signed</p> <p>3. Interviews questions were sent to interviewees two days early by e-mail.</p>	<ul style="list-style-type: none"> <li>• 1.5 hour (Recorded + notes)</li> </ul> <p>Interviewee read the interview questions before the interview.</p> <p>Make notes during the interview and after.</p>	<p>1.Sent thanks –letter</p> <p>2. Filed the tape and the interview notes.</p> <p>3. Contact after the interview (phone call), confirmed some answers.</p>

**Source:** Adapted from Quan (2007).

As previously mentioned, the researcher selected 17 professional quality managers for the main study from the 13 companies operating in Libya. Among the 17 interviewed QMS managers there were eleven Heads of Quality Management Systems; four Quality Managers one Quality Manager and a Management Representative.

All individual interviews were done face-to-face, recorded, transcribed, translated and analysed by the researcher. The interviews generally lasted for 1 to 1.5 hours. The participants offered the researcher the opportunity of remaining in contact after the interview so that any points could be clarified.

As table 3.10 indicates, the researcher planned and prepared in advance the strategies to be used in the interview process. For example: contacted by phone and e-mail; sent Informed consent forms to sign; interviews questions were sent to interviewees by e-mail prior to interview date; offering assurances of confidentiality and encouraging participation. Each participant was given the set of questions to peruse before the interview session and all interviews were conducted with respondents at their organisation’s site.

### 3.6.8.2 Data transcription

As discussed earlier, all recorded interviews were subsequently transcribed; translated and analysed by the researcher. After each individual interview, the researcher listened to the digital voice recorder immediately and made notes of new themes and interesting issues to use in future interviews. The main purpose of undertaking this daily interpretive analysis was to check if the interview data was properly recorded. If the data was not recorded, the researcher could contact the interviewee to arrange another meeting as soon as possible. This was followed by checking the typed text and translated sheets for errors. These preparation strategies provided the researcher with time to remove content inaccuracies and typing mistakes, as well as offering an opportunity to become more familiar with data. Reviewed (revised) interview transcripts were sent back to the interviewees for their comments. Once feedback from the interviewees had been received, the final typed text was proofread, and deemed ready for initial analysis.

### 3.6.9 Methods of data analysis

The data collected from the case study was analysed in line with the chosen research approach and methods (Figure 3.6 p.102). Amaratunga *et al.* (2002) highlighted that different types of analysing research evidence involves examining, categorising, tabulating or otherwise recombining the evidence which addresses the initial propositions of a study. However, one of the most popular data analysis methods used by the qualitative researcher is Template Analysis Technique. The methods are described and discussed by King (2004) who states that template analysis procedures are used to analyse qualitative data (interview data).

*“A template is essentially a list of the codes or categories that represent the themes revealed from the data that have been collected. Template analysis combines a deductive and an inductive approach to qualitative analysis in the sense that codes can be predetermined and then amended or added to as data are collected and analysed”* (Saunders, Lewis and Thornhill, 2009, p. 505).

Template analysis is now a widely used approach in qualitative research, academics often refer to it as “thematic coding” or “codebook analysis” (Edwards and Wolfe, 2007; King, 1998, pp. 118-134). The word “thematic” is explained by Gibson and Brown (2009, p.127) as relating to the “*aim of searching for aggregated themes within data.*”

Template analysis is the process of organising and subsequently analysing the collected textual data in relation to a set of themes or priori-codes that have usually been pre-defined. Organising the template involves coding an extensive amount of textual data so that segments relating to an identified topic can be amalgamated in order to fulfil the interpretive process (Crabtree and Miller, 1999). A priori codes are general categories extracted from the aims and objectives of the research and form a basic skeleton on which to begin the exploration of data (Gibson and Brown, 2009). These codes are intended to assist the researcher in the development of the structure for the data analysis process. The a priori themes arising from the literature review of this study (summarised in table 2.6, p.73-74) provide such a basis.

Template analysis has been chosen for the purpose of this study because it allows a great deal of freedom in the application and development of codes while engaging with textual data. According to Edwards and Wolfe (2007) template analysis is a highly flexible way of elucidating the notes from interviews in order to build a hierarchical structure of repeated themes, concepts or categories of meaning. Similarly King (2004) states that thematic analysis provides a flexible technique which produces rich data allowing the researcher to compare perspectives from various groups about their experience within a specific context. In the context of this research the participating groups were asked about their experience during the implementation process of ISO 9000.

### **3.6.9.1 Applying template analysis**

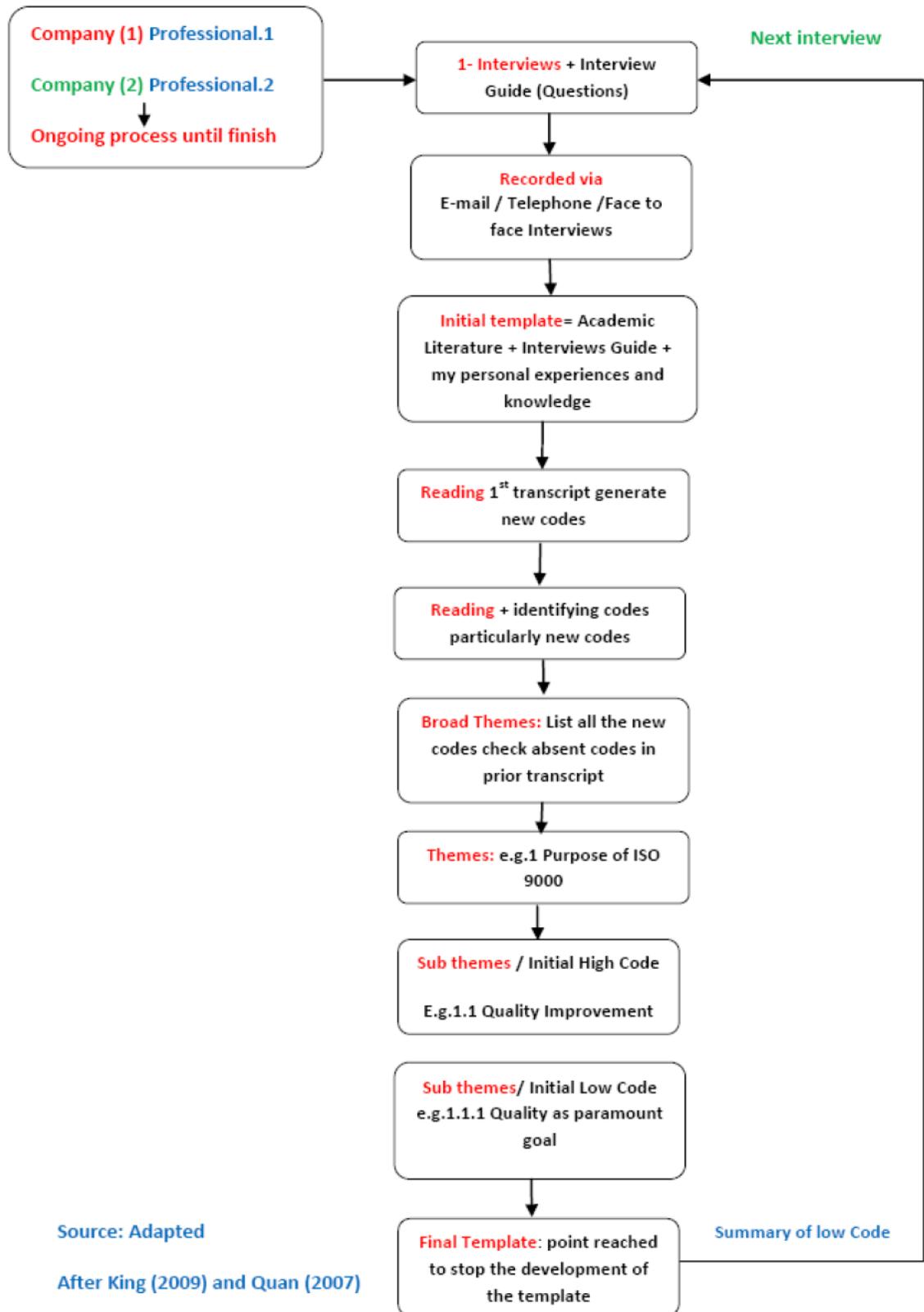
This section introduces template analysis and demonstrates how the researcher applied template analysis to analyse the qualitative data obtained from the transcribed interviews undertaken with the quality managers in the 13 companies as previously mentioned in chapter one. King (2009) defined template analysis as a particular approach to analysing qualitative data.

*“..The data involved are usually interview transcripts but may be any kind of textual data including diary entries, text from diary entries, text from electronic “interviews” (email) or open-ended question responses on a written questionnaire.”*

The purpose of template analysis is to provide the reader with an overview of the key themes and sub-themes emerging from the qualitative information collected from the interviews. The themes and codes are defined by King (2009) as relevant features of the participant's accounts and the process of identifying the themes. The key themes are identified from the original research questions, which in this case focus on the barriers affecting the implementation of ISO 9000, developed into sub-themes, and then coded once the interviews have been transcribed. An initial template for analysis of the data is then created using the identified codes. This enables adjustments to be made to the themes and sub-themes as the analysis evolves before developing the "final" template, although King further states that because there are other ways of interpreting qualitative data sets there is no stage where you can say with absolute certainty that the template is finished. The schematic of the template analysis technique is presented in figure 3.11.

Figure 3.11 - Template analysis development process and techniques

LSMI



Source: Adapted  
After King (2009) and Quan (2007)

Figure 3.11 illustrates the process followed by the researcher in developing the template. The initial template was coded using the pre-defined codes derived from the academic literature, the interview guide acquired from the pilot-study interviews and the researcher's own experience and knowledge. The pre-defined codes helped the researcher to initiate the first template and focus on relevant issues of the research. Subsequent reading of the interview transcripts resulted in modifications to the initial list of codes, which were identified to discover any obstacles to the implementation of ISO 9000. After further careful reading of the interview transcripts five sub theme high codes were identified and each high code was divided into several descriptive sub theme low codes made up from the emerging themes (Kazi, 2003). The template process continued until the researcher felt that no further new codes could be extracted from the interview transcripts. Within each sub theme low code, multiple sub-themes emerged (Crabtree and Miller, 1999). The statements from the interviewees were then categorised and inserted into the template, firstly under the sub theme high codes and finally into the sub theme low codes. The following example illustrates how the researcher developed the list of codes relating to each key theme, each high code was divided into several descriptive sub theme low codes comprised from the emerging themes.

**Themes:**

- 1. Purpose of ISO 9000;**
- 2. Barriers to ISO 9000;**
- 3. Benefits of ISO 9000;**
- 4. Review methods;**
- 5. Overcoming barriers.**

Using the Purpose of ISO 9000 theme as an example the following sub themes were developed.

**1. Purpose of ISO 9000**

**1.1 Quality improvement**

- 1.1.1. Quality as a paramount goal**
- 1.1.2. Required by Government Law**
- 1.1.3. Standardisation**
- 1.1.4. Determine customer needs**
- 1.1.5. Quality of the product**
- 1.1.6. Fast access to information.**

As an on-going process, all interview data were reviewed through additional reading of the transcripts and continuous revisions were made throughout, several descriptive new codes emerged and were added, similarly some themes were deemed redundant and therefore removed.

### **3.6.9.2 Drawing conclusions from the template approach**

Template Analysis is primarily a data reduction exercise where the researcher examines the interview transcripts and any further notes that have been made, and then any parts that may be significant to the research questions are highlighted. The emerging evidence, which is case specific to Libya, was then grouped into sub-themes and lower code themes. Eventually, after all the transcripts have been read, checked and the necessary adjustments made the template is ready for analysis.

King (2004) suggests that difficulties could arise because of the lack of existing literature regarding template analysis, whereas there is a plethora of information on grounded theory and discourse analysis, this could leave novice researchers without clear directions on the analytical decisions that need to be made. On the other hand,

*“The template approach to analysis has the advantage of facilitating a theoretically driven analysis and it provides a relatively straightforward tool, which may appeal especially to researchers new to qualitative research”* (Reynolds, 2003, p.557).

Waring and Wainwright (2008) noted that the analysis of large amounts of text sets can be problematic for qualitative researchers using semi-structured interviews for the collection of data. However King (2004) acknowledged that template analysis is a method that can be used to reduce large amounts of data into manageable levels. It also ensures that the researcher uses a *“well structured approach to handling the data”* which can produce final results that are clear and well organised (King, 2004, p. 268).

### **3.6.10 Ethical and legal considerations in research**

Ethical concerns may emerge at all stages of research. Saunders, Lewis and Thornhill (2003, p.131) summarise the main issues to consider, (although the ethical issues surrounding these items are not always clear-cut):

- *“The rights of privacy of individuals;*
- *Voluntary nature of participation and the rights to individuals to withdraw partially or completely from the process;*
- *Consent and possible deception of participants;*
- *Maintenance of the confidentiality of data provided by individuals or identifiable participants and their anonymity;*
- *Reactions of participants to the ways in which researcher seeks to collect data;*
- *Effects on participants of the way in which data is analysed and reported;*
- *Behaviour and objectivity of the research.”*

There are a variety of obliging codes of ethics recognised by professional committees. In this research, the researcher followed the code of ethics from the University Ethics Committee of Northumbria University. The ethical concerns in this research basically focused on the researcher and research participant roles and relationship in the nature of the selected research method of face to face qualitative interview.

To avoid any ethical and legal issues the researcher has taken into consideration the requisite research design and methods, and ensured that they are morally and socially acceptable. Hence, the ethical issues were constantly weighed up throughout the research process particularly in gaining access, data collection, data analysis, and the use of data obtained. Furthermore, consent from the Libyan service and manufacturing industries was obtained before proceeding with the research (see appendix 1 and 3). There are two important issues to consider when undertaking any form of research. The first one is informed consent, which the researcher dealt with by attaining consent from respondents. The second important issue is protection and confidentiality and again this was dealt with by asking the respondents not to include their names or any identifying marks.

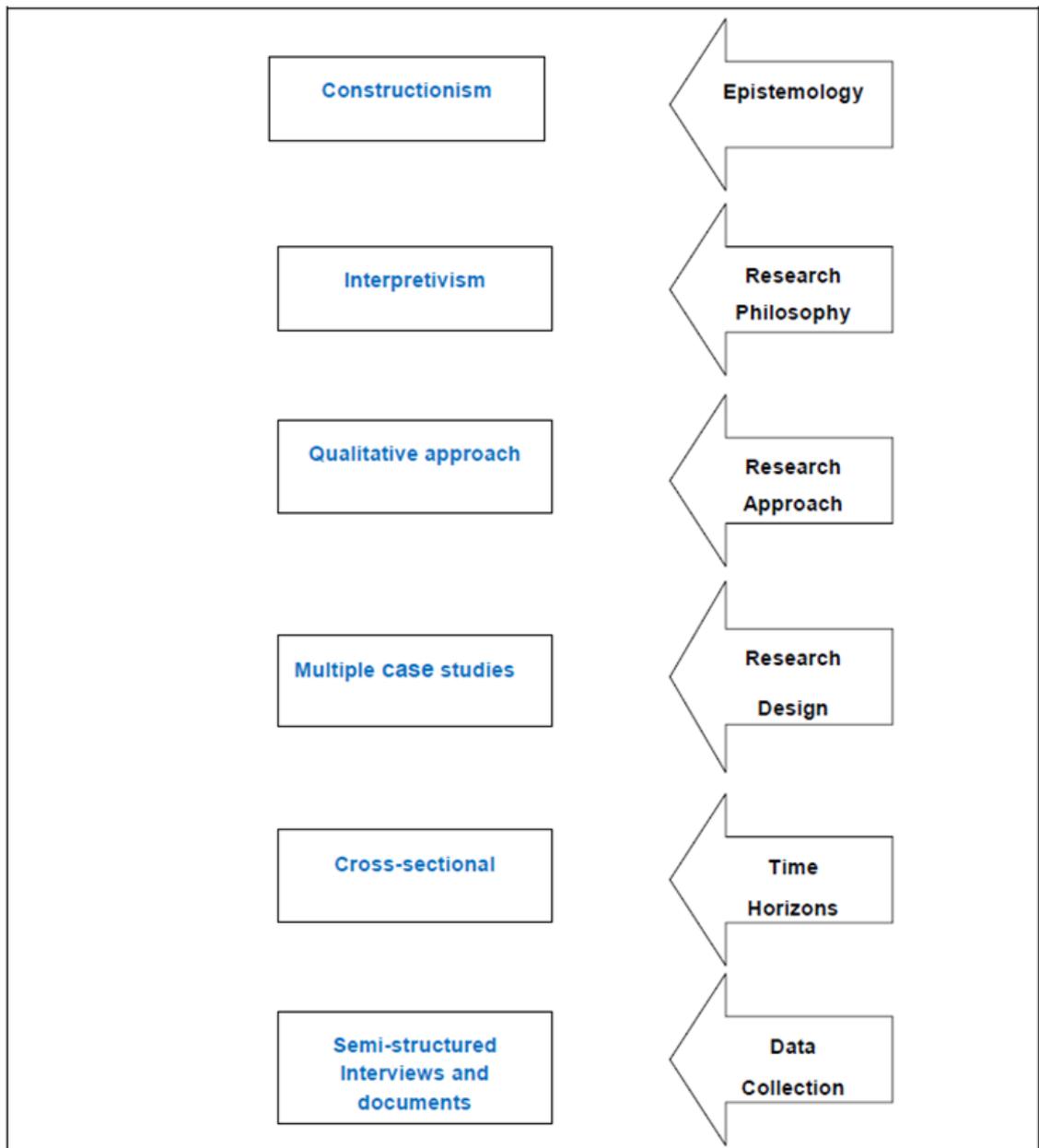
The respondents should not be misled by the nature and purpose of the study, or by the time required to read the interview questions and participate in the actual interviews. No names will be revealed in this research, which ensures anonymity. The right of privacy of individuals has been duly considered. Finally, the behaviour and objectivity of the researcher has been at the core throughout the study.

### 3.7 Chapter summary

The purpose of this research is to investigate and analyse the difficulties that affect the implementation of ISO 9000, quality management system, in Libyan service and manufacturing industries. Therefore, this chapter illustrated the research outline; the research process following Saunders, Lewis and Thornhill (2009) research process 'onion'. The researcher found it more appropriate to use a qualitative approach, which is widely recognised in qualitative research. In addition, the choices of research approach and data collection methods used in this research were discussed.

As a strategy for social research, there can be little doubt that qualitative methods research has moved forward a great deal in recent years (Bryman, 2008). The researcher chose and justified the research philosophy, research approach, and research design and data collection methods used in this research. A single case study was chosen by the researcher for investigation. Considering the importance of Libyan service and manufacturing industries in developments around the globe and especially for Libya, these industries have been considered for investigation in order to identify and analyse the difficulties that affect the implementation of a quality management system (ISO 9000) in Libyan organisations. The research was designed to conduct a single case study within these organisations. In addition, it was decided semi-structured interviews were the most suitable tools to use to collect the qualitative research data. However, interviews also are essential sources of case study information, because these methods gain the depth of understanding of the information necessary to identify and investigate the obstacles that impede the Libyan organisations implementation of ISO 9000. The research methodology outline can be summarised in figure 3.12.

**Figure 3.12 - Research methodology outline**



**Source:** Adapted from Saunders, Lewis and Thornhill (2009).

The following chapter summarises the results from the semi-structured interviews conducted by the researcher within Libyan service and manufacturing industries. It will also provide evidence from the respondents' answers during the interviews, and support from previous studies is taken from the literature review.

## **4.0 Template analysis findings from the LSMI case study**

### **4.1 Introduction**

As mentioned in chapter one, the purpose of this research is to demonstrate the work done by the researcher in the area of the difficulties affecting and challenges arising during the implementation process of ISO 9000, quality management system in Libyan service and manufacturing industries. Drawing upon the data collected, this chapter sets out to present and analyse the findings of this study. The chapter continues with the provision of the findings that emerged from the data collected from the interviews and analysed in order to fulfil the research objectives and answer the research questions. The conclusion of this chapter will present the key findings from this research.

### **4.2 Research findings**

The main sources of data for this research were email, telephone and semi-structured face to face interviews conducted in the thirteen companies. The “interview” (email) questions were submitted to the targeted respondents and followed up by telephone contact to enable them to provide their opinion regarding the challenges encountered during the implementation process of ISO 9000 in their companies. The face to face interviews were conducted on the company premises in Libya. The findings from this research will be presented in relation to the aims and objectives set out at the beginning of this thesis.

### **4.3 The case study**

As mentioned in chapter three, semi-structured interviews were selected as the data collection method for this study. This section presents the results obtained from the interviews where the researcher interviewed the individuals responsible for ISO 9000 QMS in the Libyan service and manufacturing industries. In order to identify the research samples, the researcher selected 17 professional quality managers for the main study from the 13 candidate companies operating in Libya (see below). The companies involved are referred to as a single case study (LSMI) because they represent different sectors within the Libyan non-oil industries.

**Table 4.1 - Company log details and interviewees**

LSMI	Nature of Business	Number of Interviews and Professionals
Company 1	Iron & Steel	1. Head of Quality Management System. 2. Quality Manager.
Company 2	Cement	1. Head of Quality Management System.
Company 3	Transport	1. Head of Quality Management System. 2. Quality Manager.
Company 4	Food	1. Head of Quality Management System.
Company 5	Electronics	1. Head of Quality Management System. 2. Quality Manager.
Company 6	Inspection and Services	1. Head of Quality Management System.
Company 7	Pharmaceuticals	1. Quality Manager and Management Representative.
Company 8	Inspection and Services	1. Quality Manager.
Company 9	Inspection and Services	1. Head of Quality Management System.
Company 10	Inspection and Services	1. Head of Quality Management System.
Company 11	Engineering	1. Quality Manager and Management Representative.
Company 12	Standards	1. Head of LNCSM. 2. Head of Quality Management System.
Company 13	Inspection and Consultancy	1. Head of Quality Management System and Management Representative.

The interviews were conducted over a period of 2 months. Each interview lasted approximately one hour to an hour and a half and all of the interviews were audio recorded. The interviews were transcribed in Arabic then translated into English.

The interview questions were designed to collect in-depth information on the following areas:

- The purpose of ISO 9000;
- The benefits of implementing ISO 9000 standards;
- The difficulties facing the organisations during the implementation of ISO 9000 standards;
- The methods used to overcome the difficulties.

### ➤ **Guide to understanding the template**

In accordance with the template analysis methodology discussed in chapter three, the researcher developed the key themes by listening to the recorded interviews, reading through the transcripts data and making notes and observations which were relevant to the research questions. The transcripts were read many times; this ensured that the researcher became familiar with the collected data, therefore enabling intuitive identification of the emerging themes. The notes and observations were written onto the printed transcripts where the themes gradually emerged through the continuous analysis of the data, followed by focussing on the data reduction. Miles and Huberman (1994, p. 10) explained data reduction as *“the process of selecting, focussing, simplifying and transforming the data that appears in written-up field notes or transcription.”*

The emergent themes were then developed into high code sub themes and subsequently low code sub themes as seen in the final table in appendix 5.

The template tables presented here are followed by a description of the high and low code sub-themes. According to the themes developed in the template analysis tables, 5 categories pertaining to the purpose of ISO 9000 emerged as high codes, subsequent investigation revealed the sub-themes, quality improvement, performance, productivity, compulsory and success of company. The most important findings are identified in the following sections in a manner which allows the development of the template to be illustrated. The analysis is supported by extensive use of appropriate quotes from the transcribed interviews conducted with experts and managers from the chosen case study as illustrated in appendix 4: Excerpt from interview – an example of code emergence. Furthermore, an indication of how these themes relate to the interview questions was also provided (see table 4.2 below).

**Table 4.2: Interviews questions and the Main Themes**

Interviews Questions	Main Themes
<p><b>Q1. Can you tell me your name and your position in the organisation?</b> هل يمكن ان تخبرنا عن اسمك ومنصبك في المؤسسة؟</p>	Personal information
<p><b>Q.2. How long have you been employed by the organisation?</b> ما هي المدة التي قضيتها في المؤسسة الى حد الان؟</p>	Personal information
<p><b>Q.3. Could you please tell me, briefly, your role within the organisation?</b> من فضلك هل يمكن أن نخبرنا باختصار عن دورك في المؤسسة؟</p>	Personal information
<p><b>Q.4. When did your organisation start the implementation process?</b> متى شرعت مؤسستكم في عملية التوظيف؟</p>	Company profile
<p><b>Q.5. How long did the process take from the initial application to the certification?</b> ما هي الفترة الزمنية التي استغرقت لحصولكم على الشهادة؟</p>	Company profile
<p><b>Q.6. What is the purpose of the ISO 9000 in your organisation?</b> ما هو الغرض من استخدام الايزو 9000 في مؤسستكم؟</p>	Theme 1: Purpose of ISO 9000
<p><b>Q.7. Are ISO 9000 standards compulsory?</b> هل معايير الايزو 9000 إلزامية؟</p> <ul style="list-style-type: none"> <li>• <b>If yes: Could you tell me why?</b> إذا كان الجواب نعم : لماذا؟</li> <li>• <b>If No: Could you give me the reasons why you think they are not compulsory?</b> إذا كان لا : نرجوا توضيح الأسباب؟</li> </ul>	Theme 1: Purpose of ISO 9000
<p><b>Q.8 Do you think the ISO 9000 standards are important for the success of the company?</b> هل تعتقد معايير الايزو 9000 مهمة لنجاح المؤسسة؟</p>	Theme 1: Purpose of ISO 9000
<p><b>Q.9 When your organisation decided to start the application process were employees aware of the concept / idea of ISO 9000?</b> عندما قررت مؤسستكم البدء في عملية تقديم طلب الحصول على معايير الايزو 9000 هل العاملين على درجة من الوعي لمفهوم الايزو 9000؟</p>	Theme 2: Barriers to ISO 9000
<p><b>Q.10. What training/support have you received to help you help your employees meet these goals or requirements?</b> ما هو التدريب الذي تلقته لمساعدتك على دعم موظفيك لتحقيق هذه الأهداف أو المتطلبات</p>	Theme 5: Overcoming Barriers
<p><b>Q.11. What are the training implications for the introduction of ISO 9000 implementation?</b> ما هي الآثار المترتبة على التدريب لتطبيق الايزو 9000 ؟</p>	Theme 2: Barriers to ISO 9000
<p><b>Q.12. Was there any training programmes available to staff or employees?</b> هل هناك برامج تدريبية اتاحت للموظفين أو العاملين؟</p> <p><b>If Yes: What kind of training programmes did you use? And how were these programmes delivered?</b> إذا كان نعم : ما نوع البرامج التدريبية التي استخدمتها؟ وكيف كانت عملية تنفيذها؟</p> <p><b>If No: Can you explain to me how your staff learned about the process?</b> إذا كان لا : وضح لنا كيف استفاد موظفيكم من عملية التدريب؟</p>	Theme 2: Barriers to ISO 9000 and Theme 5: overcoming barriers
<p><b>Q.13. Has any specific government department supported your organisation during the implementation?</b> هل قامت أي جهة عامة اخرى بدعم مؤسستكم أثناء التنفيذ؟</p>	Theme 2: Barriers to ISO 9000

**Table 4.2: Interviews questions and the Main Themes (continued)**

Interviews Questions	Main Themes
<p><b>Q.14. How about financial support? Is there any financial support available to assist your organisation with the implementation?</b>                      ماذا عن الدعم المالي؟ هل هناك أي دعم مالي قدم لمساعدة مؤسستكم في التنفيذ؟</p> <ul style="list-style-type: none"> <li>• <b>If yes: Where did the support come from?</b>                      إذا كان الجواب نعم : من أين أتى ذلك الدعم ؟</li> <li>• <b>If no: How did your organisation finance the process?</b>                      إذا كان الجواب بلا : كيف قامت مؤسستكم بتمويل هذه العملية؟</li> </ul>	Theme 2: Barriers to ISO 9000
<p><b>Q.15. Was any guidance given to the workforce prior to the start of the process?</b>                      هل أعطيت أي تعليمات للموظفين قبل البدء في عملية التنفيذ؟</p> <ul style="list-style-type: none"> <li>• <b>If yes: What would be that guidance be?</b>                      إذا كانت الإجابة بنعم : ما هي هذه التوجيهات؟</li> <li>• <b>If no: How did your workforce get the information they needed?</b>                      إذا الإجابة بلا : كيف تحصل الموظفون على المعلومات التي يحتاجونها؟</li> </ul>	Theme 1: Purpose to ISO 9000 and Theme 2: Barriers to ISO 9000
<p><b>Q.16 Did your organisation face many difficulties / Barriers during the adoption process?</b>                      هل واجهت مؤسستكم العديد من الصعوبات أو الحواجز خلال تبني العملية ؟</p> <ul style="list-style-type: none"> <li>• <b>If yes: can you give me some examples of the difficulties?</b>                      إذا نعم ، هل يمكنك أن تعطيتنا بعض الأمثلة على تلك الصعوبات؟</li> <li>• <b>If No: How did you make sure that the process ran smoothly?</b>                      إذا كان لا : كيف تأكدت من أن العملية مرت بسهولة ويسر؟</li> </ul>	Theme 2: Barriers to ISO 9000
<p><b>Q.17. What was the employee's reaction when your organisation implemented the ISO 9000 process?</b>                      ماذا كان رد فعل الموظفين في مؤسستكم عند تطبيق عملية الايزو 9000 ؟</p>	Theme 1: Purpose to ISO 9000 and Theme 2: Barriers to ISO 9000
<p><b>Q.18. Do you think that the employees accepted the new approach/ direction without difficulty?</b>                      هل تعتقد أن الموظفين تقبلو مفهوم الأيزو دون اعتراض</p> <ul style="list-style-type: none"> <li>• <b>If Yes: Can you give examples?</b>                      إذا كان نعم : هل يمكن إعطاء أمثلة؟</li> <li>• <b>If No: What were the main problems?</b>                      إذا كان لا : ما هي المشاكل الرئيسية؟</li> </ul>	Theme 2: Barriers to ISO 9000
<p><b>Q.19. Do you have problems with employee's absenteeism in your organisation?</b>                      هل لديكم مشاكل في ما يخص تغيب الموظفين ؟</p> <ul style="list-style-type: none"> <li>• <b>If Yes: How do you manage the work with this problem?</b>                      إذا كان نعم : كيف تتعاملون مع هذه المشكلة؟</li> <li>• <b>If No: Could you please explain to me how you make sure it does not happen?</b>                      إذا كان لا : وضح لنا كيف تتأكدون من عدم حدوث المشكلة؟</li> </ul>	Theme 2: Barriers to ISO 9000
<p><b>Q.20. Did the employees resist any of the changes to their work routines?</b>                      هل اعترض الموظفين على التغيير الذي طرأ على نمط العمل</p>	Theme 2: Barriers to ISO 9000
<p><b>Q.21. Is there a quality department with experts in charge of quality in your organisation?</b>                      هل هناك قسم للجودة به خبراء مسؤولون عن الجودة في مؤسستكم؟</p>	Theme 3: Benefits of ISO 9000 And Theme 2: Barriers to ISO 9000
<p><b>Q.22. What problems/concerns were foreseen that may have made it difficult to implement ISO 9000 standards?</b>                      ما هي المشاكل / المخاوف المتوقعة التي قد تجعل من الصعب تنفيذ معايير الايزو 9000؟</p>	Theme 2: Barriers to ISO 9000

**Table 4.2: Interviews questions and the Main Themes (continued)**

Interviews Questions	Main Themes
<p><b>Q.23. Did you contact any other Libyan certified companies to benefit from their expertise?</b> هل اتصلتم بأي مؤسسة متحصلة على الشهادة بالجمهورية للاستفادة من خبرتهم في هذا المجال؟</p> <ul style="list-style-type: none"> <li>• <b>If Yes: Could you tell me what they did to assist you?</b> إذا كان نعم : ما هي المساعدة التي قدمت لكم؟</li> <li>• <b>If No: How did you assist your organisation without assistance or help?</b> إذا كان لا : كيف ساعدت مؤسستكم بدون مساعدة الغير؟</li> </ul>	Theme 3: Benefits of ISO 9000
<p><b>Q.24. Can you tell me how did the organisation overcome these barriers?</b> كيف تغلبت مؤسستكم على هذه العقبات؟</p>	Theme 5: Overcoming barriers
<p><b>Q.25. What competitive advantages has the certification brought to your organisation?</b> ما هي المزايا التنافسية التي قدمتها الشهادة لمؤسستكم؟</p>	Theme 3: Benefits of ISO 9000
<p><b>Q.26 Can you tell me how the organisation satisfies its customers and measures their satisfaction?</b> هل يمكن أن تخبرني كيف تتم عملية إرضاء الزبائن لدى مؤسستكم وماهي معايير القياس؟</p>	Theme 3: Benefits of ISO 9000 and Theme 5: Overcoming barriers
<p><b>Q.27 What techniques have you adopted to ensure that the standards are continually reviewed and revised?</b> ما هي الأساليب المتبعة لضمان تلك المعايير بحيث تراجع وتعديل باستمرار؟</p>	Theme 4: Review methods
<p><b>Q.28. Do you think that the organisation has received a good return on ISO 9000 certification investment?</b> هل تعتقد أن المؤسسة تلقت عائدات جيدة من الاستثمار في شهادة الايزو 9000؟</p> <ul style="list-style-type: none"> <li>• <b>If Yes: Can you tell what they are?</b> إذا كان نعم : ما هي هذه العائدات؟</li> <li>• <b>If No: Do you hope you for good returns in the future?</b> إذا كان لا : هل تأمل في عوائد جيدة في المستقبل؟</li> </ul>	Theme 3: Benefits of ISO 9000
<p><b>Q.29. Do you have any further comment or suggestions?</b> هل لديكم أي تعليقات أو اقتراحات أخرى؟</p>	Theme 1: Purpose to ISO 9000 Theme 2: Barriers of ISO 9000; Theme 3: Benefits of ISO 9000; Theme 4: Review methods and Theme 5: Overcoming barriers

#### 4.3.1 Profile of interview respondents

The justification of those companies and respondents chosen for interviews was decided through the Libyan National Centre for Standardisation and Metrology (LNCSM). The researcher contacted the LNCSM in order to ensure the right respondents, from different service and manufacturing companies, could be chosen and also to gain permission to access those candidate companies. The LNCSM granted the researcher permission to access the certified companies and issued a list of the right respondents along with their C.Vs, locations, and contact details.

The researcher initially contacted the chosen respondents by telephone to inform them of the details of the research project and invite them to participate in the interviews and request permission from those companies to conduct the interviews. All respondents were employed within the quality departments of the selected companies. The researcher subsequently visited each company to have the consent forms signed and introduce himself to the respondents to get to know them better before the official date of the interviews.

The interview population was made up of a total of seventeen people, one female and sixteen male. They were all employed within thirteen different companies from both the private and public sectors of the Service and Manufacturing Industries. Table 4.3 depicts the respondents' profile.

**Table 4.3: Respondents Profile**

Item1	Item2	Respondents	Total
Gender	Male	16	17
	Female	1	
Public Sector and Industry	Public Sector (Service Industry)	6	12
	Public Sector (Manufacturing Industry)	6	
Private Sector and Industry	Private Sector (Service Industry)	4	5
	Private Sector (Manufacturing Industry)	1	
Industry	<u>Industries</u>		13
	Services	8	
	Manufacturing	5	

All individual interviews were carried out face-to-face, recorded, transcribed, translated, and analysed by the researcher. The semi-structured interviews were conducted during July and August 2009 and were completely voluntary and confidential. The information was used for the report and did not include any personal details.

The interviews lasted between 60-90 minutes. The interview questions were designed to collect in-depth information on the following areas:

- The purpose of ISO 9000;
- The benefits of implementing ISO 9000 standards;
- The difficulties facing the organisations during the implementation of ISO 9000 standards.

#### 4.4. Theme 1: The purpose of ISO 9000

According to the listed themes developed in the template analysis table as illustrated in appendix 5, and as previously mentioned, 5 categories pertaining to the purpose of ISO 9000 emerged as high codes, further investigation revealed the following sub-themes:

- **Quality Improvement;**
- **Performance;**
- **Productivity;**
- **Compulsory;**
- **Success of company.**

The following tables show the detailed findings based upon the quality managers responses during the interviews. To enhance the clarity of the data, the main themes will be examined individually from the transcribed interviews.

##### 4.4.1. Quality improvement

The analysis shows that there are a number of reasons that encourage organisations in Libya to attain ISO 9001:2000 certification. They conclude that motives can be divided into five categories, the first reason for obtaining ISO 9001:2000 certification is **quality improvement**, table 4.4 summarises the first sub- theme developed from these findings.

**Table 4.4 - Quality improvement**

Theme	Sub-Themes High Code	Sub-Themes Low Code
1. Purpose of ISO 9000	1.1 Quality Improvement	1.1.1. Quality as a paramount goal 1.1.2. Required by Government Law 1.1.3. Standardisation 1.1.4. Determine customer needs 1.1.5. Quality of the product 1.1.6. Fast access to information.

After the introductory questions the participants were asked “**What is the purpose of ISO 9000 in your organisation?**” The majority of participants agreed that quality improvement is the primary reason to seek ISO 9001:2000 certification. Most answers were similar to the following:

One of the participants said:

*“For several goals; given the **technical task** of the Authority in the field of railway construction; concentration was on **quality** and that the Authority is to be managed according to the requirements of international standard specifications as to quality management systems **to improve the Authority's reputation and product quality** as much as possible according to quality requirements.”*

(Transcript, 4)

Other responses were:

*“**Quality** is one of the paramount goals”*

(Transcript, 1)

*“To ensure management **quality** in the Authority and good progress of works”*

(Transcript, 6)

*“In order to **improve quality** of inspection process, applying the same and to promote the **performance level** of employees in the company, to provide inspection services of high quality, in addition to that we are dealing with international companies, for which we render inspection services, we also perform inspection abroad, so this certificate uses in comprehensive quality management system, in the field of their specialties, there should be **consistency** between us and such companies, in management field”*

(Transcript, 9)

*“To improve the Authority's **reputation** and product **quality** as much as possible according to quality requirements”*

(Transcript, 3)

Support for the participants' answers is confirmed by similar views from Tripathi, (2005); Sun, (2000); Krasachol and Guh, (2001) and Farquhar, (1991). They recommended that the delivery of quality products and services is a significant measurement of competition and management of quality that could present the means for gaining and sustaining competitive advantage. Furthermore, organisations have noticed that the key to competitive success lies in emphasising product and service quality as a strategic weapon in conducting business (Van der Wiele *et al.*, 2005; Tripathi, 2005; Hansen, 2001; Ho, 2002; Lai, Weerakoon and Cheng, 2002). ISO 9001: 2000 certification is believed to assist organisations in the improvement of quality and efficiency, develop communications, achieve competitive advantage, gain an increase in market share, reduce costs and reach a higher stock price (Casadesus and Karapetrovic, 2005; McAdam and Fulton, 2002; Tsim, Yeung and Leung, 2002; Pheng, 2001; Laszlo, 2000; Zhang, Waszink and Wijngaard, 2000; Docking and Downen, 1999). However, reputation

and quality image was seen as the most important contributing factor for service and manufacturing organisations in choosing a registration agency because it will provide the organisation with a prestigious image with their current and future customers.

Respondents also stated that ISO 9000 is “**required by the government law**”. This was confirmed by two managers who said:

*“The Ministry of Industry have a **law** that states all **service companies** are **required** to have certificates for: Environment, Health & Safety & ISO 9001”*

(Transcript, 2)

*“Obviously for the work progress, is the most important, to follow the specifications and make the work runs accurately, according to the requirements, besides it is a **condition** of the LNCSM, you cannot work in this field unless you have the ISO 9001 certificate”*

(Transcript, 13)

**Customer satisfaction** was a significant factor that emerged in the first theme. Implementing the standards would improve the quality and reliability of the products; enhance the reputation of the company which in turn ensures the provision of better services. These factors are confirmed by the following quotes:

*“The purpose is to **meet customer requirements** and establishing itself as one of the major producers of our company”*

(Transcript, 10)

*“To provide **better services** and produces products with **customer requirements** in mind”*

(Transcript, 5)

These findings support the reviewed literature where customer satisfaction is regularly mentioned in the quality management literature. Deming (1986) indicated quality should satisfy customers' needs, present and future. Similarly, Oakland (2004) demonstrated that customer satisfaction is the consequence of a focus on quality. Therefore, quality is a fundamental strategic perception for further improvement in highly competitive environments; it is linked with customer's satisfaction and their expectation. Also, the outcome of a study by Bhuiyan and Alam (2005) shows that the top five reasons for implementing ISO 9001: 2000 standards are: Customer demand/expectations; Improve quality management practices; Improve quality of products; Cultured or disciplined organisations; and Market advantage. Where the first and last are external reasons, the remaining three are internal reasons. A significant division should be noted between these benefits; those which are internal and those which are external benefits. Both groupings can have a great impact on an organisation. Internal benefits are focused on

the internal processes within the structure of a company. The advantages of an internal nature follow from an improvement of internal performance; incorporating human resource management, an increase in internal efficiency, an improvement in the working environment, and increased productivity. External benefits are those issues that are concerned with the organisation's interaction with its external environment and are often commercially motivated.

Customer satisfaction is one of the main objectives of the organisations (Li *et al.*, 2006). The researcher identified from these findings that everyone should have an idea of an internal and external customer.

According to the quality managers' answers another reason for seeking ISO 9001:2000 certification, is **to develop a useful quality system for their products and to obtain fast access to information**. The following quotes illustrate these points:

*“To improve the Authority's **reputation and product quality** as much as possible according to **quality requirements**”*

*(Transcript, 4)*

*“This advantage for any organisation in addition to authentication, information **confidentiality and fast access to information**”*

*(Transcript, 5)*

*“The goals of the company are to give a **good service and very fast work** to find **any information** you need and also, the ISO 9000 system made our system work in a good time **without a lot of documents**. The main decision to have ISO 9001:2000 certification is **develop work Instructions and move forward**”*

*(Transcript, 9)*

From the participants' answers the researcher identified that in general the companies are satisfied with the standards. Obtaining quick access to information and product quality is seen as an important factor in the implementation process as it reduces the need for excessive documentation and improves product quality. This is supported by Arauz and Suzuki (2004) who stated that ISO 9001:2000 certification improved product quality.

#### **4.4.2. Performance**

The second reason for obtaining ISO 9001:2000 certification is **performance**; table 4.4.a below provides a summary of the second sub-theme developed in these findings.

**Table 4.4.a – Performance (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
1. Purpose of ISO 9000	1.2. Performance	1.2.1. Work flow 1.2.2. Organisation of documentation 1.2.3. Measures and modification of production lines 1.2.4. Better work efficiency 1.2.5. Improve employee's performance in the company. 1.2.6. Accuracy in appointments documents and archives.

The answers were “Work flow”; “Organisation of documentation”; “Measures and modification of production lines”; “Better work efficiency”; “Improve employee’s performance in the company” and “Accuracy in appointments documents and archives”. These facts have been mentioned by more than one respondent.

*“To ensure management **quality** in the Authority and **good progress of work**”*

(Transcript, 2)

*“It assists get information quickly and **prevents job monopoly**. It is a very important element”*

(Transcript, 3)

*“Of course, for several purposes including **exportation, working** according to a given documentary cycle and **improve employees' performance** in the company”*

(Transcript, 4)

*“In order to improve **quality** of inspection process, applying the same and to promote the **performance** level of employees in the company, to provide inspection services of **high quality**, in addition that we are **dealing** with international companies, for which we render inspection services, we also perform inspection abroad, so this certificate uses in **comprehensive quality** management system, in the field of their specialties, there should be **consistency** between us and such companies, in management field”*

(Transcript, 6)

*“Obviously for the **work progress**, is the most important, to **follow the specifications** and make the **work runs accurately**”*

(Transcript, 10)

*“The purpose is **improving the performance** and **authentication** of data for analysing them, for achieving **continuous progress**”*

(Transcript, 15)

*“Identifying the task, **authorisations** and **responsibilities**, which has full control on the executed operations and indicators for assessing the **operations performance**, involving the possibility of finding chances for **improvement and achieving** the mentioned purposes in the specification”*

(Transcript, 16)

The respondents provide a clear picture to the researcher as to why their organisation chose to have ISO 9001:2000 certification; this also confirms a similar view, from Huarng, Horng and Chen (1999) who considered motives as important factors that have an impact on organisational performance. Magd (2006) has the view that ISO certification is sought by organisations as a technique to achieve an internal focus, producing performance related improvements compared with organisations motivated by external pressures, such as those created by customers. An additional point made by Magd and Curry (2003) has offered the most important reasons for certification, among Egyptian companies, are: “to comply with customers' requirements”; “pressures from competitors/foreign partners”; “to maintain/ increase market share”; “to meet government demands” and “improve the efficiency of the quality system”. Hence, organisations need to contemplate ISO certification in terms of their own unique objectives and aims.

#### **4.4.3. Productivity**

The third reason for obtaining ISO 9001:2000 certification is **productivity**; table 4.4.b provides a summary of the third sub-themes developed in these findings.

**Table 4.4.b- Productivity (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
<b>1. Purpose of ISO 9000</b>	<b>1.3. Productivity</b>	<b>1.3.1.</b> Required by customers <b>1.3.2.</b> Export products abroad <b>1.3.3.</b> Establish place in local market.

The answers were, “**required by customers**”, “**export products abroad**” and “**establish a place in local market**”. These factors are confirmed by the following quotes:

*“Senior management decided that once the company is certified the benefits will improve the overall **productivity** and **role** of the company. In future we have to make sure the company has a **good reputation** in order to **export goods** outside of Libya”*

(Transcript, 1)

*“It was necessary to adopt ISO 9000 standards. **Customers** even from Libya also have started **asking** about certification”*

*(Transcript, 2)*

*“Of course, for several purposes including **exportation** and **working** according to a given documentary cycle”*

*(Transcript, 4)*

*“Customers even from Libya also have started **asking about certification**, so, adopting QMS-ISO 9000 standards become important to maintain our place in **the local market as well**”*

*(Transcript, 3)*

*“After this system, **appeared internationally**, industrial companies had to adopt it because it is integrated administrative and technical system giving **confidence** and **warranty to customer** and **helping increase sales and marketing inside and outside the local market**”*

*(Transcript, 7)*

From a theoretical point of view, customers are the most valuable element to the organisations, therefore their requirements should be clearly understood and their expectations met. This concept can be achieved by involving all people in the organisations from bottom to top management. The ISO 9001:2000 standards take into account customer focus through addressing the requirements such as, appointment of a management representative and determination of customer's needs and expectations (Hoyle, 2001). Furthermore, several studies have presented the benefits of market orientation (Singles, Ruel and Van de Water, 2001; Avlonitis and Gounaris, 1997; and Slater and Narver, 1994) which are customer satisfaction, sales growth, opportunity of entering new markets, market share, and competitive advantages.

#### **4.4.4. Compulsory**

The fourth reason for obtaining ISO 9001:2000 certification is **compulsory**, table 4.4.c provides a summary of the fourth sub-themes developed in these findings.

In trying to discover why there are still a great many companies not using ISO standards the respondents were asked “**Are ISO 9000 standards compulsory?**”

**Table 4.4.c – Compulsory (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
1. Purpose of ISO 9000	1.4 Compulsory	<p><b>1.4.1.</b> The trend of the General People's Committee is that private and governmental companies, bodies, authorities ...etc should apply ISO 9000 for quality and 14001 for environment as set out in the recommendations of the General People's Congress.</p> <p><b>1.4.2.</b> We have to have it to get the accreditation, so in this aspect it is compulsory by the Libyan national centre for standardization and metrology for the service companies.</p> <p><b>1.4.3.</b> No, it is only from the organisation that wishes to get the ISO 9001 certificate.</p> <p><b>1.4.4.</b> No, ISO itself is not compulsory for the company, but GMP system is compulsory, so the ISO optional.</p>

There were conflicting views on this point. By conditions set out by (LNCSM) it appears that it is compulsory for service companies to achieve certification. However, it is optional for manufacturing and other companies. The following quotes illustrate the points:

*“Yes, **it’s compulsory**. Because we have to have ISO 9001 to get the accreditations and support from LNCSM, it’s also **required** by the Libyan National Centre for standardisation and metrology (LNCSM) for the **services and inspection** companies only if they want have ISO 17020 standards and there support”*

(Transcript 1)

*“**No, they are not compulsory**. However, the trend of the General People's Committee is that private and governmental companies, bodies, authorities ...etc. should apply ISO for quality 9000 and environment 14001 as set out in the **recommendations** of the General People's Congress”*

(Transcript, 3)

*“**It is compulsory** supposed that are binding **by Government law** due to fast access to information, fast feedback and easy achieving. It is a legion of honour for any industry or company to hold this international certification with its weight in foreign contracting and international cooperation. It is supposed that any administrative industrial body **should obtain ISO 9001 certification**”*

(Transcript, 5)

**“No, generally they are optional to apply; only if they were selected by the corporation, they should be an obligatory specification for application. According to the issued publication by ISO (International Organisation for Standardisation they are optional to be applied”**

(Transcript, 16)

**No, it is not compulsory.**

*If No: Could you give me the reasons why you think they are not compulsory?*

*Why? **Because it is not compulsory. In Libya because if you believe in it you should take it but if it is not compulsory there will be resistance to change.***

(Transcript, 17)

Results of the present study showed different results to the evidence in the literature reviews, including the previous study by the authors (Magd *et al.*, 2007, p.4) who argue that,

*“The reason for the wide acceptance of this standard lays on the generic clauses that define quality management systems requirements applicable to all organisations regardless of the type, size and products/services provided.”*

Evidence from ISO (2009), presented diverse opinions to that of the respondents,

*“Organisations that implement the standard can choose to have their QMS independently certified as conforming to the requirements of ISO 9001, as a means of increasing the confidence of their business partners, customers and regulators in their products and services. Although certification is not compulsory, it is estimated that over one million ISO 9001 certificates have been issued to organisations in private and public sectors, in manufacturing and services, and in 176 countries.”*

Therefore, the ISO 9000 standards deal with all features of business functions, including, but not limited to, “sales, design, purchasing, manufacturing, servicing and management, with the exception of finance” (ISO, 2010).

From the above findings and previous research results it is significant that the answers from the interviewees in this study, which took place in Libya, differ from the studies reviewed in the literature. Therefore on this basis the researcher can draw the following conclusions:

1. The Libyan National Centre for standardisation and metrology (LNCSM) states that ISO 9001:2000 certification is compulsory for the Libyan Service and Inspection companies only;
2. ISO 9001:2000 certification is not compulsory for the other Libyan industries;
3. ISO 9001:2000 certification is recommend by the General People’s Congress to all private and public companies.

#### 4.4.5. Success of the company

The final sub-theme to emerge is the **success of the company** table 4.4.d summarises the final sub- themes developed for the purpose of ISO 9000.

**Table 4.4.d - Success of the company (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
1. Purpose of ISO 9000	1.5. Success of company	1.5.1. Company development 1.5.2. Using one standard system. 1.5.3. Being organised and clear. 1.5.4. Ability to move forward. 1.5.5. Fast access to any information. 1.5.6. Raised level of staff attendance. 1.5.7. New documentation eliminates the need for dependence on one person.

The respondents were asked: **“Do you think the ISO 9000 standards are important for the success of the company?”** The answers showed that there are several advantages for the success of the company, *“Company development”*; *“Using one standard system”*; *“Being organised and clear”*; *“Ability to move forward”*; *“Fast access to any information”*; *“Raised level of staff attendance”* and *“New documentation eliminates the need for dependence on one person”*. The following quotes illustrate the points:

*“Yes, certainly, they are very important particularly in the **technical field depending on quality.** These standards are supposed to be **very important and quasi-binding”***

(Transcript, 4)

*“To ensure **management quality** in the Authority and **good progress of works”***

(Transcript, 5)

*“They will be **first** and **main** cause for any organisation to **succeed after receiving this certification**”*

(Transcript, 6)

*“There are some important requirements such as **management review, audit, corrective and protective measures, and document control and quality records**. All of these are good standards assisting the **company succeed and develops**”*

(Transcript, 7)

*“Yes, surely if the company does not implement the ISO standards it will be kind of disorder, you cannot determine responsibilities, when you have description you cannot know who signs the certificate, but with ISO really **everything being organized and clear**”*

(Transcript, 13)

*“ Of course, this is an international system, which proves its efficiency and is the main factor for up grading the **productive and power of corporations** suitable for follow its **development** in other parts of the world”*

(Transcript, 16)

These findings are in line with ISO 9001 (2009), where it states the reason for the wide acceptance of these standards lies with the success of the company and is the most important reason to follow the ISO 9000 standards:

*“ISO 9000 is supposed to make sure your business is run in an orderly manner that will assure continued success.”*

Jones, Arndt and Kustin (1997) described two organisation types, according to their major reason for achieving certification: the “non-development companies”, which are those whose primary purpose for seeking quality certification is driven by the mentality of “achieving a certificate”; and the “developmental companies”, which are the companies that adopt quality certification because of their confidence in the internal benefits that can be derived from it. According to the results described above and from previous studies it is clear that ISO 9001 certification benefits can be classified into external and internal categories. They confirm that companies that wanted ISO 9001 certification for “development reasons” have experienced more internal benefits from certification. However, companies adopting ISO 9001 certification based mainly on external motivations, improvements achieved are then mostly of an external nature (Williams, 2004; Gotzamani and Tsiotras, 2002; Corbett, Luca and Pan, 2003; Poksinska, Dahlgaard and Antoni, 2002; Jones, Arndt and Kustin, 1997).

*“Organisations have also pursued certification in order to gain entry to new overseas markets, improve competitive edge in their home market, improve their*

*internal QMSs or as a direct requirement of their customers” (White et al., 2009, p.274, quoted Chini and Valdez, 2003).*

#### 4.5. Theme 2: Barriers to ISO 9000 implementation process

According to the themes developed in the template analysis table 1 as illustrated in appendix 5, 6 categories relating to the barriers to ISO 9000 implementation emerged as sub-theme high codes. Replies from the respondents included:

- **Awareness and training;**
- **Organisational culture;**
- **Internal resistance;**
- **Expertise;**
- **Cost;**
- **Quality manual.**

The following discussion is based on the detailed findings based upon the quality managers’ responses during the interviews.

##### 4.5.1. Awareness and training

The second theme to investigate was the question of the difficulties companies experience whilst adopting the ISO 9000 standards. Table 4.5 summarises the barriers to ISO 9000 developed from the findings.

**Table 4.5 - Awareness /Training**

Theme	Sub-Themes High Code	Sub-Themes Low Code
<b>2. Barriers to ISO 9000</b>	<b>2.1. Awareness /Training</b>	<p><b>2.1.1.</b> Lack of employee awareness</p> <p><b>2.1.2.</b> Inadequate training</p> <p><b>2.1.3.</b> Training programmes take time</p> <p><b>2.1.4.</b> Lack of directed guidance for the employees to understand the ISO system requirements.</p> <p><b>2.1.5.</b> Lack of free advice</p> <p><b>2.1.6.</b> Lack of available information in Arab language.</p> <p><b>2.1.7.</b> Lack of governmental programmes which are needed to support quality activities.</p>

The respondents were asked

**“Did your organisation face many difficulties/challenges during the adoption process?”**

- **If yes: can you give me some examples of the difficulties?**
- **If No: How did you make sure that the process ran smoothly?**

None of the respondents could say that the process was implemented easily. The main difficulty was the lack of **awareness and training**, not only with regards to employees but management as well. The training programmes were inadequate and time consuming, this created a lot of resistance from the employees.

These difficulties can be supported by some quotations from the quality experts interviewed:

*“Specifically, the employees had **no awareness** of the new concept of the **ISO 9000 culture**”*

*“**Training and awareness programmes** on applying ISO 9000 have **taken time** to become established. There have been **difficulties for employees to understand** the new approach and direction taken by the management”*

(Transcript, 1)

*“**Insufficient awareness and training** was a **major obstacle**”*

(Transcript, 2)

*“Of course, there were difficulties at the beginning due to **unawareness and non-understanding** of the idea”*

(Transcript, 5)

*“**Awareness was a greatest difficulty** e.g. changing person's clothes inside mixing lab such as wearing gloves and hats according to the requirements of food safety specification. So, qualification **delayed about 6 months** to less than one year on the average. **Training** may be considered **absent in Libya**. Most training if local, the **expert will be foreigner**. We **lack trust in the Libyan training**. Generally, we, the Libyan, seek foreign training and I don't know why”*

(Transcript, 6)

*“Yes of course, because we were the first company. This **system wasn't known** at the country level. **Understanding** the system and **how it is applied** were the **largest difficulties** we faced. If the system is not understood, it would be hard to be applied”*

(Transcript, 10)

*“**Yes**, there were **difficulties represented in the understanding of the employees** of some criteria of ISO”*

(Transcript, 12)

*“The **only obstacle is the people**, so the training awareness and patience is the best solution for continuity of work”*

(Transcript, 16)

The findings derived from these results indicated that there is difficulty in understanding the purpose of ISO 9000 during the implementation process, because of this, employees have been very resistant to the introduction of ISO 9000 standards, it is also seen as extra work and because they have been working with the current system for a long time

they do not want the challenge of learning new skills. Another challenge in achieving ISO 9000 implementation is **lack of training** programmes; this was mentioned by nearly every one of the respondents. The majority of the managers have received formal quality management system training, although there were exceptions and there was an indication of the **lack of trust in the Libyan training**. These results are similar to studies by Tsim, Yeung and Leung, (2002), Fuentes *et al.*, (2000), Indeed, as was discussed by Hayat and Bhatti (2003); Sharp *et al.* (2003); Al-Zamany, Hoddell and Savage (2002); Balzarova, Bamber and McCambridge (2002) and Taylor (1995), the lack of awareness is an inhibiting factor preventing the start of the certification process which results from a lack of information and education and training programmes available on quality issues.

Additionally, the researcher noticed during the interviews with the quality managers that most of the employees have difficulty obtaining information about ISO 9001 introduction, as most of the documentation is written in English, and little has been translated into Arabic. Hence, within a quality management system there is a need to ensure that all documentation for the quality management system should be written in Arabic to ensure employees at all levels understand the system.

#### **4.5.2. Organisational culture and internal resistance**

The next themes to emerge from the transcripts were **organisational culture** and **internal resistance**. Table 4.5.a summarises the barriers to ISO 9000 sub-themes developed from these findings.

**Table 4.5.a - Organisational culture and internal resistance (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
2. Barriers to ISO 9000	2.2. Organisational Culture	2.2.1. Lack of management support and commitment. 2.2.2. Lack of accountability. 2.2.3. Employee absenteeism. 2.2.4. Difficulties in accepting new approach/direction. 2.2.5. Wrong person in the wrong position. 2.2.6. Lack of trust in the Libyan Training. 2.2.7. Financial support difficulties. 2.2.8. Unavailability of cash flow. 2.2.9. The difficulty of having arguments or discussions with the managers. 2.2.10. Setting targets and then being held accountable by higher level management. 2.2.11. Low level of administration. 2.2.12. Large workforce. 2.2.13. We were the first company. This system wasn't known at the country level. Understanding the system and how it is applied were the largest difficulties we faced. 2.2.14. Economic crisis.
	2.3. Internal Resistance	2.3.1. No desire to change 2.3.2. Process too complicated 2.3.3. Bureaucracy and red tape 2.3.4. Increase in workload by increase in documentation. 2.3.5. Unwillingness to change from the existing system.

The quality managers were asked:

**“Do you think that the employees accepted the new approach/direction without difficulty?”**

- **If Yes: Can you give examples?**
- **If No: What were the main problems?**

From the answers given by the respondents during the interviews, the low code sub themes employees' absenteeism; wrong person in the wrong positions and so on were created. These sub themes are listed in table 4.5.a and supported by some quotations from the quality experts interviewed:

*“Some managers and employees who are responsible for applying these programmes are **resistant to change** and **ignore** the benefits that come from the ISO 9000 certification and focus only on the weakness”*

(Transcript, 1)

1. *“It has been thought as the **"a program of the month"** like any other scheme.*
2. **No desire for a change**
3. *Unclear policies reviewing system with **lack of accountability***
4. **Lack of transparency in the data and the fear of existing irregularities** which can be detected by the system
5. *To many, the new program **would hinder the work and create an atmosphere of red tape and bureaucracy***
6. **Improper introduction** to the new program
7. **Cultural change** to the way things were done by the workers
8. **No visible outcome** at the early stage of implementation”

(Transcript, 2)

*“It is not easy question but I can say that one major barrier facing the organisation is **the lack of understanding by employees** regarding certification. Because of that **lack of understanding, employees have been very resistant** to certification. We continue to have products that **do not conform** to certification, and employees **are unsatisfied with the process** because it is **so complicated**”*

(Transcript, 3)

*“We **faced difficulty** due to the **large number of employees**. The **difficult** matter was **how to change the culture** of this large number of **people (staff)**”*

*“Resistance came only from **people who don't want discipline**. They were **unclean and disordered** elements. Several **employees resigned** when they were informed that the institution would apply a quality system”*

(Transcript, 6)

*“The **right man in the right place** was one of the **difficulties we confronted** when drafting staff of the company because any official or employee should have acquired the skills necessary to job such as **language and experience**”*

*“The **difficulty** was that you had to **change work nature persons used to**. At application, there should be change to work nature”*

(Transcript, 8)

*“In technical aspects we did not face difficulties, but for example in ordinary jobs such as public relations, you **cannot find qualified person to assume such office**, you employ a person with simple level of education, you must explain to about the system, so we **face such a problem**”*

*(Transcript, 14)*

*“Is not the right person in the right place of others, but the right is the story of **resistance to change**, for example, quality objectives at the centre are the transition from paperwork to electronic form, for this particular work scheme to train people in the organisation and most of them have the ICDL computer and all users of the computer so good then we could mobility and achieve this goal, but there are **some people want to holding things or stuff and do not like dealing with it through electronic data**”*

*(Transcript, 15)*

*“It **means resistance to change** every institution with resistance expression means that people say is not possible is better than what we had in the application of a new system, and we have training again and we ordination of fatigue, so it was an **obstacles through training**”*

*(Transcript, 15)*

*“Yes, certainly the most important is **people that will be applied system**; but we do not face the difficulty of establishing a Quality Manual as all officials of the company are experts and consultants in quality management systems”*

*(Transcript, 16)*

These findings were similar and consistent with other Arabic researchers such as (Ashrafi, 2008; Kumar and Antony, 2008; Magd, Kadasah and Curry, 2003; Al-Khalifa and Aspinwall, 2000; and Agnaia, 1997). Internal resistance is highlighted where there was no desire to change, the process of ISO 9000 system is too complicated for employees and the new programmes would hinder the work and create an atmosphere of red tape and bureaucracy. These problems and difficulties were consistent and supportive of previous studies, for example, Wahid and Corner (2009); Amar and Zain (2002); Al-Khalifa and Aspinwall (2000) and Lipovatz, Stenos and Vakas (1999).

#### **4.5.3. Expertise**

The fourth obstacle was the **lack of expertise** including absence of Libyan professionals and experts in this field which in turn led to the contracting of external organisations to carry out training, the absence of local agencies that issue the ISO certificate means dealing with foreign institutions which causes delays in obtaining the certificate, the absence of accredited institutions to assess the trainers and coaches that adopt the training programmes on ISO 9000 and the cost of contracting foreign consultants.

Table 4.5.b summarises the barriers to ISO 9000 sub-themes.

**Table 4.5.b – Expertise (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
2. Barriers to ISO 9000	2.4. Expertise	<p>2.4.1. Absence of Libyan experts.</p> <p>2.4.2. No accredited local agencies.</p> <p>2.4.3. Cost of contracting foreign consultants.</p>

These findings can be supported by some quotations from the quality managers interviewed:

*“The **absence of Libyan professionals and experts** in this field led to the contracting of external training by accredited organisations”*

*“The **absence of local organisations** that issue the ISO certificate means dealing with foreign institutions which causes delays in obtaining the certificate”*

*(Transcript, 1)*

*“**No local agencies in Libya** are equipped to help. To fix the problem, we would need to contract a foreign agency, and that is a problem”*

*(Transcript, 3)*

*“ISO focuses on all departments of the company, so also the point of availability of experience and qualification in the field itself, because there is **lack of experience and qualification in such field**”*

*(Transcript, 10)*

The researcher observed from the respondents’ answers that the Libyan service and manufacturing industries do not have sufficient expertise and qualified employees in the field of ISO 9000 standards. The results are consistent with the literature of similar findings by Ashrafi, (2008); Kumar and Antony, (2008); Al-Zamany, Hoddell and Savage, (2002); Ngai and Cheng, (1997); Zhoa, Maheshwari and Zhang, (1995) who noted that unskilled employees and a lack of experts in QMS are other inhibitors to the implementation of the QMS-ISO 9000 in organisations in India, China and Mexico.

#### **4.5.4. Cost and quality manual**

The fifth and sixth barriers to ISO 9000 to emerge as sub-themes from the respondents’ answers were **Cost and quality manual**. Table 4.5.c summarises the obstacles to ISO 9000 sub-themes developed from these findings.

**Table 4.5.c - Cost and quality manual (continued)**

Theme	Sub-Themes High Code	Sub-Themes Low Code
2. Barriers to ISO 9000	2.5. Cost	<p>2.5.1. Training programmes are costly.</p> <p>2.5.2. Calibrations are costly.</p> <p>2.5.3. Consultation process</p> <p>2.5.4. Lack of documentation and Materials.</p>
	2.6. Quality Manual	<p>2.6.1. The presence of foreign languages documents + manual in English.</p> <p>2.6.2. Lack of people to translate.</p> <p>2.6.3. Lack of English quality language courses and Arabic translator.</p> <p>2.6.4. Lack of available information in the Arab language.</p>

The lower codes were: “training programmes are costly”; “calibrations are costly”; “consultation process are costly”; “lack of documentation and materials”; “the presence of foreign languages documents and manual in English”; “lack of people to translate”; “lack of English quality language courses” and “Arabic translator and lack of available information in the Arab language”. These sub themes are listed in table 27 and supported by some quotations from the quality experts interviewed:

*“The high cost of the ISO 9000 certificate, both in terms of the **advisory body** overseeing the implementation, the **external training** companies used, and the requirements necessary for certification e.g. **measurements, documentation, internal audits**. Because of the financial implications companies with **limited income** cannot implement them”*

*(Transcript, 1)*

*“**Training** may be considered **absent in Libya**. Most training if local, the expert will be foreigner. If it (training) is conducted abroad, it will be **costly for the company**”*

*(Transcript, 6)*

*“There is **no a body in Libya responsible** for calibration. So, **calibration is very costly**”*

*(Transcript, 7)*

*“The other **difficulty** the concept of stopping the factory due to the **unavailability of cash flow**, which led to the **stoppage of operating**, so the procedures of opening a letter of **credit took time**, during which we exploited such opportunity to conduct maintenance and refurbishment, so the matters **were financial but indirectly**, not due to spend funds on ISO, but **spending on the carrying out of production plan**”*

(Transcript, 10)

*“**Financial difficulties** sometimes facing us when we perform the training plans, sometimes we plan for certain course, then we find good course which we are invited to by private entity, which **being costly**, so such **financial difficulties face us**, therefore we carry out based on the income of the company, we cannot carry out more than that”*

*“We face a problem with **foreign authorities** granting the ISO certification, which is that the **documentation** must be in **English**, most of our **employees do not master the English language** so we **cannot reach to the target**”*

(Transcript, 13)

*“The **quality manual and documentation** is written in English, and **little has been translated into Arabic**”*

(Transcript, 14)

This in turn, has serious implications for the success or failure of the ISO 9000 implementation, and can drive up the costs of training; calibrations; documentation; and the quality manual as stated by the respondents. The majority of the human resources in Libya are Libyan, therefore, an essay type manual written in English can form a considerable language obstacle between the manual and its users.

Some companies have found it necessary to translate the manual into Libyan; however, this can result in ambiguities, effectively making the quality system more costly and less efficient.

These findings are similar to another study by Stevenson and Barnes (2001) they indicated that the relatively high cost of the certification is a barrier facing most organisations, it is generated by training, time constraints and consultancy fees to facilitate the registration process. Fuentes *et al.* (2000) identified that the lack of financial capacity to meet implementation costs and maintaining QMS costs in Spanish organisations is one of the barriers affecting the implementation of ISO 9000 standards.

#### **4.6. Theme 3: Benefits obtained by ISO 9001:2000 QMS certification**

According to the listed themes developed in the template analysis tables, 3 categories for the Benefits to ISO 9000 emerged as sub-themes high codes, from the quality managers' answers which were:

- **Customer Satisfaction;**
- **Continual Improvement;**
- **Profitability.**

The following are the detailed findings of these benefits based upon the quality managers' responses during the interviews.

#### 4.6.1. Customer satisfaction

The first benefit of implementing ISO 9001:2000 is **Customer satisfaction**. Table 4.6 summarises the benefits to ISO 9000 sub-themes developed from these findings.

**Table 4.6 - Customer satisfaction**

Theme	Sub-Themes High Code	Sub-Themes Low Code
3. Perceived benefits of implementing ISO 9000/QMS	3.1.Customer Satisfaction	3.1.1. Meet customer requirements. 3.1.2. Provide better service. 3.1.3. Special forms are distributed to all maintenance centres. 3.1.4. To satisfy the customers is through continuous improvement. 3.1.5. Questionnaires. 3.1.6. Follow up telephone call. 3.1.7. Offer customers compensation for loss and damage.

The respondents were asked: “**Can you tell me how the organisation satisfies its customers and measures their satisfaction?**” The majority of participants stated during the interviews that the benefit ISO 9001:2000 certification is meet customers' requirements and provide a better service. Most answers were similar to the following:

*“There are specific procedures in place that we follow. The trading department sends a customer satisfaction **measurement form annually to the customers**, and we use that **information to improve service**. We have expanded the **survey to include internal customers**”*  
 (Transcript, 3)

*“We are **required** in the current phase to **satisfy our customer** (the General People's Committee) and other related bodies, **meet their requirements** raised and **decisions taken in the meeting** of the authority with the General People's Committee”*

(Transcript, 4)

*“There was a **clause in the specification on customer's satisfaction** with the product, setting a way to **compensate customer's** damage and loss by **convincing him** to continue to be my customer”*

*“The reason is to **meet customer requirements** and establishing itself as one of the major producers of iron and steel in the world by **emphasizing quality as one of its paramount goals**”*

*(Transcript, 2)*

*“The company was in good situation and customers were satisfactory till the market was opened for imported products. Competition was on prices rather than quality and customers were directed to prices lower than ours as we knew from the **questionnaires distributed at sales and maintenance centres** to very customers **satisfaction with our service quality**”*

*(Transcript, 8)*

*“To satisfy the customers is **through continuous improvement**, we have **special forms concerning the satisfaction of customer**, which submitted every year or periodically, if such customer has any problem related to our non implementation process of its requirements if it has **certain complaint can write it down** and we accept it **to take the necessary action**”*

*(Transcript, 9)*

*“Yes sure, this is available, for example one of the things **we have in the bill written as a notice “in case you have any problem, please kindly contact this phone number”**, there is an **office to receive complaints**, so we **consider the problem scientifically**, if it needs analysis or development, in addition to the promotion and also medical representative, we have **special department for medicine promotion** visits all the hospitals and clinics, to **provide them with lists of our items** and samples of such items and also **symbolic gifts of such items**”*

*(Transcript, 10)*

*“Satisfaction of customers comes through **providing good service on time** in addition to **measurement and responding to the customers complaints** from time to time, we have **special technique how to satisfy customers**, upon the **completion of services** to the customer, we **measure satisfaction** of such customer through next three months, we have **special forms** for this concern, even some customer to whom we send such special form and does not give us feedback, we can get his satisfaction even by **the phone calls**, also when you find your customer still contacting you every day **asking for services is one of the criteria to measure the customer satisfaction**”*

*(Transcript, 13)*

These findings are corroborated by studies undertaken by Martinez-Costa and Martinez-Lorente (2003) who mentioned that one of the main benefits of ISO 9000:2000 standards is to satisfy customers, and ISO 9000 addresses the relation between customers and organisations. Poksinska, Dahlgard and Antoni (2002) and Brown and Van der Wiele (1995) stated that, ISO certification could build good relationships between customers and organisations, increase on delivery time, and customers' satisfaction. It is also supported by Vouzas and Gotzamani (2004) who indicated organisations that apply an effective quality management system would attain customers' confidence.

Customer requirements and expectations should be a paramount consideration of an organisation when implementing ISO 9000 in terms of the future development of continuous improvement. An organisation should nurture resources and skills which result in its production processes or services providing for the requirements of their customers.

#### 4.6.2. Continual improvement and profitability

The second and third significant benefits to ISO 9000 to appear as sub-themes were: Continual Improvement and Profitability. Table 4.6.a summarises the benefits to ISO 9000 sub-themes developed from these findings.

Table 4.6.a - Continual improvement and profitability

Theme	Sub-Themes High Code	Sub-Themes Low Code
<b>3. Perceived benefits of implementing ISO 9000/QMS</b>	<b>3.2. Continual Improvement</b>	<b>3.2.1.</b> Build the basis for QMS <b>3.2.2.</b> Increase in management efficiency <b>3.2.3.</b> Unification of process <b>3.2.4.</b> Internal work improved <b>3.2.5.</b> Staff development <b>3.2.6.</b> Achieve overall objectives <b>3.2.7.</b> Follow up of targets, plans, internal audits and data analysis.
	<b>3.3. Profitability</b>	<b>3.3.1.</b> Export abroad <b>3.3.2.</b> International recognition <b>3.3.3.</b> Reduce production costs <b>3.3.4.</b> Internal audits

The respondents were asked:

**“What competitive advantages has the certification brought to your organisation?”**

From the answers given by respondents during the interviews, the second and third significant themes of Continual Improvement and Profitability created other advantages such as Building the basis for QMS; Increase in management efficiency; Unification of process; Internal work improved; Staff development; Achieve overall objectives; Follow up of targets, plans, internal audits and data analysis; Export abroad; International

recognition; Reduce production costs; Internal audits. These findings can be supported by some quotations from the quality managers' interviews:

*“The system has determined the roles of each individual department. There is **good communication** between the departments; basically, the role of each department has been identified internally in connection with the **production process**”*

*“The applying of ISO 9000 helped the company to review and reform the operations processes through internal audits, and allows the necessary corrective action to be taken”*

*(Transcript, 1)*

On the subject of Profitability the quality managers were asked:

**Do you think that the organisation has received a good return on ISO 9000 certification investment?**

The answers were, yes, by some of the respondents during the interviews. The following quotes illustrate the point:

*“Yes. The company has **successfully earned money** from the **products and has a good reputation**. The certificate is internationally recognised and allows the **company to be proud of their position**. The company was the **first company in Libya to receive this certificate**”*

*(Transcript, 2)*

*“This is a certificate in the field of Authority management. If the Authority undertakes management according to internationally applicable quality systems, **product will be of the targeted and planned quality**. This is the **greatest return and investment of ISO if we succeed**”*

*(Transcript, 4)*

*“Yes, certainly. **Sales in our company were doubled** nearly particularly **after advertising and promotion in TV**. They increased even **outside Tripoli and several foreign bodies** required dealing with us at very **competitive prices** after visiting the electronic website of our company”*

*(Transcript, 6)*

*“We got **local accreditation**, and we **reached to the international accreditation**. so we have been locally reaccredited based on the international accreditation, this is **considered as moral gain**, and the national metrology and standardization centre **trusted us**, since we **actually apply the criteria** and also **through the scrutiny**”*

*(Transcript, 9)*

In a survey of 86 ISO-certified Turkish service companies, Calisir (2007) explained that the benefits gained from certification were essentially related to “improved product quality”, “reduced mistake/imperfection rate in production”, and “increased overseas market share”. Levine and Toffel (2010) identified that ISO 9001 developed both management practices and production processes, and that these improvements translated into increased sales and employment. It also assists managers in learning how to reduce costs.

## 4.7. Theme 4: Review methods

According to the listed themes developed in the template analysis tables, 2 categories for review methods emerged as sub-themes high codes, from the respondents answers:

- **Formal review methods.**
- **Informal review methods.**

Table 4.7 summarises review methods to ISO 9000 sub-themes developed.

**Table 4.7 - Review methods**

Theme	Sub-Themes High Code	Sub-Themes Low Code
4. Review Methods	4.1. Formal	<p>4.1.1. External audit.</p> <p>4.1.2. Customer satisfaction survey.</p> <p>4.1.3. External training programmes.</p> <p>4.1.4. It is through the auditors' reports.</p>
	4.2. Informal	<p>4.2.1. Internal audit in the authority system and latest developments of the specification.</p> <p>4.2.2. In-house training programmes.</p> <p>4.2.3. Regular staff meetings.</p> <p>4.2.4. Intensive awareness training.</p> <p>4.2.5. Strong management commitment.</p> <p>4.2.6. The quality office is responsible for following up modifications and developments and keeping departments informed.</p> <p>4.2.7. The <i>Libyan National Centre for Standardization and Metrology</i> (LNCSM) should provide the quality manual and the requirements in Arabic language.</p> <p>4.2.8. Documentation continually updates.</p> <p>4.2.9. Regular management meetings.</p>

### 4.7.1. Formal review methods and Informal review methods.

The respondents were asked the question:

**“What techniques have you adopted to ensure that the standards are continually reviewed and revised?”**

The review process was similar in the majority of the companies interviewed. They used **formal** and **informal** methods. The main formal methods took the form of auditors from external bodies and customer satisfaction surveys. Informal methods included internal audits, regular staff meetings, updated training programmes and commitment from the management. These are confirmed by the following quotes:

*“Yes as I indicated earlier, **review meetings and internal audits** are conducted throughout the year and play a major role in **continuous development**. This year we will work on updating the 2009 specifications, in line with the changes issued by International Organisation for Standardisation – ISO 9001. We will be inspected during the next year”*

*(Transcript, 1)*

*“**Through internal and external audit** of the system in the Authority and conclude **solutions to problems**. The quality office is responsible for **following up modifications and developments and keeping departments informed**”*

*(Transcript, 5)*

*“At the company level, the specification recommends that document **controller should review, audit and update all documents** to ensure control over all documents in the institution”*

*(Transcript, 6)*

*“**At the end of each year**, the management should **review and revise its procedures**. When introducing a new **product, operations are revised and a change application form is used**. Moreover, the **management meetings** are held twice a year to **review policy and objectives and take relevant decisions**. **External audit** is made every three years. External auditor should observe that the company adheres to ISO”*

*(Transcript, 7)*

*“ISO is an integrated system. We have an **audit team used to check and deduct weaknesses**. Then, it refers them on the **internal audit reports** to the director of quality management who in his turn **raises the report to the top management**. The top management follow up the same and in case there is any failure or deficiency from any department, **its manager attends the meeting of top management**. Thus, the issue is discussed in these meeting. It is clear that it is any integrated system”*

*(Transcript, 8)*

*“We have **periodical auditing** in addition to **measurement and analysis**. Do you have periodical meeting, to go parallel with the future updates, to follow the system updates, there is no any entity auditing your updating? The system we are using now is **already updated**, which is created in 2008, also if there is any **conference about the quality**, we nominate some representatives **to know the latest updates**”*

*(Transcript, 10)*

*“It is through the **auditors’ reports**, whether **external auditors** of National centre for metrology and standardization, or through **outputs of internal auditing** or through **periodical revision of quality management system**”*

*(Transcript, 11)*

From the answers given by all respondents during the interviews, there are a number of techniques that can be used to continually review and revise the ISO 9000 standards and ensure that the company information is up to date. The interview quotations were supported by Janas and Luczak (2002) who believed that the revised standards are organised as a linked process. The new revised standard essentially echoes the new 'process approach' model. This model improves and develops the effectiveness of quality management systems as customer expectations are met, and leading organisations are helped to manage opportunities for improvement.

#### 4.8. Theme 5: Overcoming the barriers

According to the listed themes developed in the template analysis tables, 3 sub-themes emerged with regards to overcoming the barriers to implementation. These were:

- **Training;**
- **Support;**
- **Documentation.**

Table 4.8 summarises the review methods to the ISO 9000 sub-themes developed.

**Table 4.8 - Overcoming the barriers**

Theme	Sub-Themes High Code	Sub-Themes Low Code
5. Overcoming Barriers	5.1 Training	5.1.1. Free government training and awareness. 5.1.2. Advanced training courses. 5.1.3. Continual staff development.
	5.2 Support	5.2.1. Reward attendees. 5.2.2. Annual bonus. 5.2.3. Motivation (by management).
	5.3 Documentation	5.3.1. Provide quality manual in Arabic. 5.3.2. New job descriptions.

The following are the detailed findings of these sub themes.

The respondents were asked: **“Can you tell me how the organisation overcame these barriers?”**

The answers were, the government and company management should provide free training and awareness courses; support the employees by motivating them and reward attendees. Furthermore, the LNCSM should provide a quality manual in Arabic to all companies who want seek ISO 9001 certification, and also companies should have new job descriptions to avoid the problem of having the wrong person in the wrong position. These are confirmed by the following quotes:

**“The Consultant had a great role in overcoming problems arising during facilitation period in addition to the team performing awareness. This team delivered awareness lectures plus the periodic weekly meetings of department managers and division heads in the presence of the management’s representative to present and overcome problems”**

(Transcript, 4)

**“First: by training and raising awareness; second: strict decision was taken in respect of absence. It has been decided to reward attendees and punish absentees; Third: it has been decided grant annual bonus for any person adhering to standards and to deprive wrongful and non-adherent person from incentive”**

(Transcript, 6)

**“We prepared an internal audit team and distributed it to all departments to follow up application and documentation the whole system and to be responsible for the system till we reached stages in application. This team had a great role in making the system successful”**

(Transcript, 7)

**“We could overcome the difficulties through training”**

(Transcript, 8)

**“By the edification, training and education”**

(Transcript, 9)

**“Through the edification and implementation of several awareness and training programmes in ISO field and other fields related to the activity, as well as through consults and remarks have been demonstrated through external audits, whether by accreditation entity or other entities or by customers themselves”**

(Transcript, 10)

**“We overcame such obstacles through training and awareness of people, the top management helped us the most, provided the material and moral support to the people, so we could overcome it, by awareness and the top management”**

(Transcript, 13)

**“By awareness and training which are the most important aspects for up-grading the concept and importance of applying the quality management inside the organisation”**

(Transcript, 15)

**“We hope that ISO certification to be granted locally, because most of granting authorities are foreigners, to consult them easily from time to time”**

(Transcript, 13)

These findings are in line with a previous study by Hokoma, Khan and Hussain (2008, p. 905) who suggested that,

*“More attention should be paid towards generating improved management commitment in the implementation process, and taking the full responsibility to encourage and motivate all the involved teams to take part in the task. Generally, training and on-going education is essential and should be provided to all the involved teams/employees at all levels. Ensuring a high level of understanding of the whole process to all the involved teams may lead to a complete implementation of all the manufacturing and quality control techniques and philosophies.”*

#### **4.9. Summary of the findings and analysis**

The purpose of this research is to demonstrate the work done by the researcher in the area of the difficulties affecting, and challenges arising, during the implementation of ISO 9000, Quality Management System (QMS) in Libyan service and manufacturing industries. Therefore, three research questions, which were derived from the literature review, were formulated to address these aims.

1. What are the difficulties affecting the implementation of ISO 9000 standards in Libyan service and manufacturing industries?
2. Why have the difficulties to implementing the standards occurred?
3. What could be done to remove or mitigate the difficulties to enable successful implementation of ISO 9000 in Libyan service and manufacturing industries?

The following discussion will outline how the results derived from this research address the research questions and objectives. The researcher presents the key findings relating to the research problem, which were answered by the respondents during the interviews and from the previous studies. A key question to ask following this evidence is why is the adoption of ISO 9000 so low in Libya? This in turn raises a further question of what the obstacles to adoption are.

The main findings arising from research questions are presented below as they relate to the Libyan context:

The results of this study show that within the LSMI there are a number of reasons that encourage organisations to obtain ISO 9001: 2000 certification, these reasons can be divided into five categories: Quality improvement, Performance, Productivity, Compulsory and the Success of the company. However, the main reason that companies seek ISO 9001 certification is to secure the opportunity to establish their place in both local and international markets by increasing demand to improve the quality of products and services; as well as to export products abroad because it is required by customers when importing any type of goods, and it is also required by government law (Compulsory) for service and inspection companies. It is necessary for service and inspection companies to have ISO 9001:2000 before they can be awarded ISO 17020 Inspection Management certification, since ISO 9001 does not require evaluation of the technical competence of an inspection body.

The study has also shown that the motivations behind seeking ISO 9001:2000 certification in the LSMI is mixed, either external or internal, however, the descending order revealed that Libyan service and manufacturing industries were more disposed to being registered with ISO 9000 as a result of external requirements. The study revealed that companies that are scheduling, or have determined to continue their quality management journey towards other quality management standards, are those which provide greater significance in their certification choice to those reasons that are associated with "Internal improvement" rather than "International market" and "External pressure."

The study revealed that LSMI have perceived moderate benefits as a consequence of ISO 9001 certification, these benefits can be divided into three categories: Customer Satisfaction; Continual improvement and Profitability as mentioned by the researcher in this chapter and summarised in tables 4.6 to 4.6.a. In addition, the study established that both "quality improvement" activities and "customer" related activities were of high importance. This illustrates that the organisations are trying to keep a balance between quality improvement activities in addition to focusing on managing customer needs and expectations.

Further findings from the interviews with LSMI experts and managers highlighted several notable difficulties or barriers which prevented Libyan companies from improving their quality standards. As illustrated in tables 4.5 to 4.5.c six categories relating to the

difficulties to ISO 9000 implementation in LSMI were formed, these obstacles were: lack of awareness and training; lack of organisational culture; internal resistance; lack of expertise; cost, and finally lack of a quality manual.

The results have shown that fostering a quality culture appeared to be difficult among the LSMI because a great number of Libyan organisations pay additional attention to satisfying ISO 9000 requirements and do not pay equal attention to organisations culture and behavioural aspects. Therefore, it concluded that ISO 9000 certified service and manufacturing industries in Libya are less concerned with the human side of quality management. Consequently, the overall conclusion one could make about this indicator is that ISO 9000 in LSMI are suffering from employees' resistance to change, wrong people in the wrong positions and the difficulty of having a difference of opinion or discussions by the employees with their managers. However, the researcher considers that the employees and quality managers have problems communicating with the top management or with their supervisors in suggesting solutions to problems that may have occurred. For ISO 9000 implementation to be successful and in order to satisfy ISO requirements, it is vital that organisations pay attention to the organisational culture and behavioural aspects, and furthermore the management of the organisations should pay extra attention to ensure they choose the right person for the right position.

The study revealed that Libyan ISO 9000 certified service and manufacturing industries were found to have a low level of understanding of the purpose of ISO 9000. However, the study also indicated that the longer the time spent working for the company the better the understanding can be of the purpose of ISO 9000 standards.

The research also identified that the lack of quality management and continuous training and education is an impeding factor to the successful change towards the excellence of quality systems in the LSMI. This was mentioned by nearly every one of the respondents. The majority of the managers have received formal quality management system training, although there were exceptions, and there were suggestions made regarding the lack of trust in the Libyan training. This can be seen as an indication of the lack of commitment and seriousness, on the part of the companies, to the development of a quality culture. The researcher noticed during the interviews with the quality managers that most of the employees have difficulty obtaining information about the introduction of the ISO 9001 certification process as most of the documentation is written in English and little has been translated into Arabic. Furthermore, the impact of indicators

such as undesirable quality manual and documentation has never been reported as obstacles for ISO 9000 QMS implementation in any previous studies which signifies that these are particular values exclusive to this study.

The findings of this study indicated that the relatively high cost of the certification is a barrier facing most organisations in Libya and other parts of the world. It is generated by training, time; translating the documents to the local language and consultancy fees to facilitate the registration process. These difficulties were similar to other studies which were presented in the literature review in chapter two. The lack of time and training resulted in the use of unskilled people who had little or no understanding of the requirements related to the new standards.

The remaining problems observed in the study take into account the lack of expertise, including the absence of Libyan professionals and experts in this field which in turn led to the contracting of external organisations to carry out training, a dearth of local agencies that issue the ISO certificate meant dealing with foreign institutions which caused delays in obtaining the certificate, and the absence of accredited institutions that assess the trainers and coaches who deliver the training programmes on ISO 9000. These played a major role in impeding the LSMI in their quality management journey and increased the costs encountered during the implementation process.

The researcher established that adoption of ISO 9000 QMS was a necessity in the Libyan context, and that it would be a worthwhile investment. If it is correctly adopted with a strong belief and commitment, ISO 9000 QMS can absolutely lead Libyan companies on their way to continuous improvement, to achieve a quality culture, and enable them to survive and compete in the developed market.

The findings indicate the urgent need to ensure that proper training and awareness education programmes on ISO 9000 standards are made available to all employees and solutions that will assist in overcoming the barriers during the implementation process should be investigated. From the answers given by all respondents during the interviews, there are a number of recommendations that can be put into place.

#### **4.10 Chapter summary**

A summary of the data about different reasons; difficulties; benefits; review methods and overcoming the barriers for implementing ISO 9001: 2000 certification have been given. The major concerns have been highlighted and summarised in this chapter from table 4.4 to table 4.8. The researcher presents the key findings from this research in table 4.9:

Table 4.9 - Summary of all themes

Themes	Sub-Themes Initial High Code
1. Purpose of ISO 9000	1.1. Quality improvement
	1.2. Performance
	1.3. Productivity
	1.4. Compulsory
	1.5. Success of Company
	2. Barriers to ISO 9000
	2.2. Organisational Culture
	2.3. Internal Resistance
	2.4. Expertise
	2.5. Cost
	2.6. Quality Manual
	3. Benefits to ISO 9000
	3.2. Continual Improvement
	3.3. Profitability
	4. Review Methods
	4.2. Informal
5. Overcome Barriers	5.1. Training
	5.2. Support
	5.3. Documentation

The next chapter (5) will present the conclusions and the implications of the findings of the present study.

### 5.0 Introduction

In this final chapter of the thesis, the purpose is to summarise the research process, and present the conclusions to the whole research effort by discussing the findings with reference to the research questions and objectives, and the answers to the research questions will be demonstrated. Subsequently, the implications of the research, contributions to professional practice and body of knowledge, operational recommendations, limitations of the study and the researcher's suggestions and directions for future research are presented. Furthermore, in order to make it straightforward for the reader, the researcher has used the sub-headings that were used in previous chapters. The chapter concludes with the researcher's personal reflections of the research journey.

In recent years ISO 9000 certification has become one of the most widely used QMS in the world, since the application of ISO 9000 not only benefits the customer, in that they receive quality products and services, but also benefits the organisation in creating a quality culture which usually leads to cost saving and enhanced productivity (Sampaio, Saraiva and Rodrigues, 2009; Ashrafi, 2008; Zaramdini, 2007). Prior to the discovery of natural gas and oil at the beginning of the 1960s Libya was a relatively poor country. Since then there has been a slow but significant increase in industries such as iron and steel, cement and textiles, where the government and companies alike endeavour to produce quality goods and services that meet the requirements of the present market (Hokoma, Khan and Hussain, 2008).

Libya has amongst the highest real GDP per capita on the African continent; however, it is still very much a developing country and falls behind other countries in areas such as technology, education and health. Although the lifting of UN, EU and US sanctions has meant that trade and investment in the country is improving, *"the structural business environment remains weak"* (Atkinson, 2009, p.2).

Based on previous studies in QMS and evidence from the findings from the case study in this research a key question to ask is why ISO 9000 certification is important to Libya?

The key elements and answers are to:

- Build the basis of QMS in Libyan companies and organisations;
- Build a new quality culture;

- Improve employee's performance in Libyan companies and organisations;
- Have better management control;
- Have better working conditions and increased job satisfaction;
- Produce products and services that consistently meet customer requirements and reduce production costs;
- Use one standard in every organisation in the country;
- Build a strong relationship with customers;
- Increase customer satisfaction;
- Establish a place in the domestic market and export products abroad;
- Improve the reputation of Libyan companies;
- Gain competitive advantage in global business;
- Increase returns on investment and increase market share and profits.

The Libyan National Centre for Standardization and Metrology has placed a greater emphasis on achieving better quality in order to compete in both domestic and foreign markets through a quality management system. This is crucial because gradually, foreign buyers have become frustrated having to verify the quality of the Libyan goods they purchase, a costly and time consuming process. Therefore, the Libyan government and Libyan National Centre for Standardization and Metrology have been persuading Libyan companies to seek ISO 9000 certification to ensure the quality of their products and services. Furthermore, the quality standard has also become a subject of interest in Libya due to the fact that ISO 9000 has been used widely throughout the Arab World, Europe, and the USA as a nationally and internationally accepted quality standard (Ashrafi, 2008). Despite the number of publications and the amount of research into ISO 9000, as mentioned, little research has been carried out in the Arab world and Libya in particular. Therefore, in ensuring effective implementation of the certificate in Libya and other Arab countries, the focus of this study was to identify and analyse the difficulties that affect the implementation of a quality management system (ISO 9000 QMS) in Libyan service and manufacturing industries.

The process of implementing ISO 9001:2000 standards can be notoriously problematic and many organisations encounter difficulties during and after the process of certification. While there has been considerable interest in the improvement of business management in Libya, the study of quality management has been significantly less prominent, a situation that is also found in other Arabic countries (Zairi, 1996).

Clearly there is a large amount of information in the literature, to summarise, the key factors for ISO 9000 failure include, a 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, cost of consultation process and calibrations, the allocation of personal responsibilities and constraints on resources such as manpower, time and finance (Gader *et al.*, 2009; Wahid and Corner, 2009; Sampaio, Saraiva and Rodrigues, 2009; Ashrafi, 2008; Magd and Ahmed, 2008; Khalaf, 2007; Mersha, 2007; Al-Kahlifa and Aspinwall, 2000 and Aгнаia, 1997). These elements, themes and barriers were presented in chapter two, table 2.6.

The following sections discuss the key findings of the exploratory analysis presented throughout this thesis and, by reasoning the possible benefits of taking action, makes suggestions as to what remedial action could be taken in Libya to improve the uptake, implementation and success of ISO 9000. Each section is concluded by headline recommendations that act as the contribution to professional practice of the thesis and which could be taken forward by practitioners and policy makers in Libya.

## **5.1 Conclusion of the study**

### **5.1.1 Barriers to ISO 9000**

#### **5.1.1.1 Awareness and training of ISO 9000**

It is clear that LSMI and government leaders in Libya seek ISO 9000 certification to improve the competitiveness of their enterprises, and to strengthen their export performance. As Ashrafi (2008, p. 77) identifies: “*ISO certification opens doors to new business opportunities and helps maintain existing business relationships.*” However, this study has indicated that Libyan ISO 9000 certified service and manufacturing industries were found to have a low level of awareness and understanding of the purpose of ISO 9000. This appears to be due to a lack of appropriate awareness training programmes, which creates major challenges in understanding the purpose and the requirements of ISO 9000 QMS. This reflects Crosby’s proposition that there is no such thing as a quality problem, but that poor management creates quality problems (Juran, 1988 and Crosby, 1986).

However, training programmes are relatively expensive due to the absence of Libyan experts in the QMS field and account for the high fees of consulting foreign agencies

who give training to certified industries. In addition, one of the respondents from the case study pointed out that at the beginning of the implementation process all documentation was written in English, therefore, only the members of staff with a good understanding of the English language were able to read the requirements information. Because of this, the number of people able to understand and disseminate the information, with regards to the introduction of ISO 9000 standards, was limited. Consequently, within any quality management system there is a need to ensure that all documentation should be written in Arabic so that the employees can better understand the system and what their role in the process will be.

Evidence garnered from previous literature and the findings of this study found that a significant problem was the lack of employee awareness and a difficulty in understanding the purpose of ISO 9000. As a result, employees could see little benefit since it required significant effort and work on their part. Where employees have been working with their current systems for a long time they become resistant to change and do not want to face the challenge of learning new skills (Gader, *et al.*, 2009; Ashrafi, 2008 and Mersha, 2007).

To improve this situation, top management must recognise the value of the principles of ISO 9000, or any QMS, that they are considering and be prepared to communicate this effectively, before they commit themselves. Libyan managers need not only to educate themselves but their employees as well, and not rely on traditional and out dated practices. Failure to consider such values could lead to serious consequences because of the increasing levels of competition from international companies, who have already implemented successful QMSs, and are looking to invest in Libya. Appropriate awareness training is thus a critical first step and further emphasis is required in LSMI to ensure the employees, at each relevant function and level, are aware of culture, quality policies, and procedures of the ISO 9000 systems.

Extensive training needs to be provided particularly in the areas of problem identification and solving skills. The evidence from the case study suggest that more time spent working for a company provides a better understanding of the purpose of ISO 9000. Quality managers in LSMI should deliver training sessions for the employees, describing what ISO 9000 QMS is, what its benefits are and explaining the preparative steps necessary for its implementation before starting the implementation process. Senior managers should also inform their employees what they should expect from an auditor, using scenarios and questions that might be posed during the registration process and

advise the employees as to appropriate conduct when approached by the auditor, stressing courtesy, honesty and simple straightforward answers. Quality managers should also use on-going training as a tool for awareness which, in turn, will lead to a much smoother implementation process as employees will have the necessary knowledge and skills to carry out their responsibilities effectively and with confidence knowing that their efforts are for a clear purpose.

This issue is so fundamental that it is the recommendation of this study that the Libyan government and the LNCSM should provide free quality training, auditor training and awareness courses, supporting the employees by motivating them to participate directly. Furthermore, the LNCSM should provide quality manuals in Arabic to all companies wishing to seek ISO 9001 certification to avoid language barriers-related complications. LSMI managers and top management should provide additional support from various sources to assist in the implementation process. Good organisational support is a prerequisite when developing and implementing processes begin and senior managers should focus their attention into the effort by holding weekly meetings with staff in all departments across the company not only the quality department. This will guarantee that employees are kept informed and can feedback their opinions and suggestions, a vital component for effective organisational development (Schultz and Modaro, 2001).

#### **Headline recommendations for 5.1.1.1:**

- The Libyan government and LNCSM should provide free online quality training materials, information, and knowledge on standards, auditor training, and quality awareness and certification courses for ISO 9000. The purpose of the free online quality awareness training is to increase the level of awareness of quality management systems in Libya and build knowledge at an individual level or across the entire organisation, so they can perform their roles effectively and efficiently. This will reduce the cost of the training, improve efficiency and encourage the Libyan organisations to gain ISO 9000 certifications;
- LSMI managers need to customise courses and publish agendas before commencing training. Training should be facilitated to help senior management deliver messages to employees about the benefits of ISO 9000 to the Libyan economy. This management strategy will aid employees' understanding of the

implementation process and motivate them to acknowledge the new system. The outcome of this strategy will also improve the training facilities, increase the efficiency of the organisation and lead to continuous improvement.

### **5.1.1.2 Organisational culture**

The development of a successful quality culture is a fundamental pre-requisite to the achievement of quality, but what is culture? Beckford (2010, p. 29) quoted Clutterbuck and Crainer (1990, p.195) who described it as:

*“a set of behavioural and attitudinal norms, to which most or all members of an organisation subscribe, either consciously or unconsciously, and which exert a strong influence on the way people resolve problems, make decisions and carry out their everyday tasks.”*

Shultz and Modara (2001) reiterated this view commenting that any organisation endeavouring to change their corporate culture must first empower their employees to take ownership of the process. They deemed that it would be easier for a company to acquire and retain certification once staff understood and believed the benefits.

Organisational culture is often a difficult thing to change, especially when it concerns quality improvement programmes. Culture change introduces necessary revisions to attitudes and behaviours which in turn reinforce desired behaviours. In such a way progress is achieved in the initial change process (Gader *et al.*, 2009; Ashrafi, 2008; Mersha, 2007; Briscoe Fawcett and Todd, 2005).

Barriers to changes in organisational culture are among the most complex obstacles which managers in LSMI must overcome. These include a lack of quality awareness, a lack of top management support and commitment, a resistance to change, and centralised decision making, all of which are inhibiting elements in terms of the ISO 9000 quality management philosophy (Gader *et al.*, 2009; Ashrafi, 2008; Mersha, 2007 and Briscoe Fawcett and Todd, 2005). El-Melegy (2002, p.20) commented that,

*“One of the obstacles that we have met in our efforts to raise awareness and promote the quality culture is the language barrier and the ensuing misinterpretations of the terms used in the ISO 9000 quality management standards.”*

Therefore, LSMI could benefit from ISO 9000 QMS by creating well documented systems, which are currently very poor in most of the LSMI interviewed, which would ease the implementation process.

The study highlighted that the development of a quality culture appeared to be difficult among the LSMI, because of the intransigent nature of organisational culture that currently exists and that companies' problems, encountered before and after the implementation process, were in fact due to the poor organisational culture that exists in Libya. It is also due to poor organisational structure, with resistance to change deeply embedded, there is opposition to accepting new approaches and directions, communicating with management at the top level with regards to complications that may have arisen during the process, and a lack of accountability in the various departments. This implies that responsibility is not assigned to a specialised quality department or person, thus everyone in the organisation must integrate the ISO 9000 philosophy into their day-to-day activities and decision-making.

Undesirable social behaviour such as employee absenteeism and the fact that staff are frequently found to be unqualified for the positions they hold within the organisation were seen as other contributing factors which affect the adoption of more comprehensive quality management programmes like ISO 9000 among the participating companies. Agnaia (1997) recognised that Libyan managers are not influenced by official working hours; they consistently arrive late in the morning and leave before the end of the day. Therefore, to positively encourage their staff to embrace the changes taking place, managers must lead by example and be available to mentor their staff during the working day. Companies must also ensure that the appointment and promotion of managers is as a result of experience, qualifications and merit as opposed to allegiance and political decisions (Ashrafi, 2008; Al-Zamany, *et al.*, 2002; Glover and Sui, 2000).

A study by Srivastav (2010, p. 448) points out that ISO 9000, if implemented properly, would result in enhanced human well-being and an increased functionality for organisational culture. Therefore, "*ISO 9000 implementation facilitates organisational development.*"

The researcher established that implementation of ISO 9000 was a necessity in the Libyan context, and that it would be a worthwhile investment. Libyan companies must move to an entirely new style of management. If it were implemented properly, with a strong belief and commitment, ISO 9000 could definitely lead LSMI and other certified

companies on their way to improvement, to achieve a quality culture, and to enable them to survive and compete in the developed market.

Libyan managers with plans to adopt quality structures could facilitate the change by studying established quality models: current concepts and tools developed and popularised by Deming (1986, 1939), Juran (1995, 1993, 1992, 1989, 1988), Crosby (1994, 1984, 1979), Ishikawa (1985, 1982), Pryor, White, and Toombs (1998, 1993). Ultimately, LSMI with a strong quality culture should be more able to overcome behavioural barriers to ISO implementation.

#### **Headline recommendations for 5.1.1.2:**

- LSMI need to shift to an entirely new management style, and their leaders need to revise their organisation's culture comparing it with the ISO culture. This will define the gaps which exist between the two cultural bodies. They have to devise strategies to fill those gaps, thus moving forwards towards ISO 9000 culture. These strategies will improve the quality culture of the organisation since a strong quality culture fosters continuous improvement and increases the relationships between the employees;
- The LNCSM should play an important role in building a quality environment by emphasising the importance of quality for the whole country, and by enforcing legal sanctions, making quality well recognised by service, manufacturing and other sectors. Therefore, these suggestions will encourage the Libyan organisation to adopt ISO 9000 standards, improve the reputation of Libyan companies and use one standard in every organisation in the country;
- LSMI managers at all levels, and their employees, must have a positive attitude towards quality to ensure that there is organisation-wide commitment to the ISO philosophy, and therefore to the tools and techniques of quality improvement. This implies that responsibility is assigned not only to a specialised quality department or an individual person, each person in the organisation must integrate the ISO philosophy into his/her day-to-day activities and decision making;
- LSMI managers must learn to scan their environment, and create well documented systems which are continually updated. This will help them in their

bid to invest in a quality culture. This would also assist them access and implement effective skills and business strategies, since effective managers help produce effective organisations;

- Top management must create new job descriptions which will ensure that job appointments are made on qualifications, background experience and merit. These guidelines are designed to assist managers in attracting, selecting and retaining the most suitable candidates for the job.

### **5.1.1.3 Internal resistance**

This section discusses the issues regarding employees' reactions when the LSMI decision to seek ISO 9000 certification is introduced to them. ISO 9000 implementation is fundamentally about people. It is natural for people to resist change, when they do not understand the reasons for it, and resistance thus manifests itself in sentiments and queries such as "why do we need to be certified and registered to ISO 9000?" or "this is a waste of time." These are normal and expected reactions in most cases and a company will naturally hear many of these statements during the registration effort and implementation process.

Resistance to change by employees has been recognised as one of the main difficulties that LSMI encounter during the implementation process of ISO 9000 and the study revealed that there are several areas that contribute such. However, there are interventions that can be put in place to overcome these difficulties. In many cases the employees were reluctant to have any changes made to their work processes as they envisaged the new system would be too complex to understand. There was "visible rejection of the new quality standards" which ultimately arose from poor planning and organisation and inadequate information being disseminated from senior management. Gader *et al.* (2009, p.40) state that,

*"serious problems will possibly arise when the employees cannot commit themselves to processes that they do not approve; some of them react negatively because they feel threatened and uncomfortable with change to the new system."*

The results correlate with any employee's natural propensity to resist change. Employees always fear things or events they do not know or understand and as ISO 9000 registration results in change, the reactions and resistance from the employees are therefore predictable. A change in work culture is expected in a company with ISO 9000, but whilst this change cannot happen overnight, for some Libyan companies there was

no change in the basic working culture, thus rendering the process ineffectual. Hence, in implementing ISO 9000, management should address this issue and counter it at the initial stage of the project through positive interventions. This can be done by preparing agendas and training programmes well in advance to enable staff to become familiar with and understand the benefits the new system brings. According to Elving (2005) managers have to find ways of demonstrating how the change-effort will be advantageous and understandable to all those involved. Research suggests that using financial incentives to motivate employee's commitment to change can have a positive effect on the transition process. A well designed reward system can be helpful in promoting employees to perform sound environmental practices (Govindarajula and Daily, 2004).

Documentation was also considered problematic by employees in the LSMI. They were concerned that the increase in documentation would systematically increase their workload and it was also thought to cause "bureaucracy and red tape." Also, because of the reluctance of staff to question the motives of their managers for fear of reprisals and being discriminated against in the future, discussions were limited or non-existent. Management must therefore persuade their staff to put forward any concerns, queries or suggestions they may have regarding the new system and be able to answer them honestly and with confidence. Inter-department communication is an informative factor and should enlighten employees to their tasks and roles in the process throughout the implementation process of ISO 9000. Successful management and managers are therefore crucial in overcoming continued resistance to ISO 9000.

It is important that employees commit themselves to any change of programmes that they face, as they play such an integral role in the implementation process of ISO 9000. It follows that a reluctance to commit, on the part of the employees, would ultimately hamper a swift implementation process of ISO 9000. Concepts such as understanding, ownership and involvement are difficult to quantify and gauge but are essential in obtaining obligation (Hardwick and Winsor, 2002; Ghobadian and Galleary, 2001).

*"Within the case organisation, difficulties were experienced in reconciling the rhetorical reasons behind the need for the new performance management system with its practical realities" (Cheng, Dainty and Moore, 2007, p.66).*

### **Headline recommendations for 5.1.1.3:**

- Effort must be made to develop a strong communication system whereby employees have a channel in which to voice their concerns without fear of a negative response or reprisal. A successful organisational policy should encourage a dynamic of open communication, reassuring workers that they may voice concerns at an early stage so that larger problems in the future can be effectively avoided. If the employees are freed from their worries and concerns, mistakes can be dealt with earlier rather than later. These ideas are preconditions to a company's effectiveness, and to significant improvements in working conditions;
- To move forward and for a more successful organisational culture companies must promote continuous improvement and have an effective learning environment. This can be achieved by adopting and developing a culture of learning within the organisation;
- Management should consider issuing salary bonuses for staff that have excellent results in training. Bonus plans and worker reward strategies are put into practise so that industry performance is developed, these strategies might include productivity, sales or profits. Worker motivation is increased and maintained by the establishment of a positive correlation between pay and performance within a team or on a more individual basis. Bonus plans also encourage a confidence in an organisation's willingness to embrace change, so that the desired industry culture is produced by, e.g. rewarding teamwork and excellent attendance;
- LSMI managers should meet with the employees in a bid to understand how they view the change and work toward gaining their support by demonstrating how the change will benefit them and their group. There are three solutions in the forming of a plan to perpetuate industry worker motivation. These comprise taking into consideration the needs and demands of the individual worker and subsequently attempting to satisfy those demands. Secondly, an appreciation of which motivators appeal to and are specific to workers is necessary. It is important that managers endeavour to synthesize these motivators. Finally, it is imperative to discover the difficulties faced by the worker, before obviating them.

#### **5.1.1.4 Expertise**

The roles of a quality manager, or the person with overall responsibility for managing the QMS, are various and significant. In small and large organisations (service, manufacturing or any other sectors) the range of duties carried out by the quality manager can be wide ranging. As well as their typical managerial obligations, their work load may also encompass other roles within the company; for example, managing health and safety, the records and the environment (Thorpe and Sumner, 2004). In the case of LSMI, especially if they are based at more than one location, certain duties could be assigned to a deputy manager.

The Libyan government was under pressure to make decisions and formulate new strategies quickly, to gain ISO 9000 QMS certification in the majority of Libyan organisations, after the US sanctions were lifted in 2003. Meeting the requirements of the standards in such a short period of time proved a formidable challenge for small and large companies alike. Consequently, since most LSMI did not possess the necessary expertise internally, the choosing of an individual to be a quality manager was done without much consideration as to whether they were suitably qualified to take on the role and they were inclined to hire external experts to provide the necessary technical expertise and manpower.

The study corroborated that the absence of Libyan expertise, including a lack of Libyan professionals and consultants in the QMS field, led to the contracting of external organisations to provide training programmes on ISO 9000 QMS for employees in LSMI. Respondents confirmed that hiring consultants to facilitate the training process contributes to the costs and with regards to smaller companies this puts significant pressure on their finances.

Having a functioning and documented QMS requires more than certificates in expertise. It requires ensuring that all employees in the organisation clearly know what is expected of them, and how they can contribute to the attainment of their organisation's goals. This will entail the preparation and implementation of a training plan tailored specifically to the unique characteristics and maturity level of the LSMI.

The results of this study were consistent with the literature of similar findings which have been agreed by Lo and Humphreys (2000), who affirmed how a lack of specialist knowledge and technical expertise, coupled with little external information on which to

base decisions, and a limited capital, proves a dangerous mixture for SMEs. This sentiment is also supported by Abdul-Majid (2007, p.6), who said,

*“I feel that governments in the developing countries seriously lack expertise in corporate quality planning (i.e. formulation of "SMART" objectives from own local perspective) and self-accountability. We are in a habit of implementing imported ideas verbatim, and do not undertake needs analysis of our own situation and circumstances.”*

Unskilled employees and the lack of experts in QMS burden the successful implementation of the ISO 9000 in organisations in India, Qatar, Oman, China, Mexico and the majority of developing countries (Ashrafi, 2008; Al-zamany, *et al.*, 2002; Kumar and Antony, 2008; Ngai and Cheng, 1997; Zhao *et al.*, 1995). The Libyan government thus need to develop a good strategy for certified companies. For example, the government could provide the certified companies with a set budget to provide internal and external training. However, for the external training they should allow quality managers and employees from those certified companies to participate in overseas training programmes run by BSI, ISO and ASQ. This method will enable more local agencies to open and facilitate a higher level of training opportunities.

#### **Headline recommendations for 5.1.1.4**

- The LNCSM should train more people in the field of ISO 9000 to reduce the problem of the lack of expertise and to ensure that all staff have a basic knowledge of the process involved. This will also increase the number of experts in the ISO 9000 field, improve the reputation of Libyan companies and reduce the cost of the consultation process;
- The Libyan government should open more local accreditation agencies thus reducing the problems of high costs associated with the auditing process, as foreign agencies charge substantial fees;
- LNCSM should train more people to become qualified, and eventually experts in ISO 9000. Participating in training programmes run by BSI, ISO and ASQ would be advantageous and offer a greater degree of training opportunities. The outcome is that Libya will benefit from this strategy by educating their people and thus reducing the lack of quality awareness about the changes;

- The Government should offer the certified companies a set budget to provide internal training. The objective of this activity will ensure that all staff members are trained on how to manage the system in an effective way, to provide skills on how to audit and improve the established quality system and empower staff members to accept the new management programme.

#### **5.1.1.5 Cost of ISO certification**

*“The adoption of ISO 9000 should be viewed as an investment and, as such, the usual factors influencing the decision to undertake an investment project apply”* (Tsekouras, Dimara and Skuras, 2002, pp.831). Any company seeking to implement ISO 9000 QMS must be aware of the costs involved in both the implementation and the maintenance of the system but also need to quantify the expected benefits. They must also be totally committed to the whole process and for the right reasons.

As previously mentioned in section 5.1.1.4 Libya has a shortage of experts in ISO 9000 standards therefore many of the factors associated with the implementation process are contracted out to external agencies that have qualified consultants. In the initial stages of the consultation process consultants,

*“often act as knowledge brokers who transfer their codified knowledge of ISO 9000 technical requirements and implementation, which is learnt through the precise ISO 9000 codebook, to the client’s organisation”* (Yahya, 2003, pp.162).

Evidence provided from the literature also proposes that because of the many barriers that arise from the process, companies can benefit significantly from hiring a specialist consultant to guide them in the preparation and execution of ISO 9000 standards (Yahya, 2003).

LSMI consider the hiring of external consultants to assist with the preparatory measures as expensive. However there are few other options available to them because of the shortage of experienced local consultants. Additionally, there is a lack of trust with regards to Libyan consultants so companies have a tendency to work with foreign agencies which substantially adds to the already high costs involved. However, consultants can assist with only part of the certification process, or they can be employed to take a company from start to finish (Stevenson and Barnes, 2001, p.18). According to McAdam and McKeowan (1999) the proficiency and suitability of the current system and

the capability and aptitude of staff can have a direct impact on the financial costs of ISO 9000. To reduce the costs involved with hiring consultant agencies, the LSMI should train their own staff to become ISO 9000 qualified.

System calibration was seen to be another costly undertaking with regards to the financial aspect of the implementation.

*“Most African countries do not have a well-developed infrastructure, such as laboratories and equipment to facilitate quality management, conformance evolution, metrology and testing. These limitations have an adverse impact on the ability of African countries to meet international quality standards” (Mersha, 2007, p.72).*

The LSMI reported that there are not many internally available experts with the required technical expertise, able to repair or calibrate equipment. They also confirmed the lack of available local calibration companies and were concerned that again they had to contract the work out to foreign agencies; this has a detrimental effect on the finances of all companies but especially smaller enterprises. One of the requirements of ISO certification is that certified companies are required to carry out audits frequently to make certain that they are conforming to the specifications. If there are technical experts available the repairs and calibration could be carried out internally, thus reducing costs.

This result is not surprising since the ISO 9000 standards are highly documentation-driven and require that all documentation be updated to reflect any system change. However, the negative impact of documentation costs is consistent with Ashrafi (2008); Heras *et al.* (2002) and Withers and Ebrahimpour (2001), who reported increased costs as result of ISO 9000 certification. For example, lack of available information in the Arabic language and Arabic translation, resulted in high fees charged by international ISO registrars and consultancy. Additional expense factors are the internal cost of preparing documents and document control (Stevenson and Barnes, 2001). Given the high cost of maintaining the ISO certification and the limited funds the company has; this adds to the constraints to implementing or maintaining ISO certification in developing countries. The availability of ISO documentation in Arabic will significantly reduce the cost of keeping QMS records.

#### **Headline recommendations for 5.1.1.5**

- LSMI must be aware of the costs involved in both the implementation and the maintenance of the system. This will help them to set a budget for the implementation process and overcome the cost barriers of the maintenance of

the system. The outcome will be a return on investment as sales are improved while costs are reduced;

- LSMI could reduce reliance on external consultants and the associated cost by training an internal member of staff to disseminate any future training. This strategy will help to cut the cost of the external training and improve in-house training programmes and materials;
- The Libyan government and LNCSM must provide calibration bodies at a reduced price to encourage companies to obtain ISO 9000 certification;
- The Libyan government must provide documentation in Arabic or have translators available to help reduce the cost of translation associated with all the documentation.

In terms of the costs of ISO 9000 implementation, cost-effectiveness figures as a significant means of testing quality performance. The task of quantifying the costs of ISO 9000 is an infamously difficult procedure since the traditional accounting system is not appropriate to the successful measurement of quality costs and benefits. Comprehensive accounting and information systems ought to be adopted by LSMI companies in order that quality certification impact can be clearly gauged. LSMI Managers' opinions were taken in order to measure outcomes from certification.

Cost of quality (COQ hereafter) analysis considers improvement actions in terms of their administrative, transactional or physical associated costs, while also taking into account customer expectations. Such a branching estimate, treating as it does multiple variables, couples concerns of reduced costs and increased benefits for quality improvement. With this in mind one should recognise an estimate of COQ and improvement benefits – encompassing the tradeoffs between the level of conformance and non-conformance costs – as pre-requisite to any effective cost initiative programme.

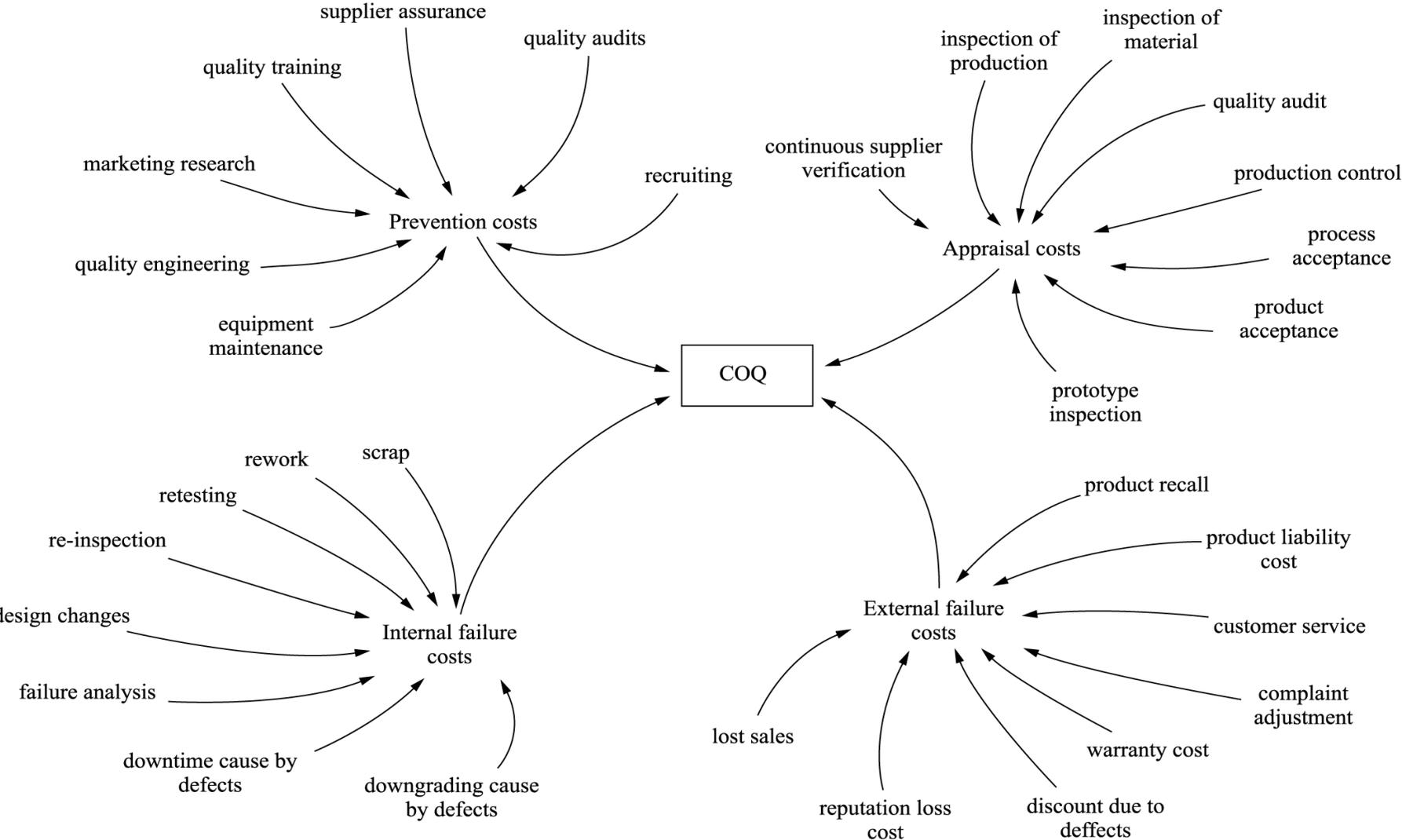
LSMI managers should therefore also appreciate the advantages of COQ analysis. The reception of the COQ analysis would eventually mean that results from the quality cost analysis can be used in all aspects of the process.

The cost effectiveness of the ISO 9000 standard is strongly influenced by a willingness to adopt it. The organisations most likely to recommend ISO 9000 are those who believe the standard to be cost effective. Criticisms of the cost of the ISO 9001 certification manifest themselves in four main directions, all are often found in the literature. They are: the costs of training, costs in employee time, registration fee, and consultancy.

Meanwhile, the measurement of administrative, transactional or physical costs and reporting them, (figure 5.1) should be considered as an important practice for any LSMI manager who aims to achieve competitiveness in the market. The quality cost elements have been identified under the categories of prevention, appraisal, internal failure and external failure costs. This list just acts as a guideline for quality costing.

Finally, the points outlined in the headline recommendations should be done on a continuous basis. A systematic application of Deming's Plan-Do-Check-Act is an excellent technique in monitoring and problem solving for continuous improvement.

**Figure 5.2: Cost of Quality (COQ)**



**Source:** Adopted from Kiani and Fouladgar (2009, 691).

### 5.1.1.6 Quality manual

The documentation of the quality management system in any organisation is affected by the difficulty and the interaction of its processes and by the competence of staff. For example, even though there are “22 Arabic-speaking” countries including Libya, with

*“a total population of around 270 million and within that tens of thousands of organisations in all business sectors manufacturing, services, oil and gas, tourism, agriculture and information technology.”*

There is however, still a lack of available information in the Arabic language (Ashrafi, 2008, p.76). Language barriers therefore, have a detrimental effect on business culture in both developing and developed countries in the Arab world with regards to communication and documentation.

The majority of employees working within the LSMI in Libya are Libyan nationals who have little or no command of the English Language. This creates problems when initiating a quality management system such as ISO 9000 since all the documentation regarding the system’s process is written in English; this forms a considerable language obstacle between the manual and its users. As a consequence some companies have found it necessary to translate the quality manual into Libyan, however, with the absence of qualified people to translate the documents this frequently results in ambiguities, effectively making the quality system more costly and less efficient. In a study by Vloeberghs and Bellens (1996) they identified that documentation costs had a negative impact on organisations. This in turn, has serious implications for the success or failure of the ISO 9000 implementation, and can substantially increase the costs.

To assist Arab countries who aspire to implement an effective QMS, an Arabic translation of the ISO 9000 series has been developed by ISO/TC76 Arabic Translation Task Group (ATTG).

*“The ATTG is made up of experts from Algeria, Egypt, Kuwait, Saudi Arabia, Tunisia, and the Arab Knowledge Management Society (AKMS)”* (El Meligy, 2002, p.20).

It is hoped therefore, that the official ISO translation by these Arab countries will smooth the progress of the implementation of ISO 9000 in Libyan organisations, subsequently allowing the creation of local Libyan accreditation and certification bodies thus removing the need to contract out to foreign agencies. This in turn will lead to enhancing their competitiveness in global markets.

The Libyan government should support their companies by providing them with ISO documentation in the Arabic language free of charge. This will assist those companies during the implementation of ISO 9000 and its maintenance thereafter.

#### **Headline recommendations for 5.1.1.6**

- The LNCSM should provide Arabic translations of ISO 9000 requirements and quality manuals. The big advantages of this are to reduce the cost, time, resources and increase the quality awareness since the majority of the people who work in Libyan organisation are of Libyan nationality and understand only Arabic language;
- The Libyan government and LNCSM should contact the ISO/TC76 Arabic Translation Task Group (ATTG) and aim to open local Arab accreditation and certification bodies in Libya. The purpose of this is to reduce the cost of the Arabic translation work, improve the quality of the Arabic translation, and help those employees who work in Libyan organisations to have a better understanding of the implementation and the benefits of ISO 9000 certification. This will also assist those certified companies during the implementation of ISO 9000 and its maintenance thereafter.

#### **5.2 Findings implications to policy makers (Government, Certified and non-certified Companies) and for professional practice**

The findings obtained in this thesis have possible implications for the Libyan government policy makers, the LSMI, Libyan experts, and quality managers. For companies thinking about applying for ISO 9000 certification, the study will help them to assess their motives for seeking certification. It will also aid them to look into the readiness of their companies to embrace ISO 9000.

The adoption of the ISO 9001:2000 QMS standards will develop the documentation of products and processes within the company and will hopefully produce trade benefits. However, although implementation of ISO 9001:2000 QMS is a tool for understanding products and processes, it will not solve existing problems or warrant quality by itself. In order to achieve the true value associated with it, it should be consistent with the organisation's strategic directions, should not stop at ISO 9001:2000 and also the identified barriers should be reduced or removed in order to guarantee a successful

implementation. This in turn will have consequences on the expected outcome of completing the process on time. Additionally, in enhancing the level of the true value of the standards and successful implementation, the researcher strongly recommends that organisations need to focus on receiving training by professional organisations /institutions on the true meaning of the standards, the new changes and how these changes can impact on organisations.

The findings and recommendations of this study should help these policy makers to see the problems brought by their interventions and control. They should understand that to implement a change initiative like ISO 9000 would require them to be more knowledgeable of the requirements of the standards in order to help the companies conform to the ISO 9000 requirements instead of going against them.

These steps could remove the crippling effects of bureaucracy which tend to hinder a company's ability to react rapidly to the altering environment. By adopting remedial and preventive action the amelioration of efficiency and client satisfaction are achieved.

Libyan government policy makers, service and manufacturing sectors and other sectors could benefit from the recommendations proposed by the researcher to implement the changes required for supporting the quality journey in the Libyan context.

The communication of the results of the current study will empower Arabic and developing countries to understand the benefits that can be attained from adopting ISO 9001:2000 QMS standards and the barriers could be used as information to eradicate any further problems therefore ensuring successful implementation. The distribution of the current study results, by the LSMI, will lead to knowledge transfer and help organisations among Arabic and developing countries in the process of achieving standardisation.

These findings could support government policy-makers and industry connections in three ways. First, the policy-makers are encouraged to educate themselves on ISO 9000 topics; it is in the wake of such enlightenment that critical dialogues are initiated at a national level. Secondly, the location of the main concerns is facilitated so that policies and strategies might be formed with regard to questions of nationwide adoption. Finally, palpable improvements are engendered in the successful contribution in many-sided deliberations, particularly with the approaching review of international standards in the

International Organisation for Standardisation (ISO). The conclusions may also be used as an index for the evolution of a quality policy.

The results of this study will assist organisations in developing countries like Libya, and other countries, in understanding some of the current issues and challenges related to ISO 9001 certification during the implementation process. However, the researcher is aware of the potential transferability issues in generalisation when trying to infer results to different national and organisational contexts.

The suggested practical recommendations in sections 5.1.1.1 to 5.1.1.6 could help Libyan industry practitioners to bridge the gap between practice and theory, and to manage the transfer of their organisation from a traditional to a modern quality management approach. It also highlights the areas on which Libyan companies should focus after certification in order to improve their performance towards excellence.

These findings can be used in the future to assist Libyan service and manufacturing industries understand the importance of Quality Management (QM) practices, eradicate the difficulties in the adoption process and help those organisations to deal with domestic customers and to serve the local market in addition to helping the LSMI find a place in the international market by adopting ISO 9000 standards.

### **5.3 Meeting the aim and objectives of the research and answering the research questions**

The application of the selected case study strategy, qualitative approach, data collection and method of data analysis, was justified in chapter three in order to answer the research questions. These research techniques were effective in answering the research questions through the face to face semi-structured interviews conducted with the 13 companies (service and manufacturing industries) operating in Libya. The aim and objectives of this research were successfully achieved by a case study strategy. The research problem was defined in section (1.3) at the beginning of chapter one, the five research objectives were then set out to lead this study.

The first three objectives belong to the literature review, these objectives were: (1) to understand the quality management system requirements, philosophies and theories that are provided in ISO 9000 standards; (2) to build an understanding of implementation issues around ISO 9000 quality management system (QMS); and (3) to understand the common types of difficulties affecting the implementation of ISO 9000 standards in

organisations around the Arabic world; which is directly related to the research. These objectives were answered and achieved through the extensive literature review of the quality gurus or pioneers philosophies, quality movement, quality approaches, historical aspects of ISO standards, quality principles and the documentation of ISO 9000 requirements, in order to provide a detailed understanding of the related issues of ISO 9000 QMS in organisations around the Arabic world, with particular attention being paid to “developing countries” specifically Libya and their knowledge in adopting quality management systems. This procedure was extremely helpful as it assisted the researcher to include the relevant variables in the research project and also facilitated the integration of information gathered with that found in previous studies. It was also advantageous in extending the knowledge of the researcher; updating him about recently developed theories and concepts and understanding the implementation of ISO 9000 certification process. The researcher was able to verify the originality of the research under subject, and classify gaps in previous research and literature on quality management and its progress beyond ISO 9000 in service and manufacturing organisations. This research would then make a contribution to management practice and knowledge. Therefore, the first three objectives have been efficiently achieved through the extensive literature review, which was presented in chapter two and the second research question: “Why have the difficulties to implementing the standards occurred?” has also been competently answered.

The fourth objective, to investigate the difficulties that affect implementation of ISO 9000, a quality management system (QMS) in the Libyan case study has also been reached by analysing the data obtained from the Libyan experts and quality managers in the Libyan service and manufacturing industries using template analysis techniques.

As a consequence of achieving the fourth research objective, it could be established that the first research question: “What are the difficulties affecting the implementation of ISO 9000 standards in the Libyan service and manufacturing industries?” has been successfully answered and presented satisfactorily in chapter four. This research has exposed six broad themes seen to be the main obstacles during the implementation process of ISO 9001:2000 certification which prevented Libyan companies from improving their quality standards. The six factors are: lack of awareness and training; lack of organisational culture; internal resistance; lack of expertise; cost and quality manual as mentioned in chapter 4 and summarised in tables 24 to 27.

The fifth objective, to make recommendations to ease the implementation of ISO 9000 in Libyan service and manufacturing industries, has been realised in the findings from the interviews with Libyan experts and quality managers in the LSMI and have been summarised in section 5. The third research question: “What could be done to remove or mitigate the difficulties to enable successful implementation of ISO 9000 in Libyan service and manufacturing industries?” is presented in this chapter, taken from the answers given by all respondents during the interviews and synthesized with the literature. In addition, the success of the objectives and research questions has led to the achievement of the ultimate aim of this research: “to identify and analysis the difficulties that affect the implementation of ISO 9000, a quality management system (QMS) in Libyan service and manufacturing industries.”

The above reflection illustrates that the research aim, objectives and questions set out at the beginning of this exploratory study were realised.

#### **5.4 Contributions to professional practice**

This thesis has made many contributions to the body of knowledge and management practice in the field of quality management systems during certification period where such work is limited, especially in the service and manufacturing industries in developing countries like Libya. The major contributions are as follows:

- To the researcher’s knowledge, it is the first time that the QMS topic has been studied extensively in the Arab world and in particular Libya;
- This research provides a great in depth knowledge of the benefits of ISO 9000 certifications for Libyan companies;
- The research adds knowledge to the field of ISO 9000, quality management system in particular within the context of developing countries, focussing on Libya and therefore, represents originally to this field;
- This research has made an academic contribution by adding to the limited literature on this subject, filling the gap in knowledge in this area which is related to Libya. It also helps students and researchers in academia in Libya to develop their knowledge in the field of quality management and encourage others to replicate this study with other public and private sectors in Libya, for example Education, Health, Agriculture, Banking, Oil Sectors, etc.;
- A further contribution is the knowledge collected from this case study through the qualitative methods approach (case study) which was chosen to explore every aspect of the research including respondents’ experiences, opinions, and

knowledge. Being consistent with social constructionism and interpretivism philosophical approaches, the researcher used face to face semi-structured interviews as the main method because of the flexibility it provides. The qualitative data was analysed using the template analysis technique. The researcher has acquired a significant contribution to his personal development by using a qualitative method approach and benefits from the strategy of the template analysis technique, which has not been reported in any previous studies in the literature review of ISO 9000 QMS. This also contributes to the body of knowledge and management practice in the field of quality management systems, where there has been limited research, particularly in developing countries like Libya;

- The research has made a contribution to practice based on the findings that can be used in the future to:
  - Help current Libyan service and manufacturing industries to understand the importance of ISO 9000, Quality Management System practices and overcome their difficulties;
  - Help those organisations to deal with domestic customers and to serve the local market in addition to assisting the LSMI to find a place in the international market by adopting ISO 9000 standards.

In addition, chapter two includes substantial and comprehensive coverage of ISO 9000 QMS literature, and although these data are secondary, the researcher considered them important to enhance the knowledge and awareness of scholars and practitioners in quality management systems.

## **5.5 Limitations and recommendations for further research**

This section presents the limitations that have emerged during the research journey. This study attempted to increase the knowledge of QMS purposes, benefits and barriers during the implementation process focusing on LSMI and benefits from the quality experts in this field. To the researcher's knowledge, it is the first time that the topic has been studied by shifting the research interest from worldwide-QMS to the Arab world-QMS in particular a developing country like Libya. Therefore, this research suffers from a number of limitations as does every study.

As noted previously, the design and subject matter of this research was subject to the constraints imposed by the availability of information and statistical data. Libya, like most developing countries, lacks the skills and qualifications, the awareness, and the sophisticated facilities needed to compile more comprehensive data that form the basis of social and economic development. Furthermore as far as conducting the interviews was concerned, there was a limit imposed upon the maximum duration of the individual interviews, as they were taken during normal working hours and thus the interviewees (experts) could not afford or offer to spend more time with the researcher. However, justification has been provided to show the validity of carrying out the research within these limitations. The sample in this study is limited to Libya, so the results and implications should be interpreted carefully. The research sample was based only on ISO certified companies from both service and manufacturing sectors operating in Libya. The extent to which these practices vary between ISO certified and non ISO certified organisations was not determined. Therefore, the results present the point of view of certified organisations only.

The study also points out several areas that need further investigation. It is recommended that future research may explore the differences in quality management practices in ISO certified and non-certified organisations and encourages other researchers to replicate this study with other public and private sectors in Libya, for example Education, Health, Agriculture, Banking, Oil Sectors, etc. Studies can then be extended further to include other domestic and foreign companies operating in Libya, to explore whether the results are similar or totally different.

This research also recommends that future research is crucial to explore the role of the top management across a range of Libyan companies in order to find out why there has been a lack of commitment and support for quality management to be successful. In addition, whilst this thesis has been exploratory and has led to the potential recommendations for change, the costs and benefits to governments or companies have not been quantified. This is an area for future possible research, where the net benefits for government intervention, for example, could be examined.

## 5.6 Personal reflection

Writing this personal reflection has been very difficult as I have had to reflect on both the good and not so good times of my four year DBA journey. My cultural background has played a huge part in this process, sometimes it has been advantageous and at other times a bit of a hindrance. Although my parents taught me how to be self-dependant, I was raised in a cultural society where a sense of belonging, reciprocity and depending on others is very dominant. Therefore, I sometimes felt uncomfortable when disconnected from my family and friends to such an extent that at times this has had an effect on my performance and social wellbeing, however, the support I have received from my family, friends and from my supervisors and colleagues at Newcastle Business School have encouraged me through the hard times.

After completing my MA International Business Administration at Northumbria in 2003, I returned to Libya taking with me a wealth of new experiences that were put to good use in my career in accounting. I had, by then, decided I would like to continue my education at the next level and in 2006 I was given the chance by the Libyan Government to return to the UK and so embarked on the DBA programme. As finance would be an issue for me I applied for and was successful in obtaining a job as a Student Assistant employed by the University.

As the programme developed I had choices and decisions to make about the direction and focus of my study and had to further develop my academic skills to allow me to become more critical, analytical, and reflective as I got to grips with the complexity and depth of my chosen subject. These academic skills were necessary skills which empowered me to develop as a researcher. The taught aspects of the DBA programme contained blocks of teaching on subjects that included research philosophies, qualitative and quantitative research methods and personal and professional development. In addition to this I also attended other training sessions both within and outside the University, these included Meta-analysis in Education at Durham University and ISO 9001:2000 Foundation Training at the QMI institute in Edinburgh these added new skills and knowledge while enhancing my existing ones. They were useful and applicable in a wider area than just my own subject area. Through these sessions I became competent in the use of SPSS, Nvivo, Project Manager, Endnote and many others.

After a great deal of reading and many discussions with my supervisors, my area of research was finally decided on, I would research why the implementation of ISO 9000 QMS was proving to be so difficult in Libya when it seemed that in other Arab countries it was not the case. The next task was to involve myself in the field of QMS wherever possible, and build up a network of people who I could learn from and as it turned out I could contact during times when I was struggling to stay on track. As part of this development I attended International Conferences in Libya and Florida, USA, where I met experts in the field of QM along with other researchers. These proved to be invaluable and extremely useful in building my knowledge. I was also fortunate to be accepted as a participant to present a paper I had written with my principal supervisor, Professor David Oglethorpe, at the 14<sup>th</sup> International Conference on ISO and TQM at Scranton University, USA. Unfortunately, due to delays with the processing of my visa and the dust from a volcano in Iceland I was unable to undertake this journey.

My knowledge and understanding of ISO 9000 standards is now well established and from a practical and academic perspective my career prospects are now diverse enough to enable me to change direction. When I return to Libya, I can put this new knowledge and experience into practice. My wish is to become involved in a consultancy business, maybe by setting up on my own, and in conjunction with government departments take my experience forward by assisting Libyan and other Arab organisations to implement effective training and awareness programmes which will ease the transition periods while implementing their chosen quality management system. I would also like to be a part of the academic staff in a University where I could again use my knowledge to assist in the teaching of business programmes. By undertaking this research and from the findings that have emerged I am confident that the companies that were interviewed and other companies can benefit by putting the theories into practice.

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## Appendix 1: Research Organisation Informed Consent Form



### RESEARCH ORGANISATION INFORMED CONSENT FORM

Newcastle Business School

University of Northumbria

Completion of this form is required whenever research is being undertaken by NBS staff or students within any organisation. This applies to research that is carried out on the premises, or is about an organisation, or members of that organisation or its customers, as specifically targeted as subjects of research.

The researcher must supply an explanation to inform the organisation of the purpose of the study, who is carrying out the study, and who will eventually have access to the results. In particular issues of anonymity and avenues of dissemination and publications of the findings should be brought to the organisations' attention.

Researcher's Name: Anwar Al-mijrab

Student ID No. (If applicable):

Researcher's Statement:

**Dear Sir/ Madam**

The researcher is currently doing a research project regarding the difficulties affecting the implementation of ISO 9000, a quality management system, in Libyan service and manufacturing industries. The researcher is carrying out the study as one the requirements for the Doctorate of Business Administration (DBA) programme at Northumbria University, Newcastle upon Tyne, United Kingdom.

The aim of the study is to measure the difficulties that affect the implementation of the quality management system (QMS-ISO 9000) in Libyan service and manufacturing industries. Moreover, the study also aims to provide academic study which would benefit researchers, academics, and government planners in the future.

The methodology used in this research is a qualitative approach in collecting data. Therefore, telephone and semi-structured interviews will be carried out within the organisations in order to obtain information on the variables affecting the implementation of ISO 9000. Please be assured that all information given will be kept strictly confidential, it will be used only for academic purpose. By responding to the interviews and showing evidence of your opinion, it is the researcher's belief that the results will help guide and influence future implementation programmes.

Thank you very much for your time and co-operation.

Any organisation manager or representative who is empowered to give consent may do so here:

Name: \_\_\_\_\_

Position/Title: \_\_\_\_\_

Organisation Name: \_\_\_\_\_

Location: \_\_\_\_\_

Anonymity must be offered to the organisation if it does not wish to be identified in the research report. Confidentiality is more complex and cannot extend to the markers of student work or the reviewers of staff work, but can apply to the published outcomes. If confidentiality is required, what form applies?

- No confidentiality required
- Masking of organisation name in research report
- No publication of the research report

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

This form can be signed via email if the accompanying email is attached with the signer's personal email address included. The form cannot be completed by phone, rather should be handled via post.

## Appendix 2: Interview Guide

### Interview Guide

#### دليل المقابلة

<p><b>Can you tell me your name and your position in the organisation?</b> هل يمكن ان تخبرنا عن اسمك ومنصبك في المؤسسة؟</p>
<p><b>How long have you been employed by the organisation?</b> ما هي المدة التي قضيتها في المؤسسة الى حد الان؟</p>
<p><b>Could you please tell me, briefly, your role within the organisation?</b> من فضلك هل يمكن أن تخبرنا باختصار عن دورك في المؤسسة؟</p>
<p><b>When did your organisation start the implementation process?</b> متى شرعت مؤسستكم في عملية التوظيف؟</p>
<p><b>How long did the process take from the initial application to the certification?</b> ما هي الفترة الزمنية التي استغرقت لحصولكم على الشهادة؟</p>
<p><b>What is the purpose of the ISO 9000 in your organisation?</b> ما هو الغرض من استخدام الايزو 9000 في مؤسستكم؟</p>
<p><b>Are ISO 9000 standards compulsory?</b> هل معايير الايزو 9000 إلزامية؟</p> <ul style="list-style-type: none"><li>• <b>If yes: Could you tell me why?</b> إذا كان الجواب نعم : لماذا؟</li><li>• <b>If No: Could you give me the reasons why you think they are not compulsory?</b> إذا كان لا : نرجوا توضيح الأسباب؟</li></ul>
<p><b>Do you think the ISO 9000 standards are important for the success of the company?</b> هل تعتقد معايير الأيزو 9000 مهمة لنجاح المؤسسة؟</p>
<p><b>When your organisation decided to start the application process were employees aware of the concept / idea of ISO 9000?</b> عندما قررت مؤسستكم البدء في عملية تقديم طلب الحصول على معايير الأيزو 9000 هل العاملين على درجة من الوعي لمفهوم الأيزو 9000؟</p>
<p><b>What training/support have you received to help you help your employees meet these goals or requirements?</b> ما هو التدريب الذي تلقينته لمساعدتك على دعم موظفيك لتحقيق هذه الأهداف أو المتطلبات</p>
<p><b>What are the training implications for the introduction of ISO 9000 implementation?</b> ما هي الآثار المترتبة على التدريب لتطبيق الايزو 9000 ؟</p>
<p><b>Was there any training programmes available to staff or employees?</b> هل هناك برامج تدريبية اتاحت للموظفين أو العاملين؟</p> <p><b>If Yes: What kind of training programmes did you use? And how were these programmes delivered?</b> إذا كان نعم : ما نوع البرامج التدريبية التي استخدمتها؟ وكيف كانت عملية تنفيذها؟</p> <p><b>If No: Can you explain to me how your staff learned about the process?</b> إذا كان لا : وضع لنا كيف استفاد موظفيكم من عملية التدريب؟</p>
<p><b>Has any specific government department supported your organisation during the implementation?</b> هل قامت أي جهة عامة اخرى بدعم مؤسستكم أثناء التنفيذ؟</p>
<p><b>How about financial support? Is there any financial support available to assist your organisation with the implementation?</b> ماذا عن الدعم المالي؟ هل هناك أي دعم مالي قدم لمساعدة مؤسستكم في التنفيذ؟</p>

<ul style="list-style-type: none"> <li>• <b>If yes: Where did the support come from?</b> إذا كان الجواب نعم : من أين أتى ذلك الدعم ؟</li> <li>• <b>If no: How did your organisation finance the process?</b> إذا كان الجواب بلا : كيف قامت مؤسستكم بتمويل هذه العملية؟</li> </ul>
<p><b>Was any guidance given to the workforce prior to the start of the process?</b> هل أعطيت أي تعليمات للموظفين قبل البدء في عملية التنفيذ؟</p> <ul style="list-style-type: none"> <li>• <b>If yes: What would be that guidance be?</b> إذا كانت الإجابة بنعم : ما هي هذه التوجيهات؟</li> <li>• <b>If no: How did your workforce get the information they needed?</b> إذا الإجابة بلا : كيف تحصل الموظفون على المعلومات التي يحتاجونها؟</li> </ul>
<p><b>Did your organisation face many difficulties / Barriers during the adoption process?</b> هل واجهت مؤسستكم العديد من الصعوبات أو الحواجز خلال تبني العملية ؟</p> <ul style="list-style-type: none"> <li>• <b>If yes: can you give me some examples of the difficulties?</b> إذا نعم ، هل يمكنك أن تعطينيا بعض الأمثلة على تلك الصعوبات؟</li> <li>• <b>If No: How did you make sure that the process ran smoothly?</b> إذا كان لا : كيف تأكدت من أن العملية مرت بسهولة ويسر؟</li> </ul>
<p><b>What was the employee's reaction when your organisation implemented the ISO 9000 process?</b> ماذا كان رد فعل الموظفين في مؤسستكم عند تطبيق عملية الايزو 9000 ؟</p>
<p><b>Do you think that the employees accepted the new approach/ direction without difficulty?</b> هل تعتقد أن الموظفين تقبلو مفهوم الأيزو دون اعتراض</p> <ul style="list-style-type: none"> <li>• <b>If Yes: Can you give examples?</b> إذا كان نعم : هل يمكن إعطاء أمثلة؟</li> <li>• <b>If No: What were the main problems?</b> إذا كان لا : ما هي المشاكل الرئيسية؟</li> </ul>
<p><b>Do you have problems with employee's absenteeism in your organisation?</b> هل لديكم مشاكل في ما يخص تغيب الموظفين ؟</p> <ul style="list-style-type: none"> <li>• <b>If Yes: How do you manage the work with this problem?</b> إذا كان نعم : كيف تتعاملون مع هذه المشكلة؟</li> <li>• <b>If No: Could you please explain to me how you make sure it does not happen?</b> إذا كان لا : وضح لنا كيف تتأكدون من عدم حدوث المشكلة؟</li> </ul>
<p><b>Did the employees resist any of the changes to their work routines?</b> هل اعترض الموظفين على التغيير الذي طرأ على نمط العمل</p>
<p><b>Is there a quality department with experts in charge of quality in your organisation?</b> هل هناك قسم للجودة به خبراء مسؤولون عن الجودة في مؤسستكم؟</p>
<p><b>What problems/concerns were foreseen that may have made it difficult to implement ISO 9000 standards?</b> ما هي المشاكل / المخاوف المتوقعة التي قد تجعل من الصعب تنفيذ معايير الايزو 9000؟</p>
<p><b>Did you contact any other Libyan certified companies to benefit from their expertise?</b> هل اتصلتم بأي مؤسسة متحصلة على الشهادة بالجمهورية للاستفادة من خبرتهم في هذا المجال ؟</p> <ul style="list-style-type: none"> <li>• <b>If Yes: Could you tell me what they did to assist you?</b> إذا كان نعم : ما هي المساعدة التي قدمت لكم ؟</li> <li>• <b>If No: How did you assist your organisation with out assistance or help?</b> إذا كان لا : كيف ساعدت مؤسستكم بدون مساعدة الغير؟</li> </ul>

<p><b>Can you tell me how did the organisation overcome these barriers?</b> كيف تغلبت مؤسستكم على هذه العقبات؟</p>
<p><b>What competitive advantages has the certification brought to your organisation?</b> ما هي المزايا التنافسية التي قدمتها الشهادة لمؤسستكم؟</p>
<p><b>Can you tell me how the organisation satisfies its customers and measures their satisfaction?</b> هل يمكن أن تخبرني كيف تتم عملية إرضاء الزبائن لدى مؤسستكم وماهي معايير القياس؟</p>
<p><b>What techniques have you adopted to ensure that the standards are continually reviewed and revised?</b> ما هي الأساليب المتبعة لضمان تلك المعايير بحيث تراجع وتعديل باستمرار؟</p>
<p><b>Do you think that the organisation has received a good return on ISO 9000 certification investment?</b> هل تعتقد أن المؤسسة تلقت عائدات جيدة من الاستثمار في شهادة الايزو 9000؟</p> <ul style="list-style-type: none"> <li>• <b>If Yes: Can you tell what they are?</b> إذا كان نعم : ما هي هذه العائدات؟</li> <li>• <b>If No: Do you hope you for good returns in the future?</b> إذا كان لا : هل تأمل في عوائد جيدة في المستقبل؟</li> </ul>
<p><b>Do you have any further comment or suggestions?</b> هل لديكم أي تعليقات أو اقتراحات أخرى؟</p>

### Appendix 3: Informed Consent Form for research participants



#### Newcastle Business School

#### Informed Consent Form for research participants

Title of Study	The difficulties affecting the implementation of ISO 9000, a quality management system, in Libyan service and manufacturing industries.
Person(s) conducting the research	Anwar Al-mijrab
Programme of study	Doctorate of Business Administration (DBA)
Address of the researcher for correspondence	Flat 9/ Room 6 Rubicon House, 26-30 Clayton Street, Newcastle upon Tyne
Telephone	+441912273038
E-mail	<a href="mailto:Anwar.al-mijrab@northumbria.ac.uk">Anwar.al-mijrab@northumbria.ac.uk</a>
Description of the broad nature of the research	The difficulties of implementation of quality management system in Libyan service and manufacturing industries
Description of the involvement expected of participants including the broad nature of questions to be answered or events to be observed or activities to be undertaken, and the expected time commitment	

Information obtained in this study, including this consent form, will be kept strictly confidential (i.e. will not be passed to others) and anonymous (i.e. individuals and organisations will not be identified *unless this is expressly excluded in the details given above*).

Data obtained through this research may be reproduced and published in a variety of forms and for a variety of audiences related to the broad nature of the research detailed above. It will not be used for purposes other than those outlined above without your permission.

Participation is entirely voluntary and participants may withdraw at any time.

***By signing this consent form, you are indicating that you fully understand the above information and agree to participate in this study on the basis of the above information.***

***Participant's signature***

***Date***

***Student's signature***

***Date***

***Please keep one copy of this form for your own records***

## Appendix 4: Excerpt from interview – an example of code emergence

<p>Barriers</p> <p>Benefits</p>	<p>AA: Okay, that's fine. Next question: Was the certification expensive? And why?</p> <p>ASH: I will say no, certification is not costly, because my company is large and doing very well financially. But the <b>cost of calibration, consultancy and third party certification is expensive</b>. The company sees certification as an important investment, because <b>it helps us join the international market</b>. It is also important to point out that we pay for certification in local currency, not foreign currency. This also helps cut down on costs.</p>	<p><b>Comment [IS1]:</b> High code. 2.5 Cost</p> <p><b>Comment [IS2]:</b> High code. 3.3 Profitability. Low code. International recognition.</p>
<p>Barriers</p> <p>Purpose</p> <p>Barriers</p> <p>Barriers</p>	<p>AA: Yes that is very good answer. So, what are the barriers the organisation faced during the certification process?</p> <p>ASH: It is not easy question but I can say that one major barrier facing the organisation is the <b>lack of understanding by employees</b> regarding certification. Because of that lack of understanding, <b>employees have been very resistant to certification</b>. We continue to have <b>products that do not conform to certification</b>, and employees are unsatisfied with the process because it is so complicated. <b>No local agencies in Libya are equipped to help</b>. To fix the problem, we would need to <b>contract a foreign agency</b>, and that is a problem. A better <b>understanding of QMS would help</b>. A general director was hired as quality representative, but his duties include many things outside QMS, that he is more a hindrance to the certification process than help. In the end, high <b>management is not committed to certification</b> and, until this changes, the barriers will remain.</p> <p>AA: Thank you for being honest with me and giving me a good answer.</p>	<p><b>Comment [IS3]:</b> High code. 2.1 Awareness/Training. Low code Lack of employee awareness</p> <p><b>Comment [IS4]:</b> High code. 2.3 Internal resistance. Low code No desire to change</p> <p><b>Comment [IS5]:</b> High code. 1.1 Quality improvement. Low code Quality of the product.</p> <p><b>Comment [IS6]:</b> High code. 2.4 Expertise. Low code No accredited local agencies</p> <p><b>Comment [IS7]:</b> High Code. 2.4 Expertise Low code Cost of contracting foreign consultants.</p> <p><b>Comment [IS8]:</b> Useful for recommendations</p> <p><b>Comment [IS9]:</b> High code. 2.2. Organizational culture. Low code Lack of management support and commitment</p>

**Appendix 5:** Template Analysis, Final List of Themes and Codes from the Interviews Findings.

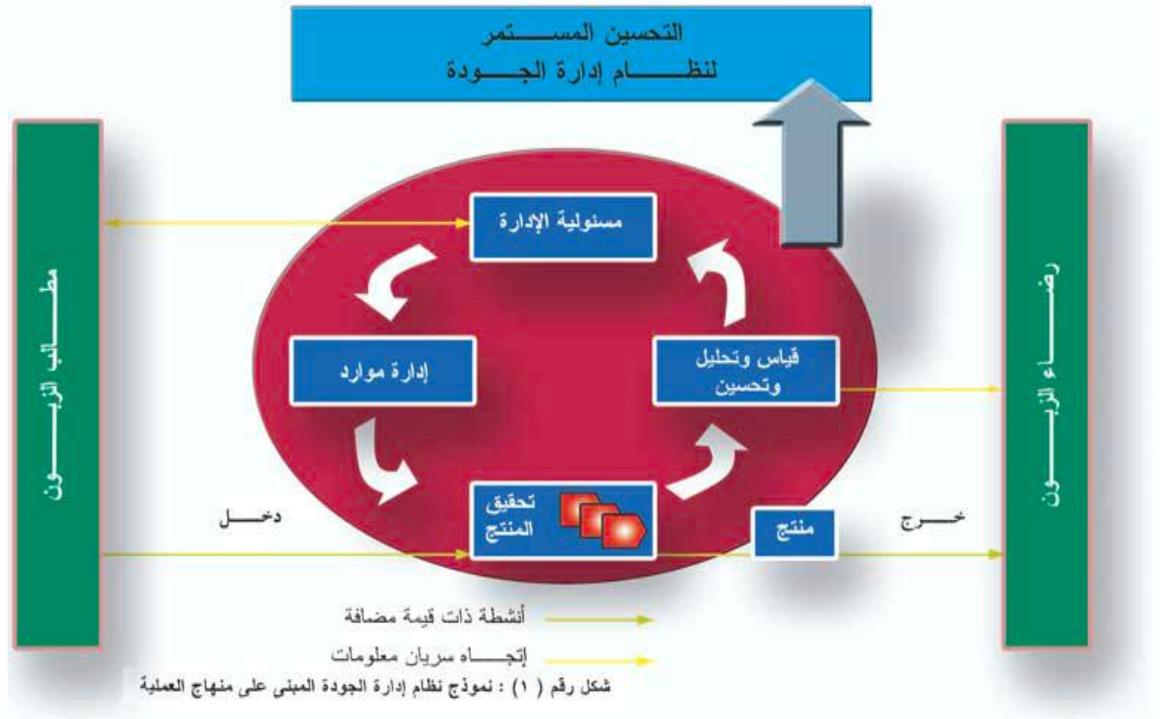
Themes	Sub-Themes Initial High Code	Sub-Themes Initial Low Code
<b>1. Purpose of ISO 9000</b>	<b>1.1 Quality Improvement</b>	<p>1.1.1. Quality as a paramount goal.</p> <p>1.1.2. Required by Government Law.</p> <p>1.1.3. Standardisation.</p> <p>1.1.4. Improve reputation of the company.</p> <p>1.1.5. Determine customer needs.</p> <p>1.1.6. Quality of the product.</p> <p>1.1.7 Fast access to information.</p>
	<b>1.2. Performance</b>	<p>1.2.1. Work flow.</p> <p>1.2.2. Organisation of documentation</p> <p>1.2.3. Measures and modification of production lines.</p> <p>1.2.4. Better work efficiency</p> <p>1.2.5 Improve employee's performance in the company.</p> <p>1.2.6 Accuracy in appointments documents and archives.</p>
	<b>1.3. Productivity</b>	<p>1.3.1. Required by Customers.</p> <p>1.3.2. Export products abroad.</p> <p>1.3.3. Establish place in local market.</p>
	<b>1.4 Compulsory</b>	<p>1.4.1. The trend of the General People's Committee is that private and governmental companies, bodies, authorities ...etc should apply ISO 9000 for quality and 14000 for environment as set out in the recommendations of the General People's Congress.</p> <p>1.4.2. We have to have it to get the accreditation, so in this aspect it is compulsory by the Libyan national centre for standardization and metrology for the service companies.</p> <p>1.4.3. No, it is only from the organisation that wishes to get the ISO 9001 certificate.</p> <p>1.4.4. No, ISO itself is not compulsory for the company, but GMP system is compulsory, so the ISO optional.</p>

	<b>1.5 Success of Company</b>	<p>1.5.1. Company development</p> <p>1.5.2. Using one standard system.</p> <p>1.5.3. Being organised and clear.</p> <p>1.5.4. Ability to move forward.</p> <p>1.5.5. Fast access to any information.</p> <p>1.5.6. Raised level of staff attendance.</p> <p>1.5.7. New documentation eliminates the need for dependence on one person.</p>
<b>2. Barriers to ISO 9000</b>	<b>2.1. Awareness /Training</b>	<p>2.1.1. Lack of employee awareness.</p> <p>2.1.2. Inadequate training.</p> <p>2.1.3. Training programmes take time</p> <p>2.1.4. Lack of directed guidance for the employees to understand the ISO system requirements.</p> <p>2.1.5. Lack of free advice.</p> <p>2.1.6. Lack of available information in Arab language.</p> <p>2.1.7. Lack of governmental programmes which are needed to support quality activities.</p>
	<b>2.2. Organisational Culture</b>	<p>2.2.1. Lack of management support and commitment.</p> <p>2.2.2. Lack of Accountability.</p> <p>2.2.3. Employee absenteeism.</p> <p>2.2.4. Difficulties in accepting new approach/direction.</p> <p>2.2.5. Wrong person in the wrong position.</p> <p>2.2.6. Lack of trust in the Libyan Training.</p> <p>2.2.7. Financial support difficulties.</p> <p>2.2.8. Unavailability of Cash Flow.</p> <p>2.2.9. The difficulty of having arguments or discussions with the managers.</p> <p>2.2.10. Setting targets and then being held accountable by higher level management.</p> <p>2.2.11. Low level of administration.</p> <p>2.2.12. Large workforce.</p> <p>2.2.13. We were the first company. This system wasn't known at the country level. Understanding the system and how it is applied were</p>

		the largest difficulties we faced. <b>2.2.14. Economic Crisis.</b>
	<b>2.3. Internal Resistance</b>	<b>2.3.1.</b> No desire to change <b>2.3.2.</b> Process too complicated <b>2.3.3.</b> Bureaucracy and red tape <b>2.3.4</b> Increase in workload by increase in documentation. <b>2.3.5.</b> Unwillingness to change from the existing system.
	<b>2.4. Expertise</b>	<b>2.4.1.</b> Absence of Libyan experts. <b>2.4.2.</b> No accredited local agencies. <b>2.4.3.</b> Cost of contracting foreign consultants.
	<b>2.5 Cost</b>	<b>2.5.1.</b> Training Programmes are costly. <b>2.5.2.</b> Calibrations are costly. <b>2.5.3.</b> Consultation process <b>2.5.4.</b> Lack of documentation and Materials.
	<b>2.6 Quality Manual</b>	<b>2.6.1.</b> The presence of foreign languages documents + Manual in English. <b>2.6.2.</b> Lack of people to translate. <b>2.6.3.</b> Lack of English quality language courses and Arabic translator. <b>2.6.4.</b> Lack of available information in the Arab language.
<b>3. Perceived benefits of implementing QMS/ISO 9000</b>	<b>3.1. Customer Satisfaction</b>	<b>3.1.1.</b> Meet customer requirements. <b>3.1.2.</b> Provide better service. <b>3.1.3.</b> Special Forms are distributed to all maintenance centres. <b>3.1.4.</b> To satisfy the clients is through continuous improvement. <b>3.1.5</b> Questionnaires. <b>3.1.6</b> Follow up telephone. <b>3.1.7.</b> Offer customers compensation for loss and damage.
	<b>3.2. Continual Improvement</b>	<b>3.2.1.</b> Build the basis for QMS <b>3.2.2.</b> Increase in management efficiency. <b>3.2.3.</b> Unification of process <b>3.2.4.</b> Internal work improved <b>3.2.5.</b> Staff development

		<p><b>3.2.6.</b> Achieve overall objectives</p> <p><b>3.2.7.</b> Follow up of targets, plans, internal audits and data analysis.</p>
	<b>3.3. Profitability</b>	<p><b>3.3.1.</b> Export abroad</p> <p><b>3.3.2.</b> International recognition</p> <p><b>3.3.3.</b> Reduce production costs</p> <p><b>3.3.4.</b> Internal audits</p>
<b>4. Review Methods</b>	<b>4.1. Formal</b>	<p><b>4.1.1.</b> External audit</p> <p><b>4.1.2.</b> Customer satisfaction survey</p> <p><b>4.1.3.</b> External training programmes</p> <p><b>4.1.4.</b> It is through the auditors' reports.</p>
	<b>4.2. Informal</b>	<p><b>4.2.1.</b> Internal audit in the authority system and latest developments of the specification.</p> <p><b>4.2.2.</b> In-house training programmes</p> <p><b>4.2.3.</b> Regular staff meetings</p> <p><b>4.2.4.</b> Intensive awareness training</p> <p><b>4.2.5.</b> Strong management commitment</p> <p><b>4.2.6.</b> The quality office is responsible for following up modifications and developments and keeping departments informed.</p> <p><b>4.2.7.</b> The Libyan National Centre for Standardization and Metrology (LNCSM) should provide the quality manual and the requirements in Arabic language.</p> <p><b>4.2.8.</b> Documentation continually updates.</p> <p><b>4.2.9.</b> Regular management meetings.</p>
<b>5. Overcoming Barriers</b>	<b>5.1 Training</b>	<p><b>5.1.1</b> Free government training and awareness.</p> <p><b>5.1.2</b> Advanced training courses</p> <p><b>5.1.3</b> Continual staff development.</p>
	<b>5.2 Support</b>	<p><b>5.2.1</b> Reward attendees.</p> <p><b>5.2.2</b> Annual bonus.</p> <p><b>5.2.3</b> Motivation (by management).</p>
	<b>5.3 Documentation</b>	<p><b>5.3.1</b> Provide quality manual in Arabic.</p> <p><b>5.3.2</b> New job descriptions.</p>

**Appendix 6: Arabic Version of the ISO 9000: 2000 Process Model**



**Source:** Adopted from El Meligy (2002, p.20).

## **Appendix 7: ISO 9001:2000 Headings**

### **4. QMS Requirements**

4.1 General requirement

4.2. Documentation requirements

4.2.2 Quality Manual

4.2.3 Control of documents

4.2.4 Control of quality records

### **5. Management responsibility**

5.1 Management commitment

5.2 Customer focus

5.3 Quality policy

5.4 Planning

5.4.1 Quality objectives

5.4.2 Quality management system-planning

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

5.5.2 Management representative

5.5.3 Internal communication

5.6 Management review

5.6.1 General

5.6.2 Review input

5.6.3 Review output

### **6. Resource Management**

6.1 Provision of resources

6.2 Human resources

6.2.1 General

6.2.2 Competence, awareness and training

6.3 Infrastructures

## 6.4 Work environment

## **7. Product realisation**

### 7.1 Planning of product realisation

### 7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

7.2.2 Review of requirements related to the product

7.2.3 Customer communication

### 7.3 Design and development

7.3.1 Design and Development planning

7.3.2 Design and Development input

7.3.3 Design and Development outputs

7.3.4 Design and Development review

7.3.5 Design and Development verification

7.3.6 Design and Development validation

7.3.7 Control of design and development changes

### 7.4 Purchasing

7.4.1 Purchasing process

7.4.2 Purchasing information

7.4.3 Verification of purchased product

### 7.5 Production and service provision

7.5.1 Control of production and service provision

7.5.2 Validation of processes for production and service provision

7.5.3 Identification and traceability

7.5.4 Customer property

7.5.5 Preservation of product

### 7.6 Control of monitoring and measurement devices

## **8. Measurement, analysis and improvement**

### 8.1 General

### 8.2 Monitoring and measurement

#### 8.2.1 Customer satisfaction

#### 8.2.2 Internal audit

#### 8.2.3 Monitoring and measurement of process

#### 8.2.4 Monitoring and measurement of product

### 8.3 Control of non-conforming product

### 8.4 Analysis of data

### 8.5 Improvement

#### 8.5.1 Continual improvement

#### 8.5.2 Corrective action

#### 8.5.3 Preventative action

**Source:** Obtained from ISO 9001:2000 quality management requirements (2000). P.179-180 and Ticker (2001, p. 349-361).