Cape Peninsula
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TITLE OF THESIS

Impact of ISO 9000 certification on quality management practices among SMEs in the Western Cape, South Africa

By

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DECLARATION

I, Bonginkosi Dase, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed

16/08/2016

Date

ABSTRACT

Name: Bonginkosi
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Course: MTECH Quality
Topic: Impact of ISO 9000 certification on quality management practices among SMEs in the Western Cape, South Africa
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The study has been carried out on impact of implementing ISO standards on SMEs to seek general evaluation of its benefits. The purpose of this paper is to outline the benefits of ISO implementation on South African small- and medium-sized enterprises (SMEs). The SME sector is the backbone of developed economies, which is regarded as the engine of growth for economies all over the world. For developing countries, SMEs often offer the only realistic prospects for increases in employment since they employ the largest percentage of the workforce population. With the trend towards global market orientation and trade liberalisation, SMEs are moving towards implementing quality systems.

The empirical study aims to explore current implementation of quality management tools and advanced improvement techniques in the Western Cape SMEs, in order to understand what factors impact on how quality control is managed.
Two main categories are analysed, namely tangible and intangible. This study will assist other SMEs in developing countries on ISO 9000 implementation. This study is restricted to small and medium-sized companies in South Africa implementing ISO system and other quality tools or techniques. Data collection of this study is done based on a combination of survey questionnaires and interviews with managers, supervisors and general staff.

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- Everyone who has contributed in completing this work successfully.

DEDICATION

I dedicate this dissertation to my two beautiful angels (daughters) Isiqhamo and Ominathi.

LIST OF ABBREVIATIONS

ISO	INTERNATIONAL STANDARDISATION FOR ORGANISATION
QMS	QUALITY MANAGEMENT SYSTEM
SME	SMALL AND MEDIUM-SIZED ENTERPRISES
GDP	GROSS DOMESTIC PRODUCT
GEM	GLOBAL ENTREPRENEURSHIP MONITOR
LFS	LABOUR FORCE SURVEY
SESE	SURVEY OF EMPLOYERS AND THE SELF-EMPLOYED
NSB	NATIONAL SMALL BUSINESS
SA	SOUTH AFRICA
GEM	GLOBAL ENTREPRENEURSHIP MONITOR
LDC	LESS DEVELOPED COUNTRIES
OECD	ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
LFS	LABOUR FORCE SURVEY
SESE	SURVEY OF EMPLOYERS AND THE SELF-EMPLOYED
NSB	NATIONAL SMALL BUSINESS AMENDMENT ACTS
SMME	SMALL MEDIUM AND MICRO SIZED ENTERPRISE
APS	ADULT POPULATION SURVEY
VAT	VALUE ADDED TAX

GLOSSARY

Quality management system	(QMS) is a collection of business processes focused on achieving a quality policy and quality objectives i.e. what the customer wants and needs. It is expressed as the organisational structure, policies, procedures, processes and resources needed to implement quality management.
ISO 9000	ISO 9000 is a series of standards, developed and published by the International Organisation for Standardisation (ISO), that define, establish, and maintain an effective quality assurance system for manufacturing and service industries.
Total Quality Management	(TQM) is a comprehensive and structured approach to organisational management that seeks to improve the quality of products and services through on-going refinements in response to continuous feedback.
Balanced scorecard	The balanced scorecard is a strategy performance management tool - a semi-standard structured report, supported by design methods and automation tools that can be used by managers to keep track of the execution of activities by the staff within their control and to monitor the consequences.
Small and medium enterprises	(SMEs) or small and medium-sized businesses (SMBs) are companies whose personnel numbers fall below certain limits.

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CHAPTER 1 - INTRODUCTION TO THE RESEARCH

INTRODUCTION AND MOTIVATION

1.1.1 INTRODUCTION

Small and medium-sized enterprises (SMEs) play a critical role in economies around the world. To remain competitive, SMEs must be capable of delivering high quality products and services on-time at a reasonable cost. In response to these competitive pressures and customer demand, many SMEs have developed ISO 9000 quality management systems (QMS). ISO 9000 is an international standard that specifies the basic requirements for a QMS.

The two primary objectives of this standard are to help an organisation demonstrate its ability to meet customer and regulatory requirements and to enhance customer satisfaction. By obtaining ISO 9000 certification an organisation is valued positively by customers and appreciates that gaining the customer's loyalty and winning new customers, is the major route through which the enterprise can create a value for its shareholders (Stoleriu and Olaru, 2007; Suditu, Olaru, Langă and Tuclea, 2009; Zineldin, 2006).According to (Heras-Saizarbitoria, Casadesús and Marimón, 2011; Hongyi,) the models of quality management systems promoted by the international standards ISO 9000 aim towards re-organisation processes in terms of satisfying customers' requirements, but also towards other stakeholders in order to ensure a sustainable business development.

There is an extensive debate within the specialised literature on the impact of implementation of the model defined by the ISO 9000 standards on business performance, taking into account the importance of Small Medium Enterprises.

1.1.2 MOTIVATION TO THE RESEARCH

The research undertaken in this paper proposes to investigate and analyse the impact of ISO 9000 certification on quality management practices among SMEs in the Western Cape, South Africa. The importance of SMEs to long-term economic stability derives from their size and structures.

SMEs are more labour-intensive than larger firms and therefore have lower capital cost associated with the creation of jobs. Consequently, SMEs play an imported role in development, income stability, growth and employment. Modern economies operate as complex networks of firms in which a firm's competitive position depends in part, on the efficiency of its suppliers. Therefore SMEs competitiveness affects the competitive position of the economy as a whole. In addition, SMEs improve the efficiency of domestic markets and make productive use of scarce resources such as capital, facilitating, and long term economic growth.

ISO 9000 is important in the first instance because it gives organisations some guidance on how to manage and continuously improve quality. Secondly, mechanisms exist by which an organisation can be certified for conforming to ISO 9000 specifications. With this certification in hand, an organisation can better sell its product or service to its customer. It can say that the product or service is the result of a process that continually tested for quality.

1.1.3 BACKGROUND TO THE RESEARCH

ISO 9000, an international standard for quality systems, has gained worldwide acceptance since its introduction in 1987. Although the certification process is lengthy and the documentation extensive, ISO 9000 provides benefits, which include improved customer satisfaction, smoother operations and lower costs, higher quality and productivity.

In considering the important contribution of SMEs to the global economy, quality is viewed as an important order qualifier criterion, with the business benefits of ISO 9000 registration for a small company being the same as for a large company. However, the difficulties of ISO implementation appear to be more critical to SMEs because of their size and limited resources. Major obstacles to ISO 9000 registration for small manufacturers are both cultural and technical.

With regard to cultural issues they are the same for any manufacturer regardless of size. However, technical issues refer to the high implementation cost, inadequate resources and insufficient assistance from outside the company. Therefore, an SME requires a more cost-effective and well planned ISO implementation process.

The introduction and implementation of a new quality system brings about profound changes in companies (Carlsson and Carlsson, 1996). Although, organisations in the industrialised countries have progressed well in the application of quality systems, organisations in the developing countries have been latecomers. Researchers widely agree that the most well-known and applied standard for quality systems is the ISO 9000 series (Gustafsson et al., 2001).

ISO 9000's comprise a series of international standards published by the International Organisation for Standardisation. The first version appeared in 1987 and outlined the requirements for quality management systems in manufacturing and service organisations (Erel and Ghosh, 1997). The latest version appeared in 2001. ISO 9000 certification has been applied widely around the world and in all sectors of industry to raise quality (Escanciano et al., 2001). Despite their significant importance and SME contribution to economic growth, SMEs across the whole world

and in SA in particular, are still faced with numerous challenges that inhibit entrepreneurial growth. Apart from the implementation of quality techniques among SME (which is the focus of this study), the Global Entrepreneurship Monitor (GEM) Reports (2001-2010) noted that SA SMEs also suffer from poor management skills which is a result of lack of adequate training and education. This results in high rates of business failure (SA has one of the lowest SMEs survival rates in the world).

The SME contribution to the South African economy, excluding medium enterprises, can roughly be estimated at 20% of the Gross Domestic Product (GDP) (Abedian *et al.*, 20012 cited by Berry, Von Blottnitz, Cassim, Kesper, Rajaratnam & Van Seventer, 2002:28). Although medium and large enterprises dominate the South African economy based on their GDP contributions, SMEs have a pivotal role to play in generating employment and the upgrading of human capital (Berry *et al.*, 2002:4).

The Western Cape manufacturing sector is one of the contributors to the South African manufacturing output and employment. Although these enterprises have a positive outlook on economic conditions, research has shown that increased sales amongst 65% of these organisations, did not map to significantly increased employment opportunities. This is attributable to unfavourable macroeconomic conditions, as well as internal factors such as inadequate internal operations (Kesper, 2000:1315). Research has furthermore shown the lack of business skills amongst entrepreneurs as a shortcoming, which maps to the requirement of education and training within SMEs, also considered as factors inhibiting SME growth (Berry *et al.*, 2002:65). The lack of general business acumen of SME owner-managers necessitates the need for the development and utilisation of a managerial mechanism to manage the occurrence and impact of risk events within SMEs, thus contributing towards SME sustainability.

1.1.4 THE SIGNIFICANCE OF SMEs

SMEs are found in every sector of the economy and play a vital role. They are crucial for sustained, long-term growth, dynamism and employment (Thassanabanjong et al., 2009). SMEs are regarded as one of the main driving forces of economic development, stimulating private ownership and entrepreneurial skills (Gadenne and Sharma, 2009). For developing economies SMEs often offer the only realistic prospects for increases in employment and value added services or products (Mirbatrgkar, 2009). They generally employ the largest percentage of the workforce and are responsible for income generation opportunities (Singh, 2010). Small and medium enterprises are critical to the economies of all countries (Akhavan and Jafari, 2008), and especially the developing ones (Fathian et al., 2008; Gadenne and Sharma, 2009) as Okpara (2009) believed that they were the engine of growth for any economy. As noted by Singh et al. (2008) and Mirbargkar (2009), SMEs are considered as the backbone of economic growth in all countries and they contribute in providing job opportunities, act as supplier of goods and services to large organisations (Singh et al., 2008; Garengo et al., 2005; McAdam et al., 2000). The importance of the small and medium industries will become more significant as the country expands its industrial base in meeting the challenges of the new millennium (Sohail and Boon Hoong, 2003).

1.1.4.1 ROLE OF SMES IN ECONOMIC GROWTH

Collective financial growth usually involves both an increase in the number of firms and an increase in the size of some firms; in developing countries most successful SMEs have graduated from the micro enterprise category.

The extensiveness of SME category both reflects and helps to create a strong and deep entrepreneurial culture. The SME sector appears likely to remain very important in most developed and developing countries, judging in part by recent trends in both these groups of countries. This may be fostered by fuller diffusion of the information revolution, which reduces economies of scale in some industries. Much will also depend on how globalisation affects size structure; there are factors working in both directions.

1.1.4.2 STATEMENT OF RESEARCH PROBLEM

The research problem to be researched within the ambit of this thesis reads as follows: Ineffective and inefficient implementation of international recognised quality management initiatives by SMEs results in inferior quality of products/ services (business) within SMEs.

1.1.4.3 RESEARCH QUESTIONS

In order to identify the impact of ISO9000 among SMEs in the Western Cape, the primary research question reads as follows:
What is the main impact of implementation of international recognised quality management initiatives on the quality of product/service in SMEs?

1.1.4.4 INVESTIGATING QUESTION

- To what extend does the implementation of the international recognised quality management initiatives affect the SMEs performance in their organisations?
- What are the main measurements of quality management initiatives with respect to quality of product/service?
- What are the key factors that affect the implementation of quality techniques in SMEs?
- What are the main benefits of implementing quality techniques or ISO 9000 in SMEs?
- How does ISO 9000 impact on the quality of product/service in SMEs?
- How can ISO 9000 be implemented effectively in SMEs?

1.1.4.5 RESEARCH OBJECTIVES

The primary research objectives of the theses read as follows:

- To assess the impact of implementing quality techniques in SME's performance.
- To determine the key factors that impact on product/service quality among SMEs
- To determine the benefits of using quality techniques in SMEs.
- To provide possible solutions/procedures for implementing quality techniques.

1.1.4.6 RESEARCH SUBQUESTIONS AND OBJECTIVES

A structured approach to what is the main impact of implementation of the international recognized quality management initiative on the quality of product/service in SMEs? The investigative sub questions to be researched in support of the stated research question reads as follows:

Table: 1 ***RESEARCH SUBQUESTIONS AND OBJECTIVES***

RESEARCH QUESTION	What is the main impact of implementation of the international recognised quality management initiatives on the quality of product/service in SMEs?	
SUB-QUESTIONS	RESEARCH METHOD(S)	RESEARCH OBJECTIVES
To what extend does the implementation of the international recognised quality management initiative affect the SMEs performance in their organisations?	Case study Literature review Questionnaire Interviews	To assess the impact of implementing quality techniques in SME's performance.
What are the main measurements of quality management initiatives with respect to quality of product/service?	Case study Literature review Questionnaire Interviews	To determine the key factors that impact on product/service quality among SMEs

What are the key factors that affect the implementation of quality techniques in SMEs?	Case study Literature review Questionnaire Interviews	To determine the benefits of using quality techniques in SME's.
What are the main benefits of implementing quality techniques or ISO 9000 in SMEs?	Case study Literature review Questionnaire Interviews	To provide possible solutions/procedures for implementing quality techniques.
How can ISO 9000 be implemented effectively in SMEs?	Case study Literature review Questionnaire	Providing technical training and model.

1.1.5 RESEARCH DESIGN AND METHODOLOGY

Research design and methodology is a plan outlining how information is to be gathered for an assessment or evaluation that includes identifying the data gathering method(s), the instruments to be used or created, how the instruments will be administered, and how the information will be organised and analysed. It is the way to systematically solve the research problem by logically adopting various steps. According to Collis & Hussey (2003) research design is the science (and art) of planning procedures for conducting studies so as to get the most valid findings. Cooper & Schindler (2001) refer to research design as being "the blueprint for fulfilling objectives and answering questions". Cooper & Schindler (2001) proceed to identify the essentials of research:

- The design is an activity and time-based plan; the design is always based on a research question.
- The design guides the selection of sources and types of information.
- The design is a framework for specifying the relationship among the study's variables.
- The design outlines procedures for every research activity.

The most fundamental statement is that research and design's primary objective is to answer questions. This question is defined as the research problem statement. According to Cooper & Schindler (1998) "The problem statement contains the need for the research project. It is followed by a more detailed set of objectives. These objectives as specified by Cooper & Schindler are often referred to a "Sub problems".

In order to solve the main problem and the sub-problems the research is divided into two areas of research. Firstly a comprehensive literature review will be conducted; during this literature review the following fields will be explored:

- To what extend does the implementation of the international recognised quality management initiative affect the SMEs performance in their organisations?
- What are the main measurements of quality management initiatives with respect to quality of product/service?
- What are the key factors that affect the implementation of quality techniques in SMEs?
- What are the main benefits of implementing quality techniques or ISO 9000 in SMEs?
- How does ISO 9000 impact on the quality of product/service in SMEs?
- How can ISO 9000 be implemented effectively in SMEs?

The second area of research will be to conduct a qualitative research study by making use of a case study methodology. Yin (2003) stated that case studies could be "used to document and analyse the outcomes of public or privately supported interventions, such as the programs sponsored by federal agencies or the initiatives supported by private foundations". Successfully supported government initiatives are the core focus of this treatise. The case study methodology will be explorative by nature. The intention will be to interview a number of SMEs and during the interview process identify what has restricted or prevented the growth of their business. In order to obtain and not limit the information that is supplied by the SME's a number of open ended questions will be used during the interview process.

1.1.5.1 TARGET POPULATION

Target population is the population of individuals which are interested in describing and making statistical infancies about the research/study, and the core target population is the set of all the companies in the Western Cape that will be participating in the study. The target population of this research will be the SMEs operating in the Western Cape, South Africa. The study will focus on the impact of ISO 9000 certification on quality management practices among Small Medium Enterprises and the impact of quality initiative/technique in SMEs South Africa.

The research theses will involve several ways to collect the information, a review of available literature related to ISO 9000 certification on quality management practices and other quality initiatives, journals, articles, papers, SMEs and books, development of research questionnaires, sample selection, data collection, data analysis and result of reporting. The main focus/method of gathering information will be a case study method.

1.1.5.2 AREA OF STUDY

The study is being conducted in Small and Medium Enterprises in the Western Cape, South Africa, in the manufacturing and service sectors, which are currently ISO 9000 registered/quality initiative organisations and now experiencing the impact of implementing the quality initiative or technique on the organization.

1.1.5.3 SAMPLING

Sample Size & Sample Selection Method The success of any research study depends on the way in which the Researcher selects the people who will participate in the study. The crucial factor for a successful survey study is to obtain reliable and actionable results that reflect the feelings and thoughts of the respondents. The most successful and efficient sample size in a quantitative research is the representative sample which can be easily generalised over the whole population, with approaching to zero sampling error. Therefore, the main goal of the sampling techniques is to reduce or eliminate the sampling error, when possible.

According to Polit et al (2001:325) sampling criteria are developed from the research problem the purpose of the study, the conceptual and operational definitions of the study variables and design. Bruns and Grove (2001:376) further described sampling criteria as the characteristics essential for membership in target population, and they also define purposive sampling as judgmental sampling that makes the conscious selection by the researcher of certain subject or elements to include in the study.

Loubsher in Martins, and Van Wyk (1996:252) identified five steps to follow in drawing a sample from a population these steps are:

Defining the target population; identifying sample frame; selecting sample procedure; determining the sample size and selecting the sample element.

1.1.6 THE RESEARCH QUESTION REVISITED

The research question, as it was stated in Chapter 1 of this research, reads as follows: "What mechanisms can be deployed to promote the implementation of quality management techniques in the Western Cape SME's thus leading to an improvement of goods and services?

1.1.6.1 THE INVESTIGATIVE QUESTIONS REVISITED

The following investigative questions were researched in support of the research question:

- What quality management tools and techniques can be used by SME's to improve their standard?
- What are the major causes of the poor production of goods and services?
- What are the key factors that affect the implementation of quality techniques in SMEs?
- Which techniques can be used to promote the application of quality management systems?
- What are benefits of implementing quality management systems within a small clothing manufacturing firm?
- Does SME's benefits from implementing quality techniques or ISO 9000 in SMEs?

1.6.2 DOCUMENT LAYOUT

This dissertation is arranged according to the following outline,

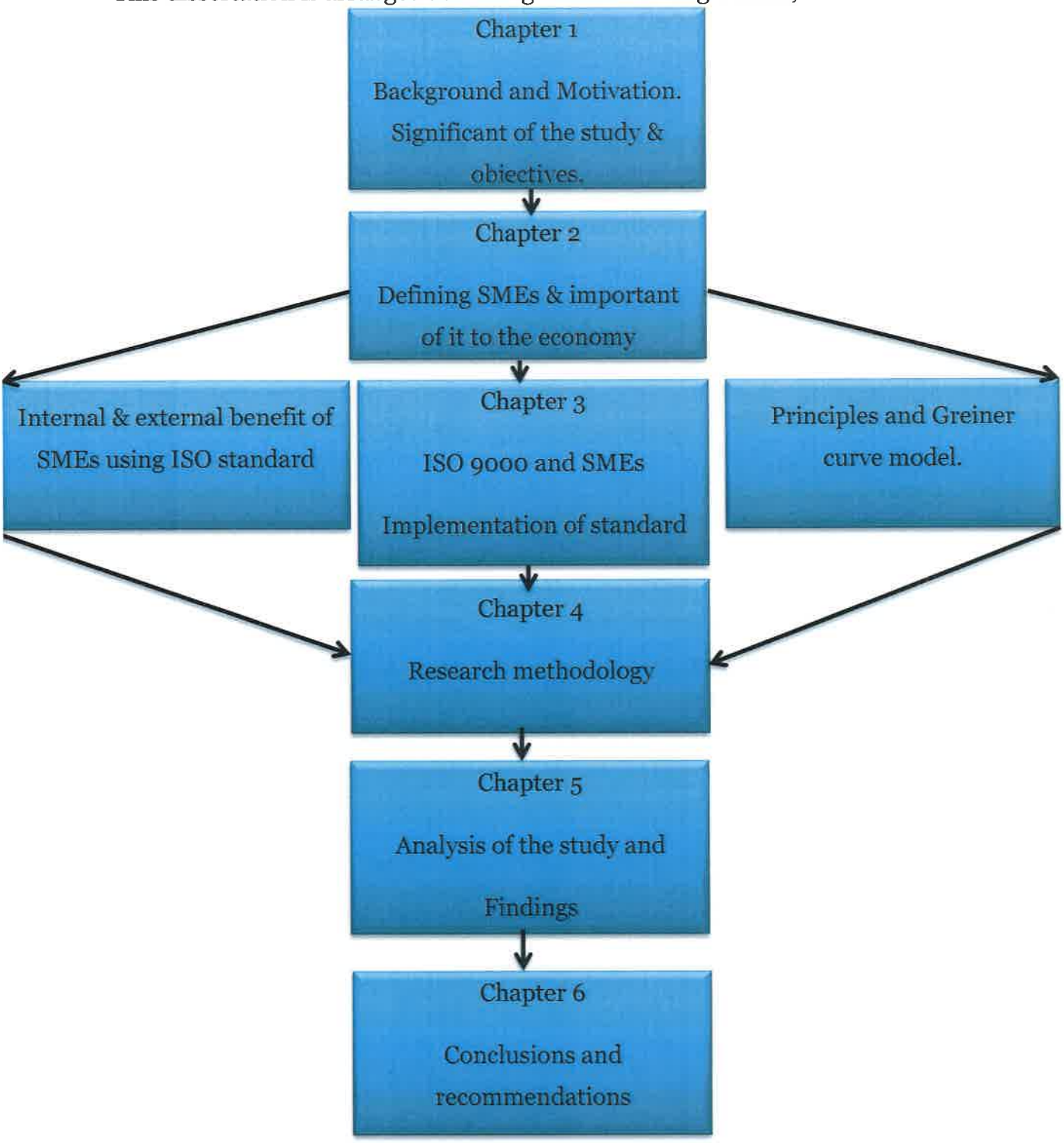


Figure 1 ***DOCUMENT LAYOUT***

CHAPTER 1: SCOPE OF THE RESEARCH

This chapter provides an overall perspective of the thesis and motivates the purpose of the study.

CHAPTER 2: HOLISTIC PERSPECTIVE OF THE RESEARCH ENVIRONMENT

This chapter examines the evolution of SMEs through the ages, presents a number of different definitions and explores the importance and benefits of SMEs. In order to make sense of the definitions, the various approaches to the evolution of entrepreneurship are briefly presented. At the conclusion of the multitude of definitions, a set of dimensions is presented to form a framework for the understanding of the term. Various definitions are presented from a number of major countries to illustrate the differences in the classification of businesses. Very brief statistics are provided in terms of the contribution of small businesses to the economy of a country. This chapter also provides the context, relationship and nature of the small business sector within the entrepreneurship paradigm.

CHAPTER 3: LITERATURE REVIEW

This chapter focuses on the effective management of SMEs. Various statistics indicate that a high percentage of SMEs fail within the first two years of start-up. The environment or context in which businesses operate is illustrated and the impact this environment has on the small business owner-manager is highlighted.

CHAPTER 4: DATA COLLECTION DESIGN AND METHODOLOGY

In this chapter the methodology of the study is presented. The chapter begins by discussing the research paradigm that the study is conducted in followed by a discussion on the research process. This discussion focuses on issues such as the sample size and selection, data collection, the research instrument, data analysis and the ethical aspects of conducting the research. The chapter proceeds to specify the format of the questionnaire and the system used to gather a data.

CHAPTER 5: FINDINGS AND DISCUSSION

The findings of the research are presented in this chapter and are discussed in relation to existing literature.

CHAPTER 6: RECOMMENDATIONS AND CONCLUSION

Based on the literature review and the finding from chapter 3 and chapter 4, recommendations will be made in term of what SMEs have done to improve the implementation of the quality systems and from the introductory phase of the organisational life cycle to the growth phase. The focus will be on the extent of the management abilities and practices.

REFERENCES

A complete list of references used for this study is presented in this section.

APPENDICES

This section will include a copy of the research instrument used to gather the data.

CHAPTER 2 - HOLISTIC PERSPECTIVE OF THE RESEARCH ENVIRONMENT

2.1 INTRODUCTION

This chapter examines the evolution of SME through the ages, presents a number of different definitions and explores the importance of SME. In order to make sense of the definitions, the various approaches to the evolution of SME are briefly presented. At the conclusion of the multitude of definitions, a set of dimensions is presented to form a framework for the understanding of the term. Various definitions are presented from a number of major countries to illustrate the differences in the classification of businesses. Very brief statistics are provided in terms of the contribution of small businesses to the economy of a country.

There is consensus among policy makers, economists and business experts that small and medium enterprises (SMEs) are drivers of economic growth. A healthy SME sector contributes prominently to the economy through creating more employment opportunities, generating higher production volumes, increasing exports and introducing innovation and entrepreneurship skills. According to Bashir Ahmad Fida (2008), SMEs are the first step towards development in economies towards industrialisation. The dynamic role of SMEs in developing countries positions SMEs as engines through which the growth objectives of developing countries can be achieved – a role that has long been recognised. One of the significant characteristics of a flourishing and growing economy is a vibrant and blooming SME sector. SMEs play an essential role in the development of a nation. They contribute to socioeconomic development in various ways; namely, by creating employment for a rural and urban growing labour force and providing desirable sustainability and innovation in the economy as a whole. Fayad (2008) propounds that most of the current multi-million dollar enterprises have their origin in SMEs. Nevertheless, SMEs in developed and less developed countries (LDCs), as in other countries, are still facing a number of difficulties and obstacles that are impeding and complicating their operations and growth.

2.2.1 IMPORTANCE OF THE STUDY

The SME sector, with its ability to generate jobs and wealth can have a direct and significant impact on the formalisation of a country's economy.

The good news is that the importance of SMEs in terms of a country's economic growth has now begun to be recognised. Spurred by increasing competition in their traditional businesses, banks are now looking to the largely untapped SME segment, which now presents a lucrative opportunity. The profitability of SME, if it is served effectively by creative business models, has been proven by various case studies. The graph below is an international data that shows SMEs contribute more to the economy.

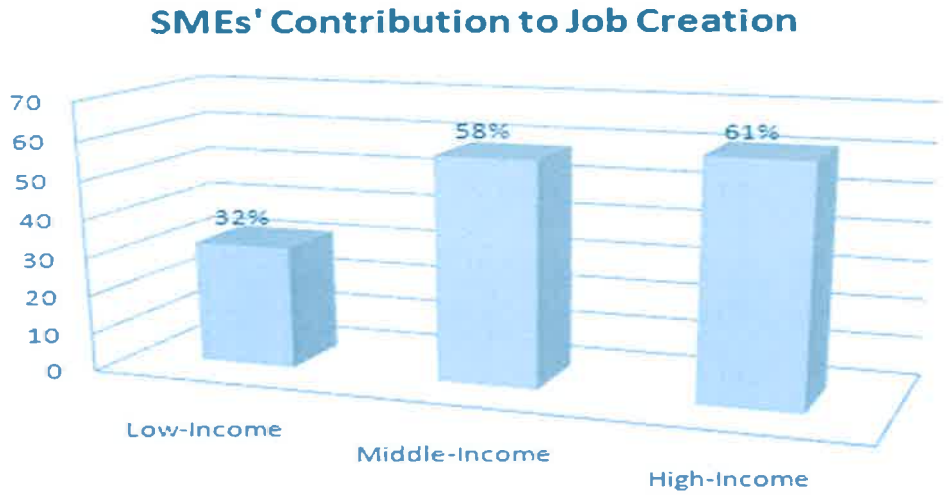


Figure 2 ***SME's CONTRIBUTION TO JOB CREATION***

Source; SME Guide 2009, International Finance Corporation

It is said that among high-income countries of an Organisation for Economic Cooperation and Development (OECD), two-thirds of all jobs are created by the SME sector. The figure is lower among low-income countries because of the overwhelmingly dominant informal sector, yet the SME sector's contribution is significant. And as an economy grows and income levels rise, the impact of the SME sector only increases.

2.2.2 IMPORTANCE OF SMEs IN THE ECONOMY

The value of the small business sector is recognised in economies world-wide, irrespective of the economy's developmental stage. The contribution towards growth, job creation and social progress is valued highly and small business is regarded as an essential element in a successful formula for achieving economic growth (Vosloo, 1994 :). It is estimated that SMEs employ 22% of the adult population in developing countries (Daniels, 1994; Daniels & Ngwira, 1992; Daniels & Fisseha, 1992; Fisseha, 1992; Fisseha & McPherson, 1991; Gallagher & Robson).Unido (1999) estimates that SMEs represent over 90% of private business and contribute to more than 50% of employment and of GDP in most African countries. An earlier study by the Competition Commission (2004) estimated that 99.3% of South African businesses were SMEs and that these SMEs accounted for 53.9% of total employment and contributed 34.8% to GDP.

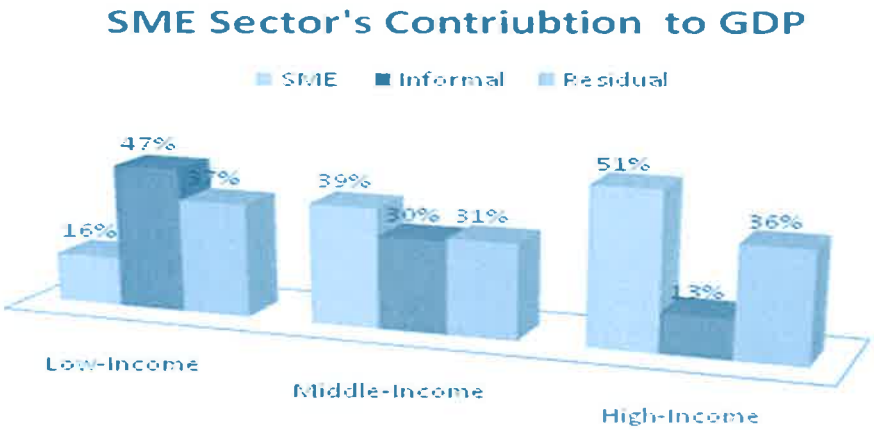


Figure 3 ***SME SECTOR'S CONTRIBUTION TO GROSS DOMESTIC PRODUCT***

Source; SME Guide 2009, International Finance Corporation

Small and Medium sized Enterprises (SMEs) are a driving force of economic development, and are key to job creation and GDP growth, both in developed and developing countries.

2.2.3 BENEFITS OF SMEs

SMEs may achieve a number of benefits if they adopt quality tools. The benefits are divided into two categories: internal and external ones. The internal benefits are connected to internal function and processes of a company while external are connected to external company activities. More, internal benefits may be divided into three categories: organisational benefits, financial and benefits for employees. Similarly, external ones are grouped into commercial, communication and quality/environmental/safety benefits. Improvement of internal efficiency and quality of the management is the first internal result that be reached by any small or medium-sized enterprise.

That may be achieved for example, if three functional departments are fuzzed to one and by harmonizing organisational structure containing similar elements. The next one is achieved because an integrated system permits equality in management methodology.

The integrity of system results in reduce of unclear boundaries between individual systems and in expand of horizon above functional level any of individual system, sharing information across traditional organisational boundaries. Many standards share the same elements; therefore their integration will enable a company to avoid duplication of system procedures and to eliminate overlap of efforts at identification of danger, development and maintenance of requested control and audit. Finally, many authors notice reduce in volume of company documents and creation of usual forms that are more easily used by more operators as important material benefit.

Irrespective of the above mentioned organisational benefits, the SMEs may also reach financial benefits. Cost savings that arise in reduction of the frequency of audit are already confirmed as in theory as in practice. However, audit may not be reduced to one audit only, since the program of internal financial audit will be necessarily enlarged to ensure efficiency of integrated procedures.

Financial benefit will be reached by improvement of results on minimisation of external certification costs over single certification audit and as a result of increase of data and management staff.

Table 2 ***INDICATES INTERNAL BENEFITS THAT SME MAY REACH THROUGH IMPLEMENTATION OF QUALITY TECHNIQUE.***

Table 2 **SME BENEFITS FOR QUALITY TECHNIQUES**

INTERNAL BENEFITS	EXTERNAL BENEFITS
Organisational Benefits - Improvement of quality of management by down-sizing three functional departments to one and reducing uncertain management boundaries between individual systems	**Commercial Benefits** - Competitive advantage, - Improvement of market place - Gain new customers/satisfy existing ones
- Increase in operational efficiency by harmonising organisational structures with similar elements and sharing information across traditional organisational boundaries	**Communication Benefits** - Improvement of company's image - Improvement of relations with stakeholders - Evidence of legal compliance
Financial Benefits - Cost savings by the reduction of the frequency of audits - Reduction in external certification costs over single certification audits - Increase in profit margins People Benefits - Increase in employee motivation, awareness and qualifications - Creation of a better company image among employees	**Q/E/S Benefits** - Improvement in quality, environmental and health and safety - Reduction of hazardous waste generation - Reduction of equipment damage and product loss

2.2.4 BARRIERS OF SMEs

As with benefits, barriers in implementation of quality standards in small and medium sized enterprises may be grouped into internal – table 4 (resources, stand points/perceptions, implementation) and external (support and guidance, economy, certifiers/verifiers) Importance of financial and human resources is in interest of any SMEs. Most SMEs are the companies with limited budgets although they cannot allocate the funds to initiatives being seen as another aspect of the company.

They also have a lack of management efficiency, resulting the inactivity due to percentage reduce of trained managers; reduce of development of company's access to new technologies. More, lower level of employees' information and their involvement as well as time limits consider considerably the achievements in the field of MS and multifunctional nature of staff becomes more important when company's size falls. Standpoints and perceptions of employees involved in SMEs, especially managers, are also barriers for acceptance of ISO.

Generally, ISO is considered too revolutionary by most organisations and as expected by some, small and medium enterprises are resistant to great changes due to lack of information on awareness and various management styles. It is stressed in some studies, where also proved, that limited strategy SMEs capacity and its short time orientation do not provide initiatives for innovation. Negative experience of bureaucracy, being reached when ISO 9000 is applied may frighten SMEs.

Table 3 ***BARRIERS OF SME's TO IMPLEMENT QUALITY MANAGEMENT TECHNIQUES***

INTERNAL BARRIERS	**EXTERNAL BARRIERS**
Resources - Lack of financial resources, - Lack of management and/or staff knowledge, Skills and training, - Lack of employee involvement/motivation, - Lack of management and/or staff time	**Support and Guidance** -Lack of support schemes, -Lack of sector specific implementation tools and examples, Lack of experienced consultants to assist SMEs/poor quality information and

	conflicting guidance, -Lack of promotion of IMS
Attitudes/Perceptions - The change appears too revolutionary/resistance to change, - Low awareness of the benefits, - Other priorities more important, - Perception of bureaucracy, -Short-term orientation	**Economics** -Insufficient drivers and benefits, -Uncertainty about the value of IMS in the market place, -Different stakeholders demands
Implementation - Cultural differences between disciplines, - Complexity and differences among systems, - High effort for implementation	**Certifiers/verifiers** High costs of certification/verification, Duplication of effort between certifiers/verifiers and internal auditors

2.2.5 IDENTIFYING THE NEEDS OF THE SME SECTOR

Statistics on small business in South Africa remains insufficient with no official repository for data on the number of small enterprises. SA's statistics are typically derived from a variety of sources. These include the Statistics SA Labour Force Survey (LFS), Statistics SA Survey of Employers and the Self- Employed (SESE), the Adult Population Survey (APS) of the GEM reports, Statistics SA Integrated Business Register, CIPRO New Enterprise Register, Statistics SA statistics on liquidations of close corporations and companies and the CIPRO Register of Co-operatives (DTI, 2008: xxiii); and consolidated periodically in the dti's Annual Review of Small Businesses in South Africa. Even then, surveys tend to be conducted sporadically and it can be difficult to put together the pieces from different data sources. Consequently, it is not clear how many small businesses there are, how many people they employ and what the sector contributes to GDP (SBP, 2009b). In order to develop effective interventions for the small business sector, it is important to have an understanding of the sector, the specific challenges faced by small business owners and the capacity they have to deal with those challenges (FinScope, 2010: 1). A lack of clear and accurate statistics is a major stumbling block to SA's bid to

developing more effective policies and support schemes for small enterprises (Timms, 2011: 18). Most important of all, small business development initiatives must get down to the level where small businesses actually operate, and must be targeted specifically in the different sectors and value chains, and in specific localities to address small businesses' diverse characteristics, needs, constraints and opportunities (Sbp, 2009a: 8). The problem of data has been identified in a number of forums and publications. Not only are the information sources poor, but can also be very difficult to access, including the official statistics (Sbp, 2009: 3). Also to be encouraged is the consistent use of categories (preferably those defined by the Act) by all state agencies and private sector data bases and research studies to facilitate comparability (SBP, 2000b). The FinScope Small Business Survey undertaken in 2010 goes a long way in addressing some of the issues noted above. For the full benefits to be derived from this initiative19, however, the definition of the SME sector (or small businesses as they are referred to in the survey).

2.2.6 DEFINING AN SME IN SOUTH AFRICA

Like other countries, the issue of what constitutes a small or medium enterprise is a major concern in SA. Various authors have usually given different definitions to this category of business. "A common definition of SMEs includes registered businesses with less than 250 employees" (Ifc, 2009: 9). In practice, SMEs are defined in a number of different ways, generally with reference either to the number of employees or to turnover bands (or a combination of both, as in the National Small Business Act 1996, which also allows for variations according to industry sector).

The definition of SMEs by size is necessary, but it is not sufficient for an understanding of a sector where the realities are not only complex, but also dynamic. In SA, a 'small business' is official defined in Section 1 of the National Small Business Act of 1996 as amended by the National Small Business Amendment Acts of 2003 and 2004 (NSB Act) as: a separate and distinct business entity, including co-operative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector.

Table: 4.1 ***BROAD DEFINITIONS OF SMES IN THE NATIONAL SMALL BUSINESS ACT***

BROAD DEFINITIONS OF SMES IN THE NATIONAL SMALL BUSINESS ACT			
Enterprise Size	**Number of Employees**	**Annual turnover (SA Rand)**	**Gross assets, excluding fixed property**
Medium	Fewer than 100 to 200,depending on industry	Less than R4 million to R50 m depending upon industry	Less than R2 m to R18 m depending on industry
Small	Fewer than 50	Less than R2m to R25 m depending on industry	Less than R2m to R4.5 m depending on industry
Very Small	Fewer than 10 to 20 depending on industry	Less than R200 000 to R500 000 depending on industry	Less than R150 000 to R500 000 depending on industry
Micro	Fewer than 5	Less than R150 000	Less than R100 000

Source: Falkena et al., (2001)

2.3.1 Survivalist enterprise: The income generated is less than the minimum income standard or the poverty line. This category is considered pre-entrepreneurial, and includes hawkers, vendors and subsistence farmers. In practice, survivalist enterprises are often categorised as part of the micro-enterprise sector.

2.3.2 Micro-enterprise: The turnover is less than the value added tax (VAT) registration limit (that is, R150, 000 per year). These enterprises usually lack formality in terms of registration. They include, for example, *spaza* shops, minibus taxis and household industries. They employ no more than 5 people.

2.3.3 Very small enterprise: These are enterprises employing fewer than 10 paid employees, except for the mining, electricity, manufacturing and construction sectors, in which the figure is 20 employees. These enterprises operate in the formal market and have access to technology.

2.3.4 Small enterprise: The upper limit is 50 employees. Small enterprises are generally more established than very small enterprises and exhibit more complex business practices.

2.3.5 Medium enterprise: The maximum number of employees is 100 or 200 for the mining, electricity, manufacturing and construction sectors. These enterprises are often characterized by the decentralisation of power to an additional management layer.

2.4.1 THE SMALL BUSINESS SECTOR

Policy makers who have been confronted with growing concerns about the increases in unemployment, lack of job creation, poor economic growth and globalisation believe that entrepreneurship is the solution to these concerns (Thurik and Wennekers, 2004; Vesper, Boden, and Roman in Carland *et al*, 1999). Storey (2000) noted that politicians around the globe have, over the past decade, emphasised the importance of small enterprises as mechanisms for job creation, innovation, and the long-term growth and development of economies. However, the media coverage in the European economy on business, in general, contains over 95% of column space for large businesses even though, in the European economy 95% of all firms are in fact small and provide more than half of all jobs in Europe, yet little media coverage is afforded to these entities. There are a number of terms used when referring to a small business. These include the term Small Medium and Micro sized enterprise (SMME) as in the case in South Africa, Small Medium sized enterprise (SME) and, the generic term, small business or small firm. This study focuses on SMEs since they are regarded as the ones with the potential for job creation and makes a substantial contribution (35%) to GDP of South Africa (Rwigema and Venter, 2004; Small Business Project, 2003). The "small firm", like the term entrepreneurship, has numerous definitions (Culkin and Smith, 2000). The objective measures which one would want to use to define a small firm cannot be agreed upon by the various researchers. For example, the different sectors of an economy will have different interpretations of the word 'small'. Some authors use turnover as a measure; some use the number of employees; some use profitability or net worth as a measure. Some researchers use a combination of measures like number of employees and turnover. In order to overcome the conflicting opinions of a small firm, the Department of Trade and Industry in the UK (Culkin and Smith, 2000) provided the following definitions or classifications of small; micro; medium and large sized enterprises:

Micro-firm: 0 - 9 employees; Small firm: 0 - 99 employees (includes micro); Medium firm: 50 - 249 employees; and Large firm: over 250 employees.

Culkin and Smith (2000) and Deakins (1999) realised that the UK could not ignore the European Union dimension and expanded their classification to be determined by at least two out of three criteria from Table 2.2 below. Also illustrated below in Table 2.3 is the European classification.

2.4.1.1 UK DEFINITION OF SMEs

Table: 4.2 UK DEFINITION OF SMEs

Criteria	Small Firm	Medium firm
Turnover	Not more than £2.8 million	Not more than £11.2 million
Balance sheet	Not more than 1.4 million	Not more than 5.6 million
Employees	Not more than 50	Not more than250

Source: Deakins (1999)

2.4.1.2 EU SME DEFINITION

Table: 4.3 EU SME DEFINITION

Criteria	Micro	Small	Medium
Maximum employees	9	49	249
Maximum annual- turnover	-	€7 million	€40million
Maximum balance- sheet	-	€5 million	€27 million

Source: Burns (2001)

2.4.1.3 USA SME DEFINITION

Table: 4.4 USA SME DEFINITION

Criteria	Very Small	Small	Medium	Large
Number of - employees	Under 20	20-99	100-499	500 or more

Source: Byrd and megginson(2003)

The tables above illustrate the lack of consistency in trying to arrive at a definition of a Small Medium and Micro size Enterprises. In some instances, such as South Africa and the USA, the definitions differ within the country depending on the sector of the economy, which makes consensus even more difficult (Rwigema and Venter, 2004; Longenecker, Moore and Petty, 2003). Harper (1984) believes that there is a real benefit to be gained in trying to produce a universally, or even nationally, acceptable definition or classification for small businesses. According to Harper (1984), the main motivation for wanting a quantitative definition of a small firm is to exclude other larger firms from preferential assistance programmes, which are essentially designed to assist the small firms. In order to gauge the contribution the small firms make to the economy of a country, the task might be made easier if a consistent definition was formulated. One could then compare different countries and the contributions of its small firm sectors. Be that as it may, there are many positive contributions that these firms make in a country's economy.

2.5.1 SME CONTRIBUTION

There has been a tremendous increase in the number of small firms operating in most of the advanced countries around the globe since the late 1960's (Burns, 2001) with North America, Asia and Western Europe "undergoing an entrepreneurial renaissance" (Calvin, 2002: 1). These small firms are considered, by many governments, as critical for the creation of employment and ultimately for the creation of wealth.

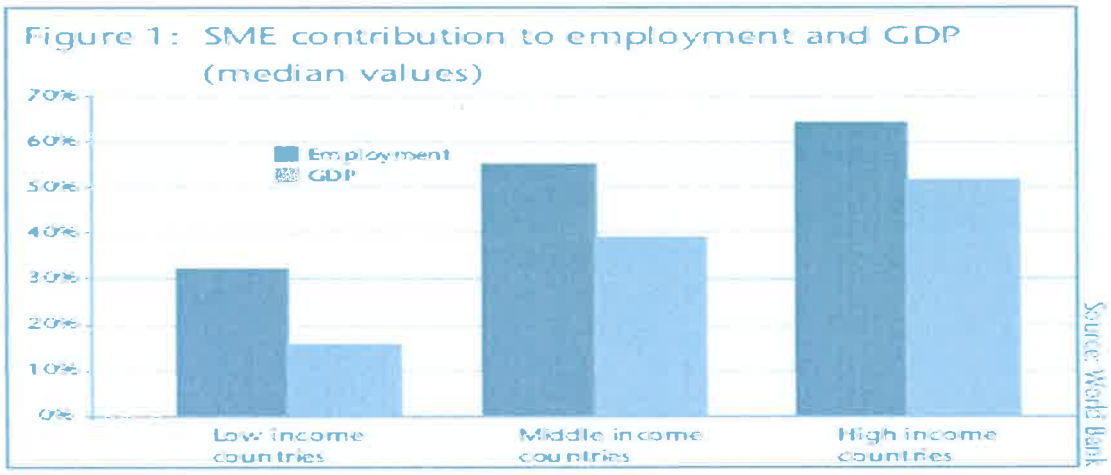


Figure 4 **SME CONTRIBUTION TO EMPLOYMENT AND GDP (MEDIAN VALUES)**

Source:http://www.wbcsd.org/DocRoot/pZgjPEvxdGu6hk9noQUM/PromotingSMEs

The graph shows the massive contribution of SMEs and especially the increased percentage through employment and GDP in high – income countries. It is a pointer for the development plans and thrust areas for the low income ones. Following are some random information about the role of SMEs in emerging economies.

2.5.2 THE UNITED STATES OF AMERICA

Longenecker *et al* (2003), Elmuti and Kathawala (1999) and Alvarez (1998) provide statistics indicating that the USA's 23 million small businesses continue to be a strong driving force in their economy. The small businesses absorb 52% of the private work force and contribute 51% to GDP in the USA (Longenecker *et al*, 2003; Calvin, 2002; Burns, 2001). Elmuti and Kathawala (1999) also suggest that a study conducted by the Small Business Administration in the USA reveal that small business accounted for half of all new innovations in the USA.

2.5.3 THE UNITED KINGDOM AND THE EUROPEAN COMMUNITY

According to Burns (2001) and Day (2000) small firms in the United Kingdom employs 62% of the labour force and contribute 25% to GDP. In the European Community as a whole, small firms employ 66% of the work 32 force. Burns emphasises the major role small firms' play in the European Community, by citing the employment generated by small firms in various European countries. He suggests that small businesses contribute 79%, 63% and 60% to employment creation in Italy, France and Germany respectively. According to SENET (2004) over 99% of the 3.2 million businesses in the UK are small medium sized enterprises (SMEs) and they account for more than two thirds of the business turnover.

2.5.4 THE REPUBLIC OF SOUTH AFRICA

The Department of Trade and Industry (1995) of South Africa suggest that there are more than 800 000 SMEs, absorbing approximately a quarter of the labour force of 15 million people. This is in addition to approximately 3.5 million people who are involved in some type of survivalist venture. The DTI (1998) believe that small

businesses in South Africa account for 60% of all employment and for 40% of GDP. Commonwealth Resources (1998) indicate that agriculture contributes 5% towards South Africa's GDP and employees 10% of total labour, manufacturing contributes 25% towards GDP and employees 28% of total labour, and mining contributes 7.7% towards GDP.

Chapter 3 - LITERATURE REVIEW

3.1 INTRODUCTION

The study will use secondary data, in the form of books, published and unpublished papers, academic journals; internet resources and other publications. The focus area of the literature review is the impact of ISO 9000 quality management systems on the overall business performances using the standard and the national related applications of ISO 9000 among Small Medium Enterprises in the Western Cape, South Africa. In this chapter a literature review will be conducted on the critical issues pertaining to the issue of quality in SMEs Industry in the Western Cape. The aspects which will be addressed include: the definition of ISO 9000 quality management system, importance of ISO 9000, benefits of ISO 9000, how does ISO 9000 interact with other standards, principles of ISO 9000, and the key factors that impact on quality in the SMEs industry in the Western Cape, South Africa.

ISO 9000 is a family of standards that provides a series of guidelines on how to establish a quality system to manage the processes that affects its product or services. This family of standards was first published by the International Organisation for Standardisation (ISO) in 1987 and was subsequently updated in 1994 and 2000.

The quality system is required to be documented and employees are expected to follow consistently the documented procedures. After the quality system is implemented, the firms can obtain registration through an audit performed by an independent (third-party) registrar. Rao *et al.* (1997) carried out a study to evaluate the effects of ISO 9000 on quality management practices and quality results. Data were collected from firms in the USA, Mexico, India, China and South Africa which were then consolidated to form a global perspective. The present study replicates the original research done by these authors. The primary objective is to examine the relationship between ISO 9000 registration and quality management practices and quality results of firms in Singapore and to compare the findings with those reported by Rao *et al.* (1997).

3.1.1 MOTIVATION

The research undertaken in this paper intends to investigate and analyse the impact of ISO 9000 certification on quality management practices among SMEs in the Western Cape, South Africa. The importance of SMEs to long-term economic stability derives from their size and structures which, under adequate conditions which are well developed factors. SMEs are more labour-intensive than larger firms and, therefore have lower capital cost associated with the creation of jobs. Consequently, SMEs play an imported role in fostering income stability, growth and employment. Modern economies operate as complex networks of firms in which a firm's competitive position depends in part, on the efficiency of its suppliers. Therefore SMEs competitiveness affects the competitive position of the economy as a whole. In addition, SMEs improve the efficiency of domestic markets and make productive use of scarce resources, such as capital, facilitation, and long term economic growth.

ISO 9000 is important in the first instance because it gives organisations some guidance on how to manage for quality. Secondly, mechanisms exist by which an organisation can be certified for conforming to ISO 9000 specifications. With this certification in hand, an organisation can better sell its product or service to its customer. It can say that the product or service is the result of a process that continually tested for quality.

3.2.1 DEFINITION OF QUALITY

Quality is the capacity to produce products or present services that fulfil the requirements of the customer, standard technical specifications, and/or technical specification issued by the organisation. ISO 9000 establishes a basic set of quality system requirements necessary to ensure that the process is capable of consistently producing products that meet the customer's expectations. Products and services are the result of activities or processes that transform inputs into outputs and the quality of products and services is directly related to the quality of the process that produces them. Therefore, product quality improvement necessitates process quality improvement. There are so many specifications related to ISO 9000. In 1999, all

these specifications had been merged together to issue the two standard specifications ISO 9001: 2000 and ISO 9004: 2000.

The ISO 9000 series of standards are not static documents but will continue to be revised and amended.

The ISO International Standard requires that the adoption of a quality management system should to be a strategic decision of the organisation. The design and implementation of an organisation's quality management system is influenced by varying needs, particularly, objectives, the products provided, the processes employed and the size and structure of the organisation. It is not the intent of the International Standards organisation to imply uniformity in the structure of quality management systems or uniformity of documentation.

The concept and vocabulary of quality is elusive. Different people interpret quality differently. Few can define quality in measurable terms that can be operationalised. When asked what differentiates their product or service, the banker will answer "service," health care worker will answer "quality health care," the hotel restaurant employee will answer "customer satisfaction," and the manufacturer will simply answer "quality product." When pressed to provide a specific definition and measurement, few can do so.

There is an old maxim in management that says, "If you can't measure it, you can't manage it," and so it is with quality. If strategic management systems and the competitive advantage are to be based on quality, every member of the organisation should be clear about this concept, definition, and measurement as it applies to his or her job.

According to Professor David Garvin, in his book Managing Quality summarised five principal approaches to defining quality: transcendent, product based, user based, manufacturing based, and value based.

1. **Transcendental View** of Quality: Those who hold transcendental view would say, "I can't define it, but I know when I see it."

Advertisers are fond of promoting products in these terms. "Where shopping is a pleasure" (supermarket), "We love to fly and it shows" (airline), and "It means beautiful eyes" (cosmetics) are examples.

2. **Product-Based View**: Product based definitions are different. Quality is viewed as quantifiable and measurable characteristics or attributes. For example durability or reliability can be measured (e.g. mean time between failure, fit and finish), and the engineer can design to that benchmark. Quality is determined objectively. Although this approach has many benefits, it has limitations as well. Where quality is based on individual taste or preference, the benchmark for measurement may be misleading.

3. **User-Based View:** User based definitions are based on the idea that quality is an individual matter, and products that best satisfy their preferences (i.e. perceived quality) are those with the highest quality. This is a rational approach but leads to two problems. First, consumer preferences vary widely, and it is difficult to aggregate these preferences into products with wide appeal. This leads to the choice between a niche strategy or a market aggregation approach which tries to identify those product attributes that meet the needs of the largest number of consumers.

4. **Manufacturing-Based View**: Manufacturing-based definitions are concerned primarily with engineering and manufacturing practices and use the universal definition of "conformance to requirements." Requirements, or specifications, are established design, and any deviation implies a reduction in quality. The concept applies to services as well as products. Excellence in quality is not necessarily in the eye of the beholder but rather in the standards set by the organisation.

This approach has serious weaknesses. The consumer's perception of quality is equated with conformance and hence is internally focused. Emphasis on reliability in design and manufacturing tends to address cost reduction as the objective, and cost reduction is perceived in a limited way–invest in design and manufacturing improvement until these incremental costs equal the costs of non-quality such as rework or scrap.

5. **Value-Based View:** Value-based quality is defined in terms of costs and prices as well as a number of other attributes. Thus, the consumer's purchase decision is based on quality (however it is defined) at the acceptable price.

Despite the importance of quality, it seems to be an enigmatic concept. A literature survey indicates that the majority of authors define quality as continuously meeting and exceeding the needs of customers. Juran (1999a:2.1, 2.2) and Goetsch and Davis (1995:3), however, add another focus that has met with general agreement.

• "Quality" means those features of products and services which continuously meet or exceed customer needs and thereby provide satisfaction. Customer satisfaction is a vital goal and is considered as the absolute test of an organisation's effectiveness (Daugherty 1996:85; Oakland & Oakland 1998:188).

• "Quality" means freedom from deficiencies – freedom from errors that require rework, customer dissatisfaction, customer claims, and so on.

3.2.2 PRINCIPLES OF ISO 9000 QUALITY MANAGEMENT SYSTEM

ISO 9000 IS defined as a set of quality standards that are determined as being necessary for manufacturers and service organisations to be effective competitors (Raisinghani et al. 2005) the standard can be used by management of the companies to improve performance and higher quality output.

Quality management systems (QMS) help companies develop and maintain a proper and stable level of quality of their products by controlling the production process and other business processes supporting it.

Currently, the process of implementing a quality management system is based on the ISO 9000 series standards.

The ISO 9000 family of international quality management standards and guidelines has earned a global reputation as a basis for establishing effective and efficient quality management systems. According to the International Organisation for Standardisation ISO 9000 family has the following structure:

ISO 9000:2005 standards provide the fundamentals and vocabulary used in the entire ISO 9000 family of standards. It sets the stage for understanding the basic elements of quality management as described in the ISO standards. ISO 9000 introduces users to the eight Quality Management Principles as well as the use of the process approach to achieve continual improvement.

ISO 9001:2008 specifies requirements for a quality management system where an organisation needs to demonstrate its ability to consistently provide product that meets customer and applicable statutory and regulatory requirements, and aims to enhance customer satisfaction through the effective application of the system,

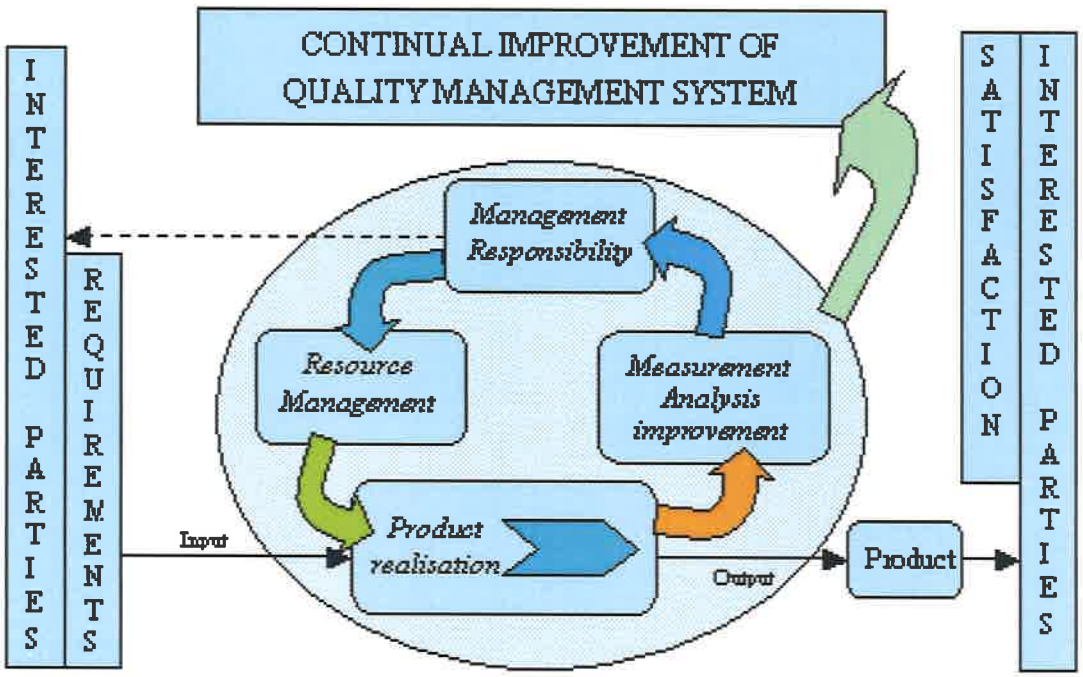
including processes for continual improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

ISO 9004:2009 is used to extend the benefits obtained from ISO 9001 to all parties that are interested in or affected by your operations. Interested parties include your employees, owners, suppliers and partners.

ISO 19011:2002 covers the area of auditing of quality management systems and environmental management systems. It provides guidance on the audit programmers, the conduct of internal or external audits, and information on auditor competence and society in general.

Figure 5 describes the relationship between ISO 9000 family and the field where it can be applied when we are implementing a quality management system.

Since their origin in 1987, ISO standards have undergone modifications, first in 1994 and then in 2000, the latter being the modification that produced the greatest changes. Recently in 2008, another version of ISO standards requirements has been developed. In figure 5 below it shown how the continual improvement of quality management system works



Continuous Quality Improvement process Source: LeanMan

Figure 5 **CONTINUOUS IMPROVEMENT OF QUALITY MANAGEMENT SYSTEM**

The emphasis is on the eight principles, which are:

The last version of ISO is based on the following eight QM elements: (1) organisation focused on the customer; (2) leadership; (3) involvement; (4) process management; (5) focus of the system towards management; (6) continuous improvement; (7) realistic focus towards decision-making; and (8) mutually beneficial relations with the supplier.

Principle 1 - **Customer-Focused Organisation:** "Organisations depend on their customers and therefore should understand current and future customer needs, meet customer requirements and strive to exceed customer expectations".

Steps in the application of this principle are:

1. Understand customer needs and expectations for products, delivery, price, dependability, etc.
2. Ensure a balanced approach among customers and other stake holders (owners, people, suppliers, local communities and society at large) needs and expectations.
3. Communicate these needs and expectations throughout the organisation.
4. Measure customer satisfaction & act on results.
5. Manage customer relationships.

Principle 2 - **Leadership**: "Leaders establish unity of purpose and direction of the organisation. They should create and maintain the internal environment in which people can become fully involved in achieving the organisation's objectives."

Steps in the application of this principle are:

1. Be proactive and lead by example.
2. Understand and respond to changes in the external environment.
3. Consider the needs of all stake holders including customers, owners, people, suppliers, local communities and society at large.
4. Establish a clear vision of the organisation's future.
5. Establish shared values and ethical role models at all levels of the organisation.

6. Build trust and eliminate fear.
7. Provide people with the required resources and freedom to act with responsibility and accountability.
8. Inspire, encourage and recognise people's contributions.
9. Promote open and honest communication.
10. Educate, train and coach people.
11. Set challenging goals and targets.
12. Implement a strategy to achieve these goals and targets.

Principle 3 - **Involvement of People**: "People at all levels are the essence of an organisation and their full involvement enables their abilities to be used for the organisation's benefit".

Steps in the application of this principle are:

1. Accept ownership and responsibility to solve problems.
2. Actively seek opportunities to make improvements, and enhance competencies, knowledge and experience.
3. Freely share knowledge & experience in teams.
4. Focus on the creation of value for customers.
5. Be innovative in furthering the organisation's objectives.
6. Improve the way of representing the organisation to customers, local communities and society at large.
7. Help people derive satisfaction from their work.
8. Make people enthusiastic and proud to be part of the organisation.

Principle 4 - **Process Approach**: "A desired result is achieved more efficiently when related resources and activities are managed as a process."

Steps in the application of this principle are:

1. Define the process to achieve the desired result.
2. Identify and measure the inputs and outputs of the process.
3. Identify the interfaces of the process with the functions of the organisation.
4. Evaluate possible risks, consequences and impacts of processes on customers, suppliers and other stake holders of the process.
5. Establish clear responsibility, authority, and accountability for managing the process.
6. Identify internal and external customers, suppliers and other stake holders of the process.
7. When designing processes, consider process steps, activities, flows, control measures, training needs, equipment, methods, information, materials and other resources to achieve the desired result.

Principle 5 - **System Approach to Management**: "Identifying, understanding and managing a system of interrelated processes for a given objective improves the organisation's effectiveness and efficiency."

Steps in the application of this principle are.

1. Define the system by identifying or developing the processes that affect a given objective.
2. Structure the system to achieve the objective in the most efficient way.
3. Understand the interdependencies among the processes of the system.
4. Continually improve the system through measurement and evaluation.
5. Estimate the resource requirements and establish resource constraints prior to action.

Principle 6 - **Continual Improvement**: "Continual improvement should be a permanent objective of the organisation."

Steps in the application of this principle are:

1. Make continual improvement of products, processes and systems an objective for every individual in the organisation.
2. Apply the basic improvement concepts of incremental improvement and breakthrough improvement.
3. Use periodic assessments against established criteria of excellence to identify areas for potential improvement.
4. Continually improve the efficiency and effectiveness of all processes.
5. Promote prevention based activities.
6. Provide every member of the organisation with appropriate education and training, on the methods and tools of continual improvement such as the Plan-Do-Check-Act cycle, problem solving, process re-engineering, and process innovation.
7. Establish measures and goals to guide and track improvements.
8. Recognise improvements.

Principle 7 - **Factual Approach to Decision Making:** "Effective decisions are based on the analysis of data and information."

Steps in the application of this principle are:

1. Take measurements and collect data and information relevant to the objective.
2. Ensure that the data and information are sufficiently accurate, reliable and accessible.
3. Analyse the data and information using valid methods.
4. Understand the value of appropriate statistical techniques.
5. Make decisions and take action based on the results of logical analysis balanced with experience and intuition.

Principle 8 - **Mutually Beneficial Supplier Relationships**: "An organisation and its suppliers are interdependent, and a mutually beneficial relationship enhances the ability of both to create value."

Steps in the application of this principle are:

1. Identify and select key suppliers.
2. Establish supplier relationships that balance short-term gains with long-term considerations for the organisation and society at large.
3. Create clear and open communications.
4. Initiate joint development and improvement of products and processes.
5. Jointly establish a clear understanding of customers' needs.
6. Share information and future plans.
7. Recognise supplier improvements and achievements.

3.2.3 THE GROWTH PHASES MODEL BY GREINER

According to Greiner, L. E. (1997), as a small business develops it moves through five growth stages, each with its own distinctive characteristics. Because the transition from one stage to the next requires change, as it is when the organisation implements ISO quality management system and those changes will be accompanied by some crisis or another. Crises tend to be disruptive and the problems of change can be minimised if managers are proactive rather than reactive. Prior knowledge of what generates crises and what to expect in each stage will smooth the process of change.

Initially, this model defined 5 phases, the reworked version added so called "extra-organisational solutions" as a sixth phase.

This framework is often used to understand why and how it should be implemented on different management-styles, organisational structures and coordination methods. In a sustainable context, the model can be used in a different way.

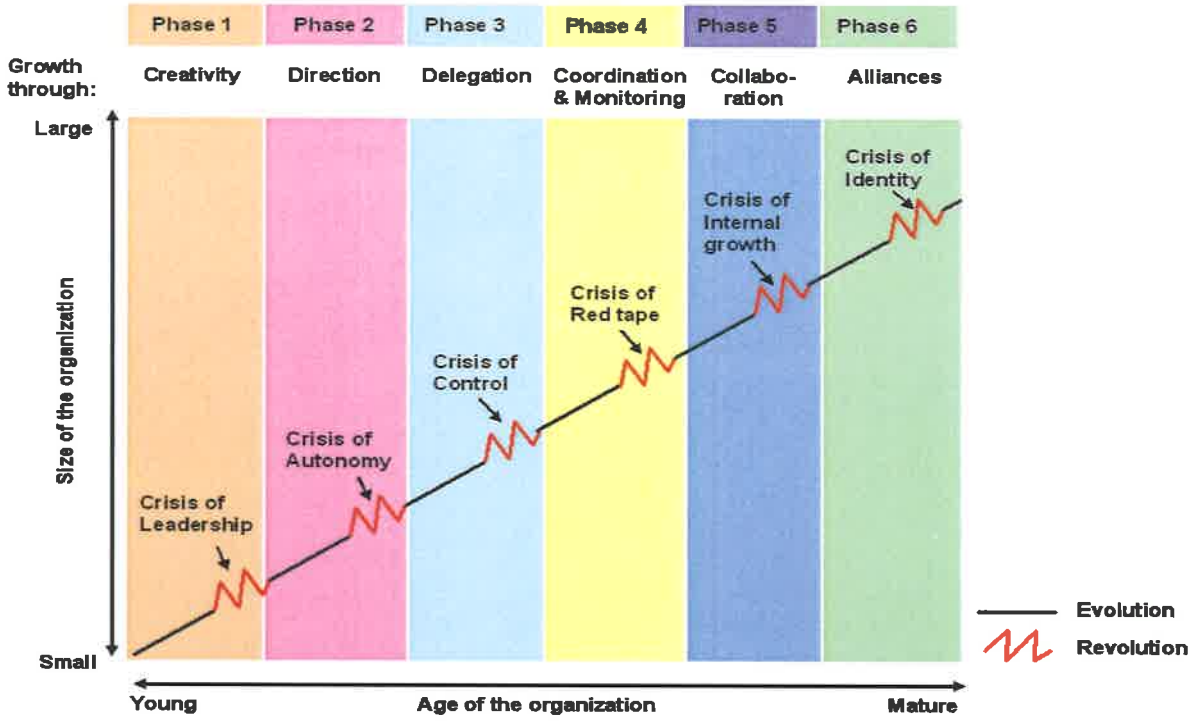


Figure 6 **GROWTH PHASES MODEL BY GREINER**

Source "Evolution and Revolution as Organizations Grow" by Larry E. Greiner. Published by Harvard Business Review.

3.2.3.1 The six phases

Growth through creativity: Focused on creating new products and services. When still in a small team, discussions on vision, future projects etc. can be held informal. As the company grows, the call for a more professional approach grows stronger. This phase often leads to a leadership crisis.

Growth through direction: With new management, there's more clarity on goals and objectives, which (often) will lead to further growth. This growth might lead to an autonomy crisis that calls for a clear structure and hierarchy.

Growth through delegation: This phase is characterised by mid-level managers that pursue opportunities in their markets and the top management that takes up a broader strategic role. The managers of phase, one who works in a very direct manner first, might find it hard to let go of projects. A crisis of control might come in, asking for a more sophisticated approach.

Growth through coordination and monitoring: better monitoring and coordination-system ensures further growth of the organisation. At the end however, the complexity of these systems might lead to a red-tap crisis.

Growth through collaboration: In order to gain more flexibility in the organisation, a more project-oriented approach is chosen. This phase will give an initial boost to both productivity and growth, but have a big chance in ending in a crisis of internal growth, in which we have to recognise that certain opportunities should better be pursued outside the firm.

Growth through alliances: The latest phase added by Greiner recognises the fact that, at a certain point, organisations will have to work together to reach their respective goals.

Using this tool in a sustainable context, there's a consensus in the green movement that in the end, our economy should evolve towards a steady state economy. Keeping this in mind, you might ask yourself how a model on growth might help you in an environmental minded organisation.

This model can be useful to determine what scale is best for your firm to operate in. You can also use this model to see how you want the business to work. If your goal is to be a creative, flexible organisation, the best way is to stay in phase 1 and limit the amount of people you're hiring.

Define upcoming industrial needs: If you're in a business-to-business environment, knowing this model can help you in defining what your customers need. Every crisis will ask for a different approach with different tools. Analysing the scale of your customer can help you to come up with better, tailor-made solutions.

Skip a phase: Also called learn from others' mistakes. It's perfectly possible to stay in phase 1 while avoiding the leadership crisis and extending with for example collaboration. In this way you can customize your organisation without needing to grow through every phase (and crisis) and SMEs can adapt this model to improve their business strategies and procedures.

Bennett & Smith (2002) suggest that SMEs increasingly achieve competitive advantage "from developing trading relationships with other regions or countries

beyond their own locality" - i.e. a strategy involving active networking and internationalization can contribute to competitive advantage.

As for the lifecycle of SMEs, Larry Greiner (1972) established a lifecycle model for growth companies. The idea behind Greiner's model is that a growing company will go through phases of "creativity", "direction", "delegation", "coordination", and "collaboration" and each phase will presumably end up in a crisis as well as be preceded by a crisis: "leadership crisis", "autonomy crisis", "control crisis", and "red tape crisis" accordingly (Greiner, 1972). These crises all occur due to too much of a good thing, e.g. delegation that is preceded by an autonomy crisis where employees will demand more autonomy at work. Consequently, responsibility is delegated, but eventually the company and its management will experience a need for more control, which can lead to a control crisis.

3.3.2 DEFINITION OF ISO

ISO is an International Organisation for Standards that was formed by technical committees. They provide user-friendly guidelines for a wide range of organisations.

ISO 9000 is a set of five International Standards for Quality Assurance.

- ISO 9000 comprises rules for the other four standards.
- ISO 9001 is intended for suppliers who do a lot of design or customisation.
- ISO 9002 contains standards for both production and installation.
- ISO 9003 is guidelines for final test and inspection.
- ISO 9004 is designed to help managers develop a substantial quality system.

As businesses change and become more complex, ISO has adapted to meet these demands. ISO has come up with 9001, 9002, 9003 etc. to cover different aspects of the business.

Selection and Use of the Standards		ISO 9000
Internal Use Within Producer	Quality Management Quality Systems Elements	ISO 9004
External Use For Quality Assurance	Three Quality Assurance Models	ISO 9001 ISO 9002 ISO 9003

TABLE 5 **BRIEF EXPLANATION OF ISO 9000 SERIES.**

The table explains the difference between the series and what they objectives are. Companies choose which series they use based on the scope of their operation.

3.3.3 DISADVANTAGES OF ISO 9000

Many companies are ISO 9000, but there are some companies that choose not to be certified. As previously stated, ISO 9000 is a stead of guidelines. These guidelines are implemented into companies operations. However, there are reasons why companies would not be ISO.

The actual change of operations can be very expensive. Usually designated people have to take classes and be trained as the company's liaison for ISO 9000. These people, as part of their full time jobs, train fellow employees how to implement and use ISO 9000 procedures.

As is well known in business and industry, it is difficult to change the habits of long-time employees. New procedures are rarely welcomed with open arms.

In fact, new ways are usually resisted by everyone. This resistance cuts into profits and also decreases company morale.

There are times when companies feel that the existing set of operational procedures is already working well and they do not feel a change is necessary. Frequently, companies will have a customer who demands that they be ISO 9000 certified to continue doing business.

3.3.4 ADVANTAGES OF QUALITY SYSTEM

Companies strive for total quality systems because quality is what the customer demands and reasons why a company may seek a quality system.

- Ensure that products and services provided meet customer requirements.
- Ensure consistency in the day to day operations.
- Ensure that processes are repeatable and predictable.
- Allow the company to create and retain satisfied customers
- Improve the efficiency, reduce operating cost and minimize unproductive time.

All of these features are important in having a competitive company.

ISO 9000 is not just a badge to be worn; it is a set of standards to be followed. It is quickly sweeping the world as an international standard. Those companies who ignore ISO 9000 will be left behind. The advantages far out weight the disadvantages, if a company follows the ISO 9000 guidelines strictly. So what does it mean to be ISO 9000 certified? It means following the ISO 9000 guidelines to build a competitive company in a global economy.

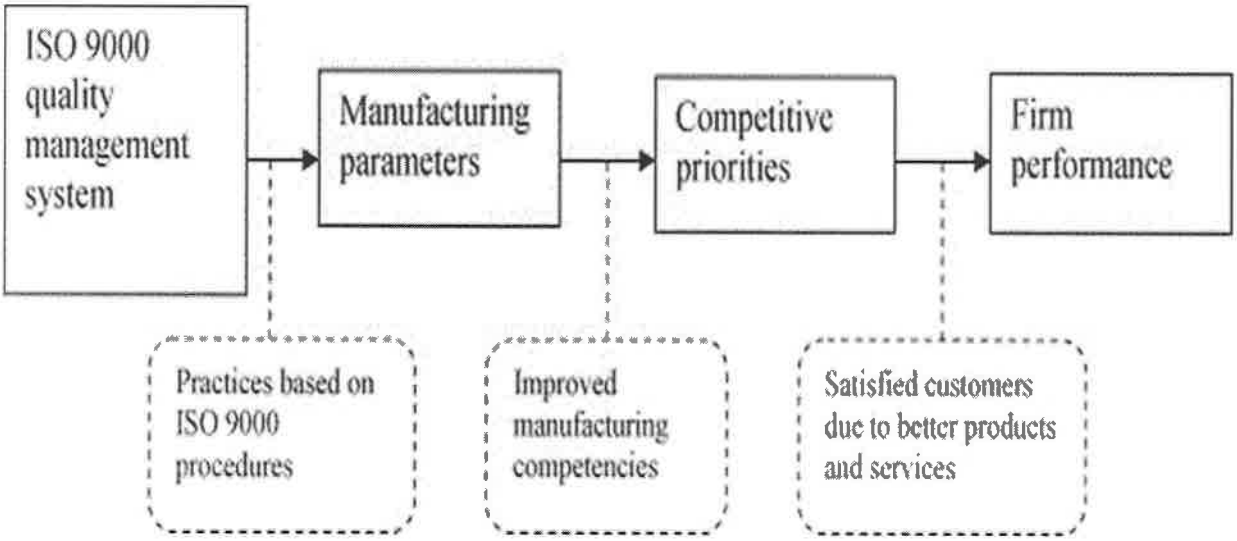


Figure 7 **ISO 9000 GUIDELINES TO BUILD COMPETITIVE COMPANY IN A GLOBAL ECONOMY**

3.3.5 IMPORTANCE OF IMPLEMENTING ISO 9000 AMONG SMEs

Proponents of ISO 9000 generally view the benefits of such registration as having the ability to improve product or service quality, efficiency and productivity, customer confidence, competitive advantage and the like. Criticism of ISO 9000 generally relates to the high level of paperwork and documentation, a rigid system that does not support creativity or empowerment, a standard that aims for consistency but not continuous quality improvement, etc. (Barnes, 1998; Larson, 1999). In the Singapore context, the trend of ISO 9000 registration is growing, and since 1989 more than 2500 firms have been registered to ISO 9000 standards (PSB, 1999). In addition, the government in Singapore is encouraging local industry to upgrade its operations and provides incentive to help defray the cost of the ISO 9000 implementation. Some large public sector firms are also subtly pressurizing their suppliers to register for ISO 9000 (BCA, 1999).

The results of the proposed study will help to assess the relationship between ISO 9000 registration and quality management practices and quality results. This will also help business leaders, quality practitioners and governmental authority to determine the future path of ISO 9000 in Singapore and its relevance in enhancing the operations of a firm.

3.3.6 FACTORS THAT AFFECT THE IMPLEMENTATION OF ISO 9000

The aim of this study is to determine the effective factors, the difficulties encountered, and the attainable levels of the objectives in the certification process of small and medium-sized enterprises with the ISO 9000 Quality Management Systems (QMS) certificate in SMEs in the Western Cape. In the performance criteria, quality has a special importance for organizations. Presently, quality has become the most important element since the variety of the goods and services production has increased and the customer expectations have risen. While quality was the element which provided competitive advantage in 1980's, today, it has become the main circumstance of survival for all companies (Kavrakoglu, 1998; Ikay and Varinli, 2006).

3.3.7 CHARACTERISTICS OF ISO 9000

Quality assurance systems as proposed by the ISO 9000 QMS standards have three characteristics (Geraedts et al., 2001):

- The principle focus is on the process of service delivery itself, not on the outcome
- There is a systematic approach. This implies that working processes and resources are identified and that the performance is measured on a regular basis, using performance indicators.
- The system has to be variable by means of documents such as quality handbook, procedures describing the most important working process, standard operating procedures/instructions, and the measurement of performance indicators.

3.3.8 POSITIVE FACTORS OF ISO STANDARD

It is a fact that positive effects of ISO 9000/9001 QMS implementations on the organisations will also lead to positive results on the basis of sector and country.

Among them, increase in exports and production and productivity can be considered as the most important results. Hooker and Caswell (1999) state that a company has four incentives to introduce an ISO 9000.

The first is to promote confidence in the company's ability to offer a high-quality product and thus fulfil contractual requirements and achieve a competitive advantage for future transactions. This point to the second incentive to implement an ISO 9000: some companies are able to charge a price premium for a high-quality product. Others hope to attract more buyers through the creation of consumer confidence, a reputation as a preferred supplier, or a marketing edge with a registered supplier status (the third incentive). In addition, the introduction of an ISO 9000 often leads to enhanced relationships with customers and suppliers, leading in turn to increased sales and increased market share,

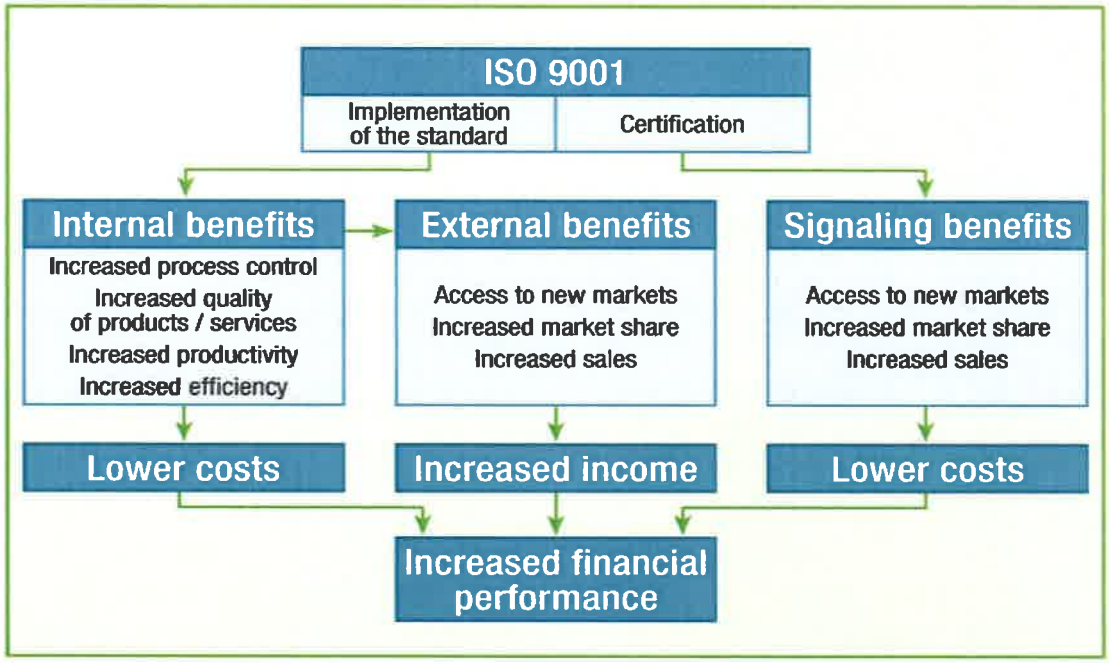


Figure 8 **POSITIVE FACTORS OF ISO STANDARD**

3.3.9 BENEFITS OF IMPLEMENTING ISO 9000

3.3.9.1 Internal benefits

ISO 9000 certification leads to better documentation of company processes. This, in turn, leads to more efficient production processes and less waste. Both save money for a company. Managers and other employees become more aware of quality. They begin to view operations through a "quality of management" lens. This leads to a more efficient company that can be more competitive in the market place. Benefits of this system include aligned interests, reduced costs, and improved efficiency.

3.3.9.2 External benefits

The first is that company prestige increases. Companies following ISO 9000 series standards are perceived as a good corporate citizen that produces high quality products. It creates a higher level of trust. Customers perceive a certified company as being more trust worthy than non-certified company and it also reduce the need for customer audits.

3.3.9.3 BARRIERS TO IMPLEMENTATION OF ISO 9000

ISO 9000 certification may also present barriers for its implementations and consequent pitfalls. It is useful to explore the barriers for ISO 9000 implementation and identify how these barriers can be overcome, in order to allow the companies to improve their performances.

Implementation has been identified in three types of obstacles:

- Lack of commitment for some certifying bodies; excessive competition between certifying bodies and offering of a total packaged service from consultancy to certification by certifying bodies.

3.4 COMMON APPROACHES OF QUALITY MANAGEMENT SYSTEMS

The development of quality systems has evolved from many principles and techniques. These principles and techniques include Kanban, Hashin-kanri, Kaizen, Quality Circles, Quality function deployment, Just in Time, Deming's 14 points, etc. In reality, these principles and techniques have been successful in achieving improvement in the areas of design, variation reduction, team building, customer satisfaction, leadership, prevention and process improvement. The role of quality systems using statistics is vital for the analysis of the variation that exists in every process and decisions are made for improvement on that basis.

It is also important to understand that a set of standards (e.g. ISO 9000) has been used for the quality assurance of a system in order to offer customers quality in products and services. This paper discusses critically the understanding of quality systems, and testing standards, in order to provide an integrated approach to the quality system for the benefit of the organisations.

3.5. REQUIMENTS OF IMPLEMENTING ISO 9000

The costs associated with the introduction or systematisations of ISO 9000 are very diverse. They include senior management and staff time in generating procedures; setting up, designing, implementing, and maintaining the ISO 9000 itself; training of personnel; recording; testing; new equipment; calibration; inspection; internal audits; consultant's fees; and last but not least, registration fees if the quality system is certified by a third party (Canavari et al., 1998 and Fouayzi et al 2006)

Chapter 4 - DATA COLLECTION DESIGN AND METHODOLOGY

4.1 INTRODUCTION

In this chapter the methodology of the study is presented. The chapter begins by discussing the research paradigm that the study is conducted in followed by a discussion on the research process. This discussion focuses on issues such as the sample size and selection, data collection, the research instrument, data analysis and the ethical aspects of conducting the research.

4.1.1 RESEARCH DESIGN AND METHODOLOGY

Research design and methodology is plan outlining how information is to be gathered for an assessment or evaluation that includes identifying the data gathering method(s), the instruments to be used/created, how the instruments will be administered, and how the information will be organised and analysed. It is the way to systematically solve the research problem by logically adopting various steps. According to Collis & Hussey (2003) research design is the science (and art) of planning procedures for conducting studies so as to get the most valid findings. Cooper & Schindler (2001) refer to research design as being "the blueprint for fulfilling objectives and answering questions". Cooper & Schindler (2001) proceed to identify the essentials of research design being:

- The design is an activity and time-based plan; the design is always based on a research question.
- The design guides the selection of sources and types of information.
- The design is a framework for specifying the relationship among the study's variables.
- The design outlines procedures for every research activity.

The most fundamental statement is that research and design's primary objective is to answer questions. This question is defined as the research problem statement. According to Cooper & Schindler (1998) "The problem statement contains the need for the research project. It is followed by a more detailed set of objectives. These objectives as specified by Cooper & Schindler are often referred to a "Sub problems".

In order to solve the main problem and the sub-problems the research is divided into two areas of research. Firstly a comprehensive literature review will be conducted; during this literature review the following fields will be explored:

- Main measurements of ISO 9000 to quality of product/service?
- The key factors that affect the implementation of ISO 9000 in SMEs?
- Main benefits of implementing ISO 9000 in SMEs?
- ISO9000 impact on the quality of product/service in SMEs?
- Mechanism that can be used to implement ISO 9000 effectively in SMEs?

The second area of research will be to conduct a qualitative research study by making use of a case study methodology. Yin (2003) stated that case studies could be "used to document and analyses the outcomes of public or privately supported interventions, such as the programs sponsored by federal agencies or the initiatives supported by private foundations". Successfully supported government initiatives are the core focus of this treatise. The case study methodology will be explorative by nature. The intention will be to interview a number of SMEs and during the interview process identify what has restricted or prevented the growth of their business. In order to obtain and not limit the information that is supplied by the SME's a number of open ended questions will be used during the interview process.

4.1.2 QUANTITATIVE RESEARCH

Quantitative research is conclusive in its purpose as it tries to quantify the problem and understand how prevalent it is by looking for projectable results to a larger population. Here we collect data through surveys (online, phone, paper), audits, points of purchase (purchase transactions), and click-streams.

CHARACTERISTICS

CONTROL: This is the most important element because it enables the scientist to identify the causes of his or her observations. Experiments are conducted in an attempt to answer certain questions. They represent attempts to identify why something happens, what causes some event, or under what conditions an event does

occur. Control is necessary in order to provide unambiguous answers to such questions. To answer questions in education and social science we have to eliminate the simultaneous influence of many variables to isolate the cause of an effect. Controlled inquiry is absolutely essential to this because without it the cause of an effect could not be isolated.

OPERATIONAL DEFINITION: This means that terms must be defined by the steps or operations used to measure them. Such a procedure is necessary to eliminate any confusion in meaning and communication. Consider the statement `Anxiety causes students to score poorly in tests'. One might ask, `What is meant by anxiety?' Stating that anxiety refers to being tense or some other such term only adds to the confusion. However, stating that anxiety refers to a score over a criterion level on an anxiety scale enables others to realise what you mean by anxiety. An operational definition forces one to identify the empirical referents, or terms. In this manner, ambiguity is minimised. Again, introversion may be defined as a score on a particular personality scale, hunger as so many hours since last fed, and social class as defined by occupation.

REPLICATION: To be replicable, the data obtained in an experiment must be reliable; that is, the same result must be found if the study is repeated. If observations are not repeatable, our descriptions and explanations are thought to be unreliable.

4.1.3 QUANTITATIVE

4.1.3.1 STRENGTHS AND LIMITATIONS

STRENGTHS

- Precision - through quantitative and reliable measurement
- Control - through sampling and design
- Ability to produce causality statements, through the use of controlled experiments
- Statistical techniques allow for sophisticated analyses
- Replicable

4.1.3.2 LIMITATIONS

- Because of the complexity of human experience it is difficult to rule out or control all the variables;
- Because of human agency people do not all respond in the same ways as inert matter in the physical sciences;
- Its mechanistic ethos tends to exclude notions of freedom, choice and moral responsibility;
- Quantification can become an end in itself.
- It fails to take account of people's unique ability to interpret their experiences, construct their own meanings and act on these.
- It leads to the assumption that facts are true and the same for all people all of the time.
- Quantitative research often produces banal and trivial findings of little consequence due to the restriction on and the controlling of variables.
- It is not totally objective because the researcher is subjectively involved in the very choice of a problem as worthy of investigation and in the interpretation of the results.

4.1.3.3 QUESTIONS TO CONSIDER

- Why are only testable ideas of worth in science?
- Scientific study is empirical and objective. What is meant by this statement? Adapted from Burns, 2000: 9-10)

4.1.4 QUALITATIVE RESEARCH

Qualitative research is by definition exploratory, and it is used when we don't know what to expect, to define the problem or develop an approach to the problem. It's also used to go deeper into issues of interest and explore nuances related to the problem at hand. Common data collection methods used in qualitative research are focus groups, triads, dyads, in-depth interviews, uninterrupted observation, bulletin boards, and ethnographic participation/observation.

4.1.4.1 CHARACTERISTICS

Events can be understood adequately only if they are seen in context. Therefore, a qualitative researcher immerses her/himself in the setting.

The contexts of inquiry are not contrived; they are natural. Nothing is predefined or taken for granted.

- Qualitative researchers want those who are studied to speak for themselves, to provide their perspectives in words and other actions. Therefore, qualitative research is an interactive process in which the persons studied teach the researcher about their lives.
- Qualitative researchers attend to the experience as a whole, not as separate variables. The aim of qualitative research is to understand experience as unified.
- Qualitative methods are appropriate to the above statements. There is no one general method.
- For many qualitative researchers, the process entails appraisal about what was studied.

Ely et al add the following from Sherman and Webb (1988) to their definition:

Qualitative implies a direct concern with experience as it is `lived' or `felt' or `undergone' ... Qualitative research, then, has the aim of understanding experience as nearly as possible as its participants feel it or live it.

4.1.5 QUALITATIVE

4.1.5.1 STRENGTHS AND LIMITATIONS

LIMITATIONS

- The problem of adequate validity or reliability is a major criticism. Because of the subjective nature of qualitative data and its origin in single contexts, it is difficult to apply conventional standards of reliability and validity.
- Contexts, situations, events, conditions and interactions cannot be replicated to any extent nor can generalisations be made to a wider context than the one studied with any confidence.
- The time required for data collection, analysis and interpretation is lengthy.

- Researcher's presence has a profound effect on the subjects of study.
- Issues of anonymity and confidentiality present problems when selecting findings.
- The viewpoints of both researcher and participants have to be identified and elucidated because of issues of bias.

STRENGTHS

Because of close researcher involvement, the researcher gains an insider's view of the field. This allows the researcher to find issues that are often missed (such as subtleties and complexities) by the scientific, more positivistic enquiries.

Qualitative descriptions can play the important role of suggesting possible relationships, causes, effects and dynamic processes.

Because statistics are not used, but rather qualitative research uses a more descriptive, narrative style, this research might be of particular benefit to the practitioner as she or he could turn to qualitative reports in order to examine forms of knowledge that might otherwise be unavailable, thereby gaining new insight. (Adapted from Burns, 2000: 13-14)

4.2.1 TARGET POPULATION

Target population is the population of individuals which are interested in describing and making statistical infancies about the research/study, and the core target population is the set of all the companies in the Western Cape that will be participating in the study. Target population of this research will be the SMEs operating in the Western Cape, South Africa. The study will focus on the impact of ISO 9000 certification on quality management practices among Small Medium Enterprises and the impact of quality initiative/technique in SMEs South Africa.

The research theses will involve several ways to collect the information, a review of available literature related to ISO 9000 certification on quality management practices and other quality initiatives, journals, articles, papers, SMEs and books, development of research questionnaires, sample selection, data collection, data

analysis and result of reporting. The main focus/method of gathering information will be a case study method.

4.2.1.1 CONSUMER GOODS INDUSTRIES

Also called: Light industries they are called light industries because they consume less energy, less raw materials and also they are not saw large

They make finished product aimed directly at the consumers, such as textile, cars, foods etc.

They consume less energy;

They consume fewer raw materials;

They have small dimensions (easy to install in any country)

4.2.1.2 LOCATION

They are located near the cities (in order to be near the market and to access labour more easily).

They are located in industrial zones;

They are Located near transport facilities;

The finished products are easily transported;

4.2.1.3 TYPES

Textile industry;

Car industry;

Canned food industry (or packaging industry);

Chemical industry (paint products, cleaning products);

Paper industry.

4.2.1.4 CLOTHING AND TEXTILES

Clothing and textiles are a composition of manufacturing industry that are involved in the processing and production of raw materials into clothing. Likewise, this industry provides job opportunities to tailors as well as those people involve with sewing and fabrics. They also make sheets and towels from the raw materials.

4.2.1.5 CHEMICAL, PETROLEUM AND PLASTIC INDUSTRY

These include those companies that are manufacturing chemical products, soaps, paints and pesticides. Likewise, the companies that manufacture medicines are also part of this sector.

4.2.1.6 ELECTRONICS AND THE TRANSPORT SECTOR

This sector is very important in the evolution of the technology that plays a big role in the success of the country. Obviously, a specific community will not be progressive without the transportation sector and there would be no progress without the use of the new electronic gadgets that can help in the success of the country.

4.2.1.7 FOOD SECTOR

The advancement in technology is also important in the food sector. This component of manufacturing industry is very significant to us because we will not be productive if there is no food to eat. That is why, over the years the food sector invests in making the food production more favourable, other sectors that composed the manufacturing industry include metals, wood, leather and paper.

4.2.2 AREA OF STUDY

The study is being conducted in Small and Medium Enterprises in the Western Cape, South Africa, in the manufacturing and service sectors, which are currently ISO 9000 registered/quality initiative organisations and now experiencing the impact of implementing the quality initiative or technique on the organisation.

4.2.3 SAMPLING

Success of any research study depends on the way in which the researcher selects the people who will participate in the study. The crucial factor for a successful survey study is to obtain reliable and actionable results that reflect the feelings and thoughts of the respondents. The most successful and efficient sample size in a quantitative research is the representative sample which can be easily generalized over the whole population, with approaching to zero sampling error. Therefore, the main goal of the sampling techniques is to reduce or eliminate the sampling error, when possible.

According to Polit et al (2001:325) sampling criteria are developed from the research problem the purpose of the study, the conceptual and operational definitions of the study variables and design. Bruns and Grove (2001:376) further described sampling criteria as the characteristics essential for membership in target population, and they also define purposive sampling as judgmental sampling that makes the conscious selection by the researcher of certain subject or elements to include in the study.

4.2.4 THE RESEARCH PROCESS

The Research process provides the necessary foundations and skills in locating information to complete an effective research. There are a number of steps to follow, regardless of the topic. According to Remenyi, Williams, Money and Swartz (200:64-65), the research process consists of eight specific phases, which also be applied to this research study.

These phases include: Reviewing the literature; formalising research questions; establishing the methodology; collecting evidence; analysing the evidence; developing conclusions; understanding the limitation of the research and producing management guidelines or recommendation.

According to Collis & Hussey (2003:16), there are six fundamental stages in the research process, namely:

Identification of the research topic; definition of the research problem; determining how the research is going to be conducted; collection of the research data; analysis and interpretation of the research data and writing up of the thesis

4.2.5 DATA COLLECTION AND DESIGN

The survey method was used to collect data. Surveys were sent over the internet. The survey consisted of five sections two sections were open-end questions and three were Lickert scale.

SECONDARY DATA

Secondary data which was used were various Websites, Library resources, Journals, Magazines etc. for supportive literature and other information.

PRIMARY DATA

The primary data has been collected from the respondents of selected small & medium enterprises (SMEs) situated in and around the Western Cape. The survey instrument used here is a questionnaire with multiple choice of answering questions based on Likert"s scale and open-end questions (Yes/No). The questionnaire consists of total 37 questions divided into five sections.

According to Emory and Cooper (1995:278), three primary types of data collection

(Survey) methods can be utilized namely:

- Personal interviewing.
- Telephone interviewing.
- Self-administered questionnaires/surveys.

Interviews, according to Collis and Hussey (2003:64), are associated with both positivist and phenomenological methodologies. They are a method of collecting data in which selected participants are asked questions in order to find out what they do, think or feel.

The use of personal interviews as an additional element to the data collection process is in the opinion of the researcher, important, since this allows for the identification of issues within the target environment, which may not be readily identifiable using a pure survey questionnaire. Furthermore, according to Collis and Hussey (2003:64),

interviews are associated with both positivist and phenomenological methodologies as employed within the ambit of this dissertation.

4.2.6 DATA VALIDATION AND RELIABILITY

There are three criteria for evaluating measuring, namely reliability, validity and sensitivity. Two major forms of validity exist, namely external validity (which refers to the ability to generalise across persons, settings and times) and internal validity (limited to the ability of a measuring instrument measuring what it is supposed to measure). The focus of this discussion will be on the latter. Validity in this context refers to the differences found with a measuring tool reflecting true differences amongst respondents (Cooper & Schindler, 1998:167) three basic approaches have been identified to address this problem and will be discussed briefly.

4.2.6.1 FACE OR CONSENSUS VALIDITY refers to the argument that the measurement logically reflects or represents that what it purports to measure. The content appears to be adequate. This type of validity is dependent on the on the subjective agreement of professionals and is supported by little more than common sense.

4.2.6.2 CRITERION VALIDITY is more defensive as it is based on empirical evidence where the attitude measure correlates with the criterion variables. There are two types of criterion validity, namely concurrent and predictive validity. When two variables are measured at the same time and shown to be valid it is referred to as concurrent validity. Predictive validity is when an attitude measure can predict some future event. These two measures only differ on the basis of a time dimension.

4.2.6.3 CONSTRUCT VALIDITY refers to the degree to which a measure confirms a network of related hypotheses generated from theory based on the concepts or constructs. It aims at defining the concept or construct and that the measurement connects the empirical phenomenon to the concept. Construct validity implies that the empirical evidence generated from the measuring instrument is consistent with the theoretical concepts. It is therefore established during statistical analysis of the data. This type of validity can only be achieved after convergent validity and discriminant validity have been established. Convergent validity refers to

the attitude measure that adequately represents a characteristic or variable if it correlates with other measures of the variables, while discriminant validity has a low correlation with measures of dissimilar concepts (Aaker et al, 2001:293-294; Zikmund, 2003:302-304).

4.2.6.4 RELIABILITY is defined as the degree to which a measuring instrument is free from error and therefore yields consistent results (Zikmund, 2003:300). While Polit et al (2001:305) describe reliability as the consistency with which an instrument measures the attribute. An instrument is said to be reliable if its measures accurately reflect the true score of the attribute under investigation. Various methods to assess reliability have been identified to assess the reliability of a measure. A reliability coefficient is a correlation that measures the amount of coincidence or association between things. The test-retest reliability is used to measure the stability of the measure, therefore using the same instrument on the same group of people at two different occasions. Alternate –forms reliability is used to assess the equivalency component of reliability, so testing the extent of agreement between two measuring instrument. (Du Plooy, 2002:121-122).

4.2.7 ETHICS

According to Sauders, Lewis and Thornhill (2000:130); ethics refers to the appropriateness of behavior in relation to the rights of those who become the subject of your work, or affected by it. The following ethics will be observed in this research:

4.2.7.1 INFORMED CONSENT: A questions will be designed for participants to answer.

Participants will be given the choice of either participating or not participating, and furthermore the participants will be informed in advance about the nature of the study.

4.2.7.2 RIGHT TO PRIVACY and **CONFIDENTIALITY:** Participants names and identity numbers will be kipped secretly and confidential. All information gathered will be used only for research purposes.

4.2.7.3 HONESTY WITH PROFESSIONAL COLLEAGUES: Findings will be reported in a complete and honest fashion, without misrepresenting what has been done or intentionally misleading others as to the nature of it.

4.3.1 RESEARCH ASSUMPTIONS

Assumptions are made about (a) the **theory** under investigation, (b) the **phenomenon** under investigation, (c) the **instrument**, (d) the **methodology**, (e) the **analysis**, (f) the **power** to find significance, (g) the **participants** in the study, and (h) the **results**. And the following assumptions are included:

- The entire participants have the basics of ISO 9000/quality technique.
- The is main impact of ISO 9000 on the quality of product/service
- There are number of challenges in implementing ISO certification.
- The questions posed in survey are answered truthfully buy participants.

4.3.2 RESEARCH CONSTRAINTS

Research constraints refer to any applicable inhibiting factor which would in any way constrain the researchers' ability to conduct the research in a normal way. This is primarily attributed to two factors:

4.3.2.1 DELIMITATIONS

Delimitations define the parameters of the investigation. In educational research the delimitations will frequently deal with such items as population/sample, setting, and instrumentation.

4.3.2.2 LIMITATIONS OF THIS STUDY

Limitations are influences that the researcher cannot control. They are the shortcomings, conditions or influences that cannot be controlled by the researcher that place restrictions on the methodology and conclusions.

- Only Western Cape SMEs who will be participating on the research.
- Quality departments only that will participate in the research.

This study was confined to the manufacturing sector in the Western Cape, South Africa. For the purposes of this study a sample size of forty-five was deemed

sufficient. The findings of this study cannot be generalised beyond those who participated in the study. The major focus in this study was the impact of ISO 9000 quality management practice on SMEs. The names of the SMEs, the external environment, and any other significant focus areas were not discussed in any detail in this study.

Chapter 5 - FINDINGS AND DISCUSSION

5.1 INTRODUCTION

According to De Vos (2002:339), data analysis is the process of bringing order, structure and meaning to the mass of collected data". The aim of this study is to determine what mechanisms can be deployed to promote the application of a quality management system in small and medium enterprises in the Western Cape South Africa, focusing on the following research questions:

- To what extend does the implementation of the international recognised quality management initiatives affect the SMEs performance in their organisations?
- What are the main measurements of quality management initiatives with respect to quality of product/service?
- What are the key factors that affect the implementation of quality techniques in SMEs?
- What are the main benefits of implementing quality techniques or ISO 9000 in SMEs?
- How does ISO 9000 impact on the quality of product/service in SMEs?
- How can ISO 9000 be implemented effectively in SMEs?

5.1.1 DATA MANAGEMENT

In this chapter the data obtained from the completed questionnaires will be presented and analysed. In most social research the analysis entails three major steps, done in the following order:

- Cleaning and organising the information that was collected, which is called the data preparation step;
- Describing the information that was collected (Descriptive Statistics); and
- Testing the assumptions made through hypothesis and modelling (Inferential Statistics).

The responses to the questionnaire developed by the researcher for the purpose of obtaining information regarding the existing quality strategies that small enterprises are implementing at present, the barriers of quality management in small business enterprises, the quality solutions that should be implemented by small businesses to improve product and service of the enterprises, and a suitable quality management strategy for small enterprises have been analysed by using professional online survey software(inqwise).

5.1.2 METHOD OF ANALYSIS

The first section of the chapter discusses the objectives of the research and the methodology used to accomplish the analysis. A summary of the major results will be described on the graphs as well as tables.

5.1.3 VALIDATION OF SURVEY RESULTS

A descriptive analysis of the survey results returned by the research questionnaire respondents are reflected below. The responses to the questions obtained through the questionnaires are indicated in table format for ease of reference.
Data validation is the process of ensuring that a program operates on clean, correct and useful data. The construct validation however can only be taken to the point where the questionnaire measure what it is supposed to measure.
Construct validation should be addressed in the planning phases of the survey and when the questionnaire is developed. This questionnaire is supposed to measure quality strategy information of small and medium enterprises in the Western Cape.

5.1.4 ANALYSIS AND INTERPRETATION OF DATA

The questions sent to various individuals along the SME sector were used to measure their attitude toward the ISO 9000 system. Five managers were targeted for interviewing and only two of the five I have managed to interview.

The graphs below are used to illustrate the results of these questionnaires, Lickert scale and open-end questions. Further analyses are added under each graph.

The survey was anonymous; responses cannot be traced to any individual. The free and frank expression of the participants own opinion where helpful. There were no right or wrong answers to any items in the questionnaire. Participants were requested to respond to each of the statements by placing a ticking √ in the space which most accurately fits the extent to which they agree that the statement is describing.

The questionnaires were divided into two sections likert scale questions which were distributed to supervisors and managers and closed-ended dichotomous question which were distributed to the general workers of the firm.

likert scale questions category A which was distributed to managers and supervisors.

Likert questions can help to ascertain how strongly your respondents agree to a particular statement. Such type of questions also helps to assess how the managers understand the quality technique that is used by the firm.

Closed-ended question category B which was distributed to general workers of the firm.

These are simple questions that ask respondents to answer in a yes or no. One major drawback with dichotomous questions is that it cannot analyze the answers between yes and no, there is no scope for a middle perspective.

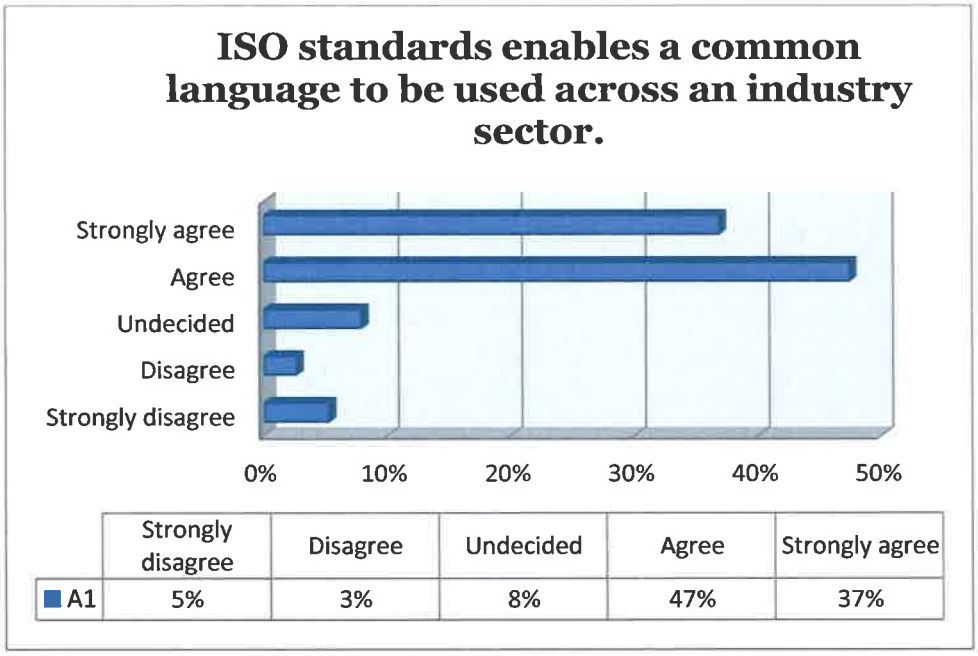
STRONGLY DISAGREE =S D
DISAGREE =D
UNDECIDED = U
AGREE = A
STRONGLY AGREE =S A

Table **5.2 QUESTIONNIERS BASED ON MANAGEMENT AND SUPERVISORS**

A		SD	D	U	A	SA
A1	ISO Standards enable a common "language" to be used across an industry sector	5%	3%	8%	47%	37%
A2	ISO Standards open up export markets for products and services.	8%	3%	16%	47%	26%

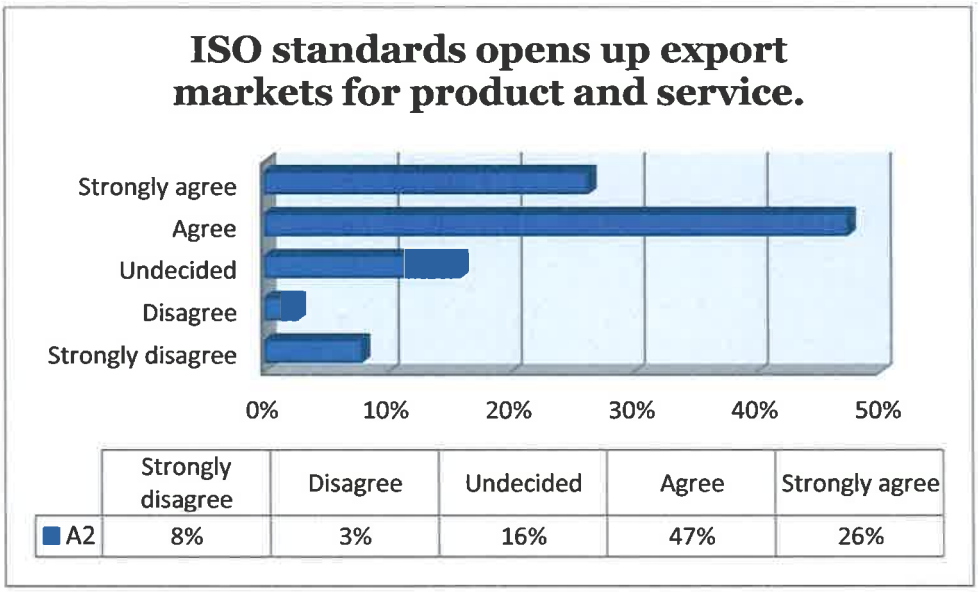
A3	ISO Standards give SMEs the competitive edge.	8%	13%	0%	42%	26%
A4	ISO Standards add credibility to your organisation and confidence for your customers.	11%	11%	21%	32%	26%
A5	ISO Standards drive efficiency in the business operations	11%	8%	18%	37%	26%
A6	ISO Standards help SMEs to discover best business practices.	11%	5%	5%	50%	29%
A7	ISO Standards helps SMEs to compete on the same basis with bigger enterprises	8%	11%	11%	50%	21%
A8	ISO has helped the organisation to improve production through clearer working schedule.	8%	16%	11%	39%	26%
A9	ISO Standards open up export markets for products and services.	11%	18%	13%	45%	13%
A10	ISO has helped to facilitate problem solving through simplifying root cause analysis.	11%	21%	8%	42%	18%
A11	ISO assist the SMEs to reduce cost of producing unnecessary products.	8%	21%	13%	45%	13%
A12	ISO assist SMEs to improve safety through establishment of stable working condition during production process.	8%	26%	34%	24%	21%
A13	More competitive advantage to SME's with quality techniques	8%	18%	21%	32%	21%
A14	Customer Confidence is gained through ISO 9000	13%	29%	16%	21%	21%
A15	Increase productivity within the SME's	11%	13%	13%	50%	13%
A16	Continuously quality improvement	11%	11%	18%	42%	18%

Figure 9 ISO Standards enable a common "language" to be used across an industry sector



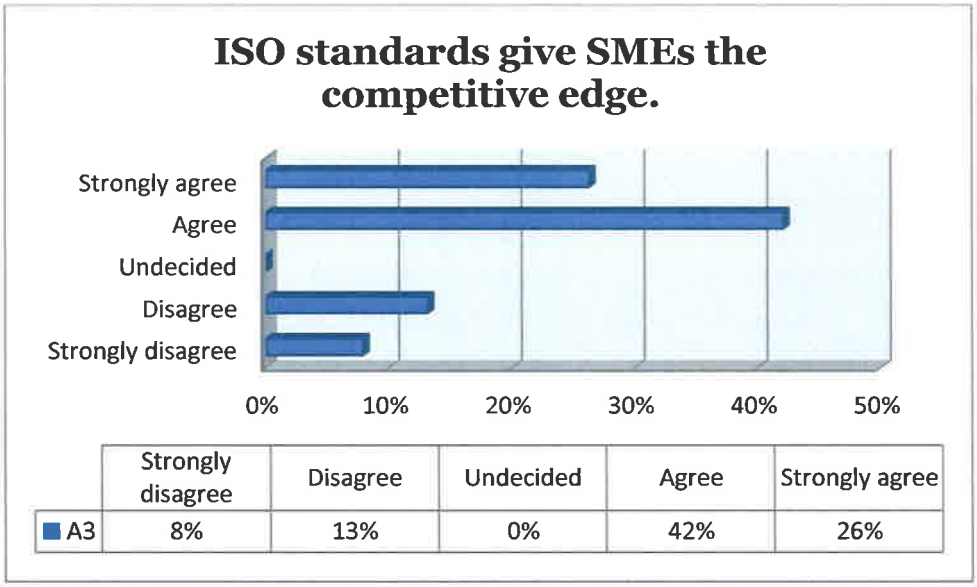
Standardisation allows businesses the opportunity to compete in markets around the world. This enables more competition, which results in more choices for customers. Standards also help developing countries to compete in international markets without investing scarce resources on research and development.

Figure10 ISO Standards open up export markets for products and services



ISO standards are the key for any company that hopes to succeed in export markets 26% strongly agree and 47% agree.

Figure 11 ISO Standards give SMEs the competitive edge.

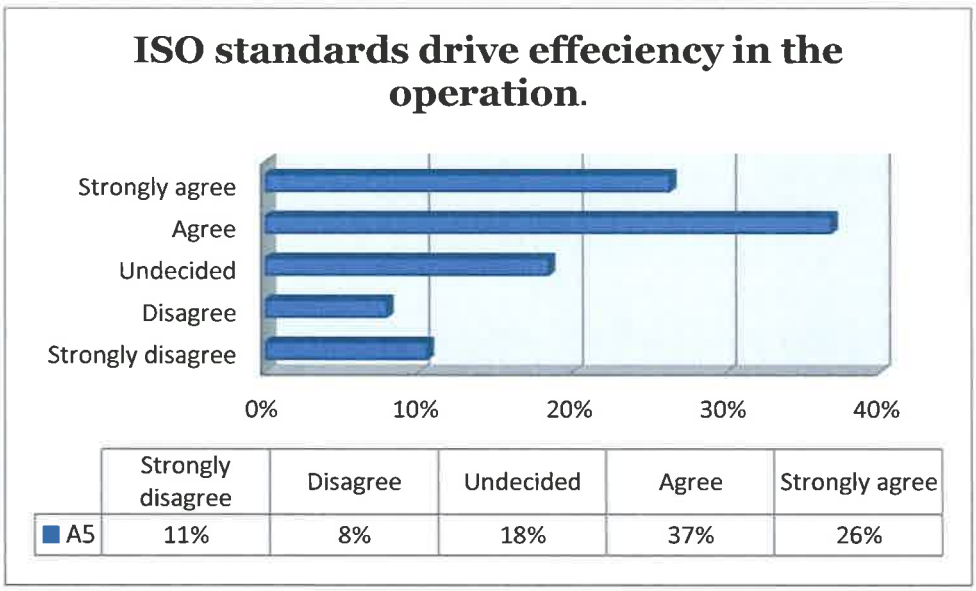


ISO 9000 gives SMEs an ability to improve product or service quality, efficiency and productivity, customer confidence, and competitive advantage" as well as "better control of business, increased sales/business, reduced costs, increased productivity and fewer customer complaints.

Figure 12 ISO Standards add credibility to your organisation and confidence for your customers.

Higher customer confidence is achieved and better customer retention, standards and certification impact on vendor selection process.

Figure 13 ISO Standards drive efficiency in the business operations



	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
A5	11%	8%	18%	37%	26%

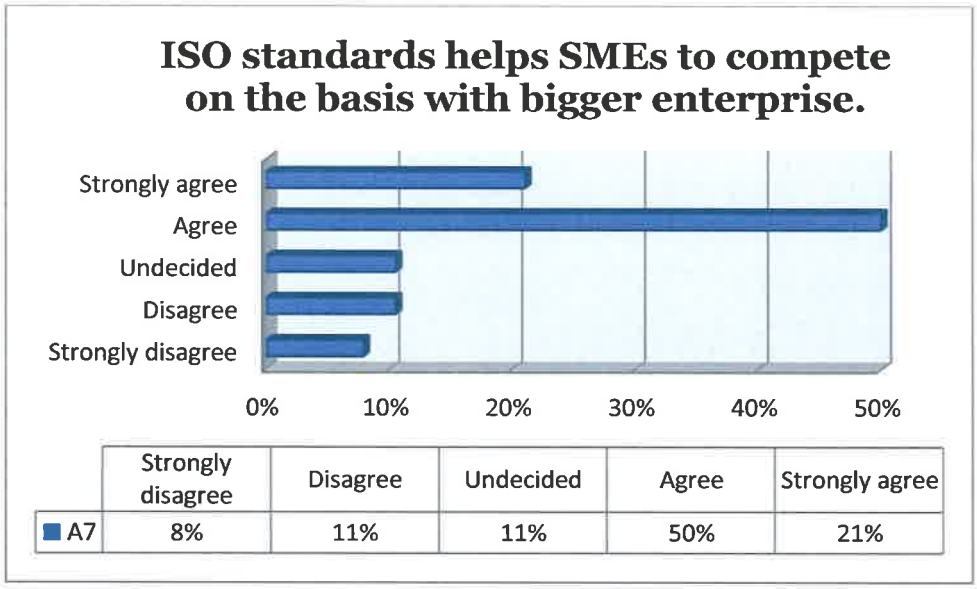
Standards and certifications open new business opportunities "Companies to embrace the use standards in order to upgrade the quality of their products / services will get access to both local and export markets."

Figure 14 ISO Standards help SMEs to discover best business practices.

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
A6	11%	5%	5%	50%	29%

ISO 9000 certification allows a company to have better internal processes through clearer working procedures, better bottom line profitability, and stronger exports from expansion into international markets.

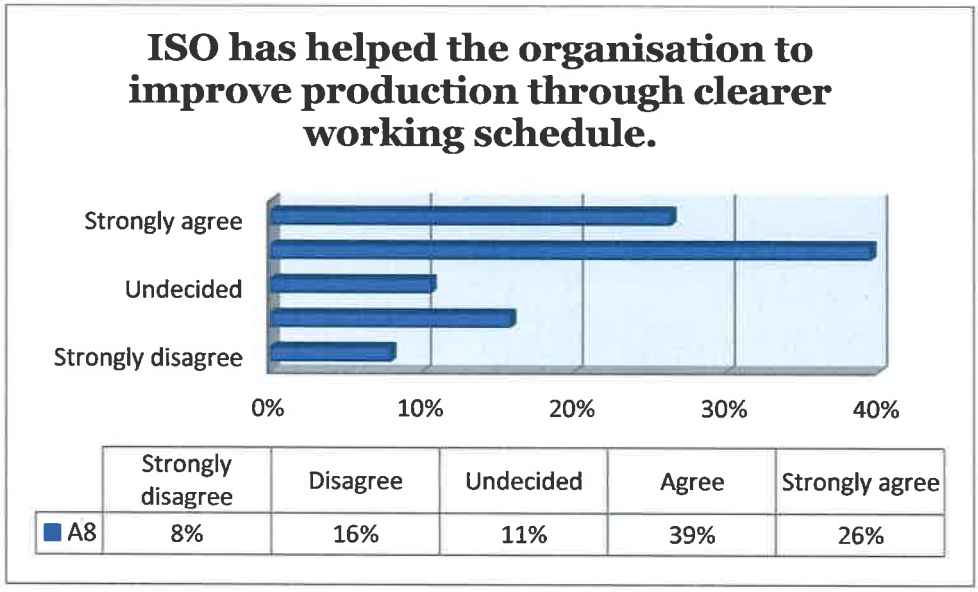
Figure 15 ISO Standards helps SMEs to compete on the same basis with bigger enterprises



	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
A7	8%	11%	11%	50%	21%

71% agree that SMEs are able to compete with the bigger enterprise when they have ISO standard.

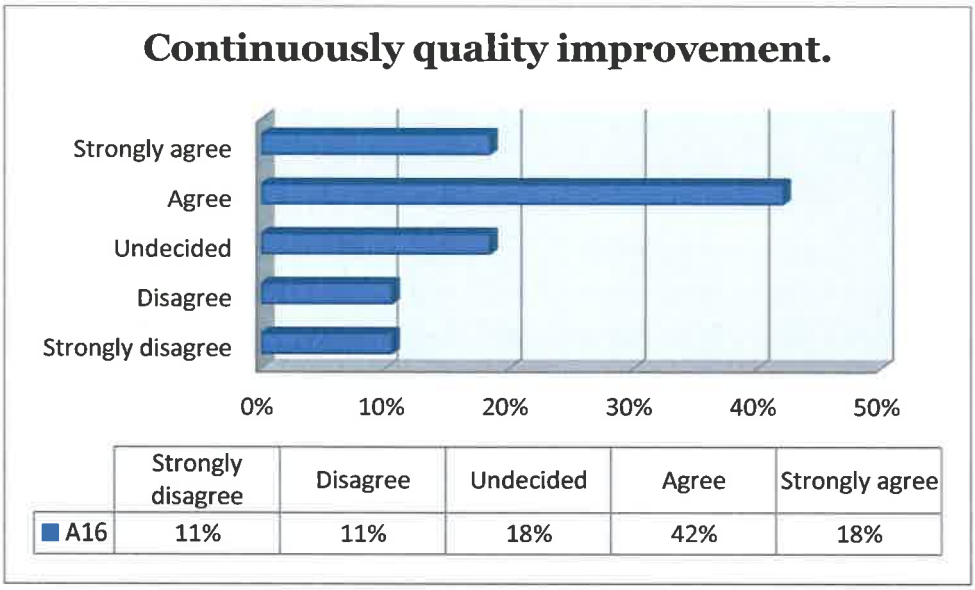
Figure 16 ISO has helped the organisation to improve production through clearer working schedule.



	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
A8	8%	16%	11%	39%	26%

ISO standard assures the quality and the satisfaction of customers, which becomes the platform for the business to keep growing.

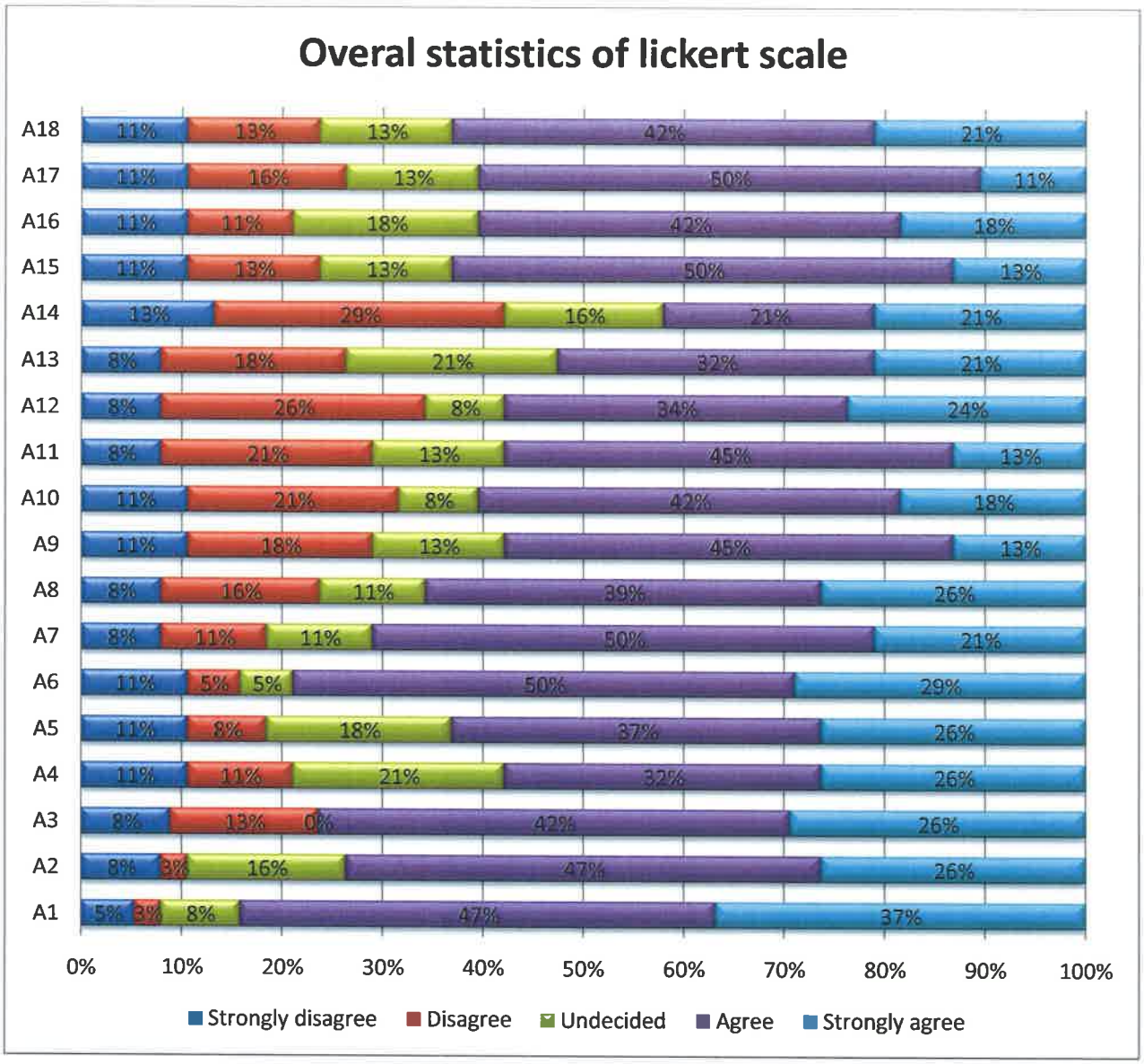
Figure 17 continuously quality improvement



	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
A16	11%	11%	18%	42%	18%

ISO standard is able to create an environment in SMEs of which management and workers strive to create constantly improving quality and 60% agree on the statement.

Figure 18 STATISTICS OF CATEGORY A FOR SUPERVISORS AND MANAGERS



Taking into account the results of the research, it can be concluded that implementing an ISO 9000 can support sustainable development in in the Western Cape SMEs.

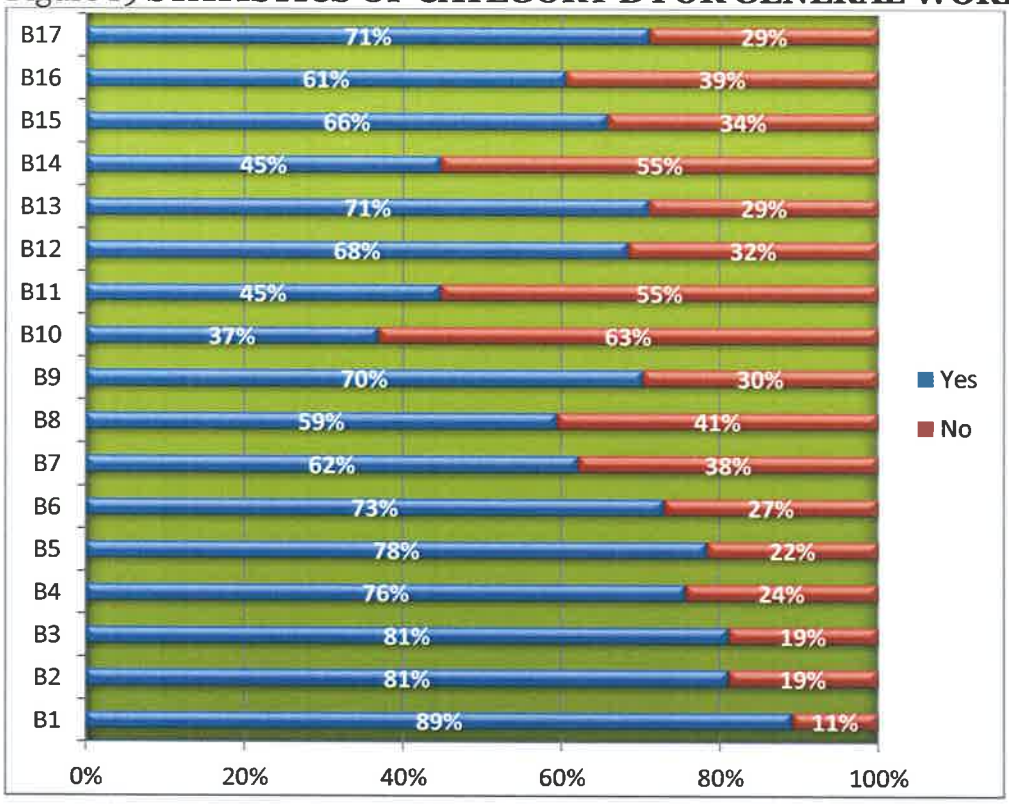
Findings can be a starting point for future research aimed to identify the best ways for implementation of a quality management system on SMEs.

5.3 SURVEY RESULTS FOR EMPLOYEES

Table 6 QUESTIONNIERS BASED ON GENERAL WORKERS CATEGORY B

		Yes	No	percentage
B1	The company is using quality manual?	89%	11%	100%
B2	Pressure to reduce costs, on-conformance and technological development	81%	19%	100%
B3	Financial performance/growth and cash balance are some of the main measurements.	81%	19%	100%
B4	ISO standards increase competitive advantages of the firm.	76%	24%	100%
B5	ISO standards improve quality of product/service and ensures continuity of supply.	78%	22%	100%
B6	Does the company measure quality performance?	73%	27%	100%
B7	Does the company communicate company objectives to staff?	62%	38%	100%
B8	Does the company involve employees in decision making?	59%	41%	100%
B9	The company measure defects	70%	30%	100%
B10	Competitive advantage	37%	63%	100%
B11	(Leadership) employee involvement in planning	45%	55%	100%
B12	(Information and analysis)data must be in the right hands	68%	32%	100%
B13	Strong belief that continuous improvements is a strategic objective	71%	29%	100%
B14	Quality planning	45%	55%	100%
B15	(Human resource development)Reduce cost of training	66%	34%	100%
B16	(Quality assurance) Streamlined procedures and documentation	61%	39%	100%
B17	(Customer orientation) Increased customer preference	71%	29%	100%

Figure 19 **STATISTICS OF CATEGORY B FOR GENERAL WORKERS**



5.3.1 REVIEWING THE RESULTS

This research report has covered a number of aspects relating to ISO 9000 and how it has influenced the way business is conducted. SMEs lack the awareness of quality management and do not realise that it is the primary element of the firms' sustainability.

Based on results obtain from questionnaires distributed to management and supervisors in category A:

Statements from A1 to A7 which were focus on external prospect of SMEs using ISO 9000 indicate that management understand ISO 9000 standard as well as its benefits and A8 to A16 also shows that management is aware that ISO standard improve production, productivity and reduce defects.

Survey results distributed to general employees in category B indicates that if employees involvement could have been increased the potential for ownership and the creation of a quality culture would have been higher.

THE RESEARCH RESULTS OBTAINED THROUGH THIS SURVEY ON THE IMPLEMENTATION OF ISO 9000 STANDARD INDICATE THE FOLLOWING PROBLEM AREAS

- SMEs do not have a proper quality policies/procedure in place.
- Top management does not show commitment to quality.
- SMEs managers and employees that have ISO 9000 do not have proper training for the standard.
- ISO 9000 standard support SMEs to improve its business operations; gives firms competitive edge and enables a common language to the industries.
- As for the results obtained through the statements related on employees of SMEs and goods/services, the following similarities can be drawn from this research:
- Procedures are not available /followed by employees in producing or rendering a service.
- SME firms do not seek customer views in order to enhance the quality of the products and services.
- Management does not provide the necessary training and resources to support employees to produce quality products and services.
- Quality policies and objectives are not communicated to each employee.
- Some of the companies are ISO accredited but they do not use the standard.
- SMEs measure quality performance but don't continuously improve performance.
- SMEs measure defects but do not record the defects.
- Customer satisfaction is not measured within the companies.

5.4 UNSUCCESSFUL IMPLEMENTATION OF ISO 9000

5.4.1 TRAINING AND EDUCATION

Training and education is an important consideration for successful implementation of quality management system. In a basic sense, SMEs managers need to be aware of the needs to manage knowledge and to recognise it as a key resource for the viability of a company. This issue can be addressed if proper basic training is provided to the employees. Through such training, they will have a better understanding of the concept of quality management systems. It also helps to frame a common language and perception of how they define and think about knowledge.

Besides this, employees could be trained and educated in using the ISO 9000 and other quality management tools for managing knowledge. This helps to ensure that they can utilise the full potential and capabilities offered by these tools. Equally important is to equip them with the skills to foster creativity, innovation, and knowledge sharing.

5. 4.2 FINANCIAL RESOURCES

Financial support is inevitably required if an investment in a quality system is to be made. It is one of the scarcest resources in many companies especially in SMEs. Since resources availability is a primary concern in SMEs, it has to be properly considered when implementing a quality initiative. For example, the programme scope must not be too substantial for their available resources. Decisions to implement should be based on a sound consideration of resources, and not on the belief that it is "a nice to have" quality management system and not know how does the system work.

External consultants can be used but the cost is mostly out of range for consultancy.

5. 4.3 LEVEL OF INTERNAL KNOWLEDGE

If there is already an expert within the firm, the planning and implementation can easily be done in house and the identification of actual strengths and weaknesses of the SMEs and its employees.

5.4.4 AVAILABLE INTERNAL HUMAN RESOURCES

Effective recruitment of employees is crucial because it is through this process that knowledge and competences are brought into the firm. Some SMEs are so lean in their organisational structures that it is not possible to transfer enough staff capacity to a new implementation project and work. Successful implementation of ISO 9000 is dependent upon resources. Human resources are needed to coordinate and manage the implementation process as well as to take up knowledge-related roles. Employee development is seen as a way to improve and enhance the personal value of individuals.

The skills and competences of knowledge workers need to be continuously developed in order for them to produce valuable contributions to a company. If not, as with other tangible assets, their value will depreciate. Hence, SMEs have to provide appropriate professional development activities to their employees that will assist them to easily understand ISO 9000 quality management system. One of the key issues for SMEs in achieving effective ISO 9000 is to deal with their resources.

5.1.4.5 LACK OF LEADERSHIP

Management needs to ensure all the process and procedure is followed according to the quality technique that is used by the firm and creation of documents, identification and description of key processes and quality relevant issues.

Chapter 6 - CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSIONS

Implementing ISO 9000 is beneficial in two areas. Obviously the business and its systems will improve, often leading to significant cost savings. Staff working under the system should feel more motivated and involved.

Secondly, ISO 9000 gives assurance to outside bodies that a business is outstanding at all levels. Attaining the standard can provide a first step in product certification, as well as present the company to the world market as 'one that means quality.
The first step for most businesses is establishing a quality system for the standard required.

In this chapter, the research contained within the ambit of this research project will be concluded and final analogies drawn. The research problem will be re-visited to determine if the problem was mitigated as a result of the research. The research question and associated investigative questions will be re-visited to determine whether the research contained within the ambit of the dissertation produced not only feasible, but also viable answers to the posed research questions. The research design and methodology will be evaluated in terms of the actions undertaken within the ambit of the dissertation. The key research objectives will be re-stated and key findings which ended as a result of the research, listed. The chapter will include recommendations to the target organisation to improve its customer satisfaction and loyalty, ultimately determining business success. The chapter will be concluded with recommendations made as a result of the research.

6.2 THE RESEARCH PROBLEM REVISITED

The research problem as it was in Chapter 1 of this research reads as follows: Ineffective and inefficient implementation of international recognised quality management initiatives by SMEs results in inferior quality of products/ services (business) within SMEs.

6.3 THE RESEARCH QUESTION REVISITED

The research question, as it was stated in Chapter 1 of this research, reads as follows: "What mechanisms can be deployed to promote the implementation of quality management techniques in the Western Cape SME's thus leading to an improvement of goods and services?

6.4 THE INVESTIGATIVE QUESTIONS REVISITED

The following investigative questions were researched in support of the research question:

- What quality management tools and techniques can be used by SME's to improve their standard?
- What are the major causes of the poor production of goods and services?
- What are the key factors that affect the implementation of quality techniques in SMEs?
- Which techniques can be used to promote the application of quality management systems?
- What are benefits of implementing quality management systems within a small clothing manufacturing firm?
- Does SME's benefits from implementing quality techniques or ISO 9000 in SMEs?

6.5 CONCLUSIONS FROM QUESTIONNAIRE

The ISO 9000 system assists with spreading the long and short-term strategy of the organisation, which assists with all levels understanding the direction in which the organisation is moving. The 9000 standard states that, "The management with executive responsibility shall define and document its quality policy. It goes further, "The Managers shall ensure that this policy is understood, implemented and maintained at all levels of the organisation.

6.6 PROBLEMS NEEDED TO BE ADDRESSED IN SME'S

Focus on the formation of value for customers – each person within the organisation has a responsibility to add value for customers, on all levels of the organisation. Each person is required to create value for customers in any way that they are able to do so.

Innovative in promoting the organisation's goals – even the most entry level employee in the company should play a role in promoting the organisation's goals. Innovation plays a strong role in finding new ways to further the organisation's objectives, ensuring return on investment for all concerned.

Improve the representation of the organisation to customers, local communities and the general public – all people within the organisation need to improve the representation of the organisation to all its stakeholders, from customers to local communities and other audiences.

Assist people get satisfaction from their work – people who are finding their work rewarding and satisfying are far more likely to want to be involved in all aspects of improvement, as they have a vested interest. This means that employees should be able to find ways to address any concerns they have with workloads or tasks.

Actively seek out ways to make improvements, and improve competencies, knowledge and experience –each person within the organisation should have the chance to be proactive, by finding ways that aids improvement. Each person should also have the chance to improve their specific skills and experience to aid the company in achieving its goals and outcomes.

Make people passionate and proud to be part of the organisation – the final aspect that determines how people are able to influence improvement is that they should be proud and excited to be involved in the organisation and its various processes. This will ensure that they have a personal interest in quality management, thereby motivating them to adhere to processes on their own accord.

6.7.1 ISO Standards enable a common "language" to be used across an industry sector

Responded agreed that ISO standard enables a common language to be used a cross the industry sector, this means it will be easy for SME's to compete and share Ideas with other SME's within the same industry sector.

Standardisation allows businesses the opportunity to compete in markets around the world. This enables more competition, which results in more choices for customers. Standards also help developing countries to compete in international markets without investing scarce resources on research and development.

6.7.2 ISO Standards open up export markets for products and services.

ISO standards are the key for any company that hopes to succeed in export markets 26% strongly agree and 47% agree.

Majority of responded agree that an organisation with quality management system opens up export markets for its product and service.

- Product and service can be exported internationally.
- Product and services are easily recognized in international markets.

6.7.3 ISO Standards give SMEs the competitive edge.

An SME's with quality management system/quality technique has an advantage to the market. ISO 9000 gives SMEs an ability to improve product or service quality, efficiency and productivity, customer confidence, and competitive advantage" as well as "better control of business, increased sales/business, reduced costs, increased productivity and fewer customer complaints.

6.7.4 ISO Standards add credibility to your organisation and confidence for your customers.

Higher customer confidence is achieved and better customer retention, standards and certification impact on vendor selection process.

6.7.5 ISO Standards drive efficiency in the business operations

Standards and certifications open new business opportunities 'companies to embrace the use standards in order to upgrade the quality of their products / services will get access to both local and export markets."

6.7.6 ISO Standards help SMEs to discover best business practices.

ISO 9000 certification allows a company to have better internal processes through clearer working procedures, better bottom line profitability, and stronger exports from expansion into international markets.

6.7.7 ISO Standards helps SMEs to compete on the same basis with bigger enterprises

ISO 9000 certification allows a company to have better internal processes through clearer working procedures, better bottom line profitability, and stronger exports from expansion into international markets.

6.7.8 ISO has helped the organisation to improve production through clearer working schedule.

ISO standard assures the quality and the satisfaction of customers, which becomes the platform for the business to keep growing.

6.7.9 ISO 9000 assists the SMEs to reduce cost of producing unnecessary products.

- Number of defects produced is less
- SME's makes more profit
- Increase productivity

6.8 RECOMMENDATIONS

Local and national government should assist SME's in quality management technique implementation; in addition government should also campaign to promote the quality techniques at all levels of SME's from general worker to top management.

SME's managers and selected general workers should attend national and international conferences to network and benchmark their practices.

General workers of SME's should discuss their training needs with their managers.

The keys to a successful implementation will include:

6.8.1 CUSTOMER FOCUS

Customer focus is usually a strong contributor to the overall success of a business and involves ensuring that all aspects of the company put its customers' satisfaction first. Also, having a customer focus usually includes maintaining an effective customer relations and service program.

Know Your Business

Not just your company, but the industry. Keep abreast of new technology and products related to what you are selling. Let your customers know you are educated in all aspects of the industry and they can come to you if they have any questions.

Build a Relationship

Get to know your customers. In a world of big box stores and online competition, you can remind customers that they are not just a number, they are special. Pay attention to their interests and hobbies. Keep a file on each customer to remind you of the little things before you call them. It is a friendly way to show them you care, and may produce a few extra deals.

6.8.2 LEADERSHIP

Great leaders are outstanding at strategic planning. They have the ability to look ahead, to anticipate with some accuracy where the industry and the markets are going.

Leaders have the ability to anticipate trends, well in advance of their competitors. They continually ask, "Based on what is happening today, where is the market going?

Where is it likely to be in three months, six months, one year, and two years?" They do this through thoughtful strategic planning.

Focus

Leaders always focus on the needs of the company and the situation. Leaders focus on results, on what must be achieved by themselves, by others, and by the company. Great leaders focus on strengths, in themselves and in others.

They focus on the strengths of the organization, on the things that the company does best in satisfying demanding customers in a competitive marketplace.

Your ability as a leader to call the shots and make sure that everyone is focused and concentrated on the most valuable use of their time is essential to the excellent performance of the enterprise.

Cooperation

Your ability to get everyone working and pulling together is essential to your success. Leadership is the ability to get people to work for you because they want to.

Your ability to select these people and then to work well with them on a daily basis is essential to the smooth functioning of the organisation.

Gain the cooperation of others by making a commitment to get along well with each key person every single day.

6.8.3 THE INVOLVEMENT OF PEOPLE

People play an important role across all aspects of the quality management process, with each person's role playing a crucial part. The ways that the involvement of people assists quality management include the following:

Take ownership and responsibility to resolve obstacles – each person within the organisation takes full ownership of their own roles and responsibilities, ensuring a more effective problem resolution process across the board.

Easily share knowledge and experience in groups – all people within the organisation have a right to share their knowledge, skills and experiences in groups. This facilitates a more effective organisation through the strengthening of departments and groups within the organisation, thereby assisting quality management by ensuring that departments are able to operate smoothly and more effectively.

6.8.4 A PROCESS APPROACH

The process approach is a management strategy. When managers use a process approach, it means that they manage and control the processes that make up their organisations, the interactions between these processes, and the inputs and outputs that tie these processes together.

6.8.5 CONTINUAL IMPROVEMENT

Continual improvement is a recurring activity that seeks to increase the organisation's effectiveness and efficiency in fulfilling the requirements of the organisation as well as its stakeholders - customers; suppliers; employees; investors; community; etc. The aim of a Continual Improvement program is to improve your capability to meet requirements and satisfy customers.

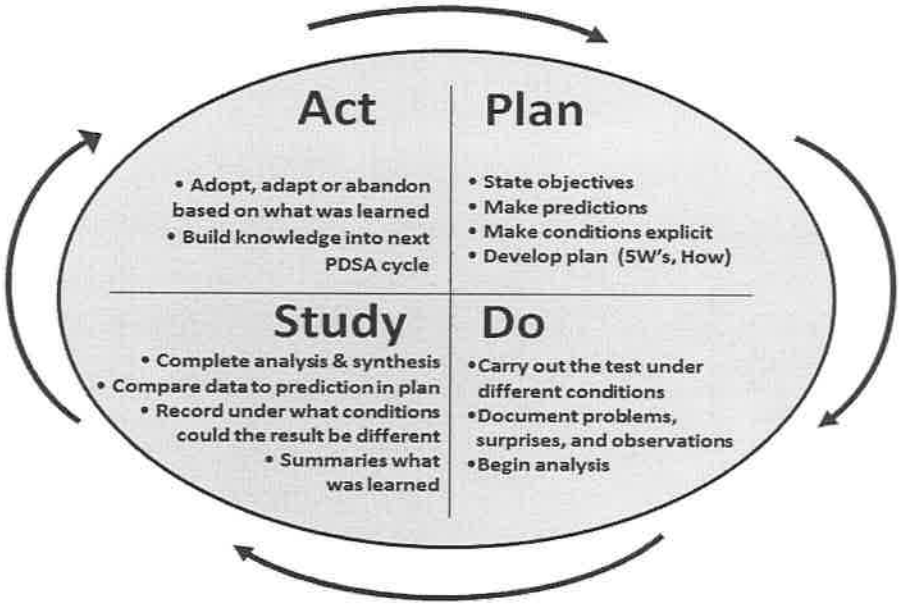
There are a number of quality management tools and techniques that can be useful to SMEs such as total quality management (TQM), continuous improvement, etc. Deming's PDSA model is one of the popular and excellent approaches that should be adopted by SMEs.

The study recommends that SMEs should implement the PDSA model to improve the implementation of ISO 9000 standard.

The four stages of the PDSA cycle are:

- Plan - the change to be tested or implemented
- Do - carry out the test or change
- Study - data before and after the change and reflect on what was learned
- Act - plan the next change cycle or full implementation

Figure 20 **STAGES OF THE PDSA CYCLE**



Management in most cases are well informed and understand the quality challenges it appears to be disconnecting between management and employees about employees not involve or equipped to deal with quality challenges in the organisation. Management should play a vital role in promoting and training employees about quality challenges and the important quality procedures.

APPENDIX A

THE ISO RELATED DIFFERENCES BETWEEN SMES AND LARGE ENTERPRISES

The ISO related differences between SMEs and large enterprises			
ISO 9001:2008 standard – Correspondence table			
Clause	Large enterprise	SME	Comments

1.	**Quality Management System**			
1.1	**General requirements**	Quality management system has to be established, documented, implemented, maintained and continually improved in accordance with requirements of ISO 9001:2000.		If an organisation will claim or imply conformity to ISO 9001:2008, then it may not exclude from its QMS requirements that do not meet the criteria stated in clause 1.2 Application of the standard.
1.2	**Documentation requirements**	Documented statements of quality policy and quality objectives. Three-level documentation (quality manual, regulations, work instructions). High number of users = high number of copies, partial documentation centres, voluminous system documentation, usually	Documented statements of quality policy and quality objectives Two-level documentation (Quality manual and work instructions). Obligatory regulations broadly discussed in the Quality manual Low number of users = low number of copies, one documentation centre. Form more simple, e.g. Quality manual in form of one file folder with all related documents including	Quality policy is the basic unifying document declaring the needs of the enterprise and its customers; it should include a long-term vision Quality objectives have to set up concrete milestones on the way to fulfill the vision Quality manual – by SMEs the most suitable way to describe the interaction between processes of the QMS may be the graphical one; in some cases

		electronic version (intranet), hypertext links, links to related documents, forms etc. Documents and records have to be controlled.	example forms used for records etc. Documents and records have to be controlled.	process cards or hyperlinks in electronic documents may be advised The ISO 9001:2008 edition previews that a single document may include the requirements for one or more procedures.
2.	**Management responsibility**			
2.1	**Management commitment**	Management usually consists of several responsible employees – (managing director, directors specialists). The company's owner may stay outside QMS (stock corporation).	Owners as managing directors directly control the company. A specific case is a one-owner-company, where the management is executed directly by the owner, who does not need a "management meeting" to make strategic decisions.	By SMEs this field is quite often left out. But even in their case, the management has to specify its vision and long-term intentions related to the business subject, own optimal product and its presentation on the market. The intention of a SME can be e.g. to become partner of a certain client (supplier of an automotive industry or electro-engineering subject), in the case of commerce or services e.g. to be authorised partner (dealer or service provider) etc. The management shows personal

				involvement and activity while improving the QMS and stimulating continual improvement through internal message about the importance of meeting customer's requirements and requirements imposed by related superior laws and standards.
2.2	**Customer focus**	Usually, information source for the company's orientation is own marketing. Customer's needs are to be understood as market potential – having identified it prevents wrong decisions regarding future orientation.	Information for company's future orientation mostly won due to membership in associations, internet etc. Own marketing limited, possibly due to relative high costs.	Both managers and employees of SMEs usually are more directly motivated to lead the company towards prosperity and thus to satisfy old and to attract new customers.

2.3	**Quality policy**	Basic unifying document declaring the results desired by the enterprise. It should be appropriate to the purpose of the organisation and include a long-term vision. It should include the commitment to comply with requirements and continually improve the QMS. The quality policy provides a framework for establishing and reviewing quality objectives. All employees should be aware of the declared quality policy of the organization.		Even in the case of SMEs, the management has to specify its vision and long-term intentions related to the business subject, own optimal product and its presentation on the market. The intention of a SME can be e.g. to become partner of a certain client (supplier of an automotive industry or electro-engineering subject), in the case of commerce or services e.g. to be authorised partner (dealer or service provider) etc.
2.4	**Planning**	Detailed financial plan and exact calculation of development expenses. Factual production plan Establishing measurable quality objectives consistent with quality policy.	Annual plan in financial indicators, cash-flow depending on development expenses, main activity often controlled by operative plan. Establishing measurable quality objectives consistent with quality policy.	Planning is an integral part of any enterprise management. In the case of SMEs, however, some of the plans (e. g. investment plan, training plan etc.) might be understood only as a framework and may be controlled operatively according to actual cash-flow development.
2.5	**Responsibility, authority,**	Branched organisational structure, easier defining of	Simple organisational structure often cumulated functions. When	Appointing a member of management responsible for the QMS is essential. It

	communication	authorities and responsibilities, executive and control functions. Management representative is usually a member of top management, can be helped in QMS administrative tasks by an employee. Sophisticated means of communication (e.g. intranet)	distributing responsibilities and authorities, specifics of the SME and characteristics of individual managers have to be taken into account. Management representative for QMS usually has other cumulated functions. Elementary communication means (e.g. joint management and production meetings)	has to be a strong leader provided with authority to coordinate the whole system. While there is usually a new position established in large enterprises, in micro enterprises the task is often taken over by one of the managing directors or by the owner himself.
2.6	**Management review**	Complex report on given period as input for management review. Review during a management meeting, documented in minutes, formulated remarks and actions resulting from the evaluation. New challenges for Quality objectives or continual	Complex report on given period as input for management review. Documented owner's standpoint to the report (by companies, where the influence of management meeting members on the owner is only advisory), including specification of actions if necessary. Review of quality objectives.	Management review means a recapitulation of the whole QMS in regular periods (annual, biannual). Unlike other system requirements, applied by SMEs already before the implementation of QMS, it is not common in SMEs to execute management review in an extent requested by the standard. In the context of strategic management such a standstill and recapitulation is very

		improvement program.		useful. The standard requires decisions to be made based on facts, not opinions. In the context of management review original intentions, objectives and resulting tasks can be modified.
3.	**Resource management**			
3.1	**Provision of resources**	Detailed financial plan and exact calculation of development expenses.	Planned resources respecting the cash-flow oscillation in the course of the year.	Even an SME should determine resources needed to implement and maintain the QMS and to meet quality objectives and should specify how the resources will be provided. In the case of SME, distribution of resources during the year might be controlled operatively according to cash-flow development.
3.2	**Human resources**	Human resources department/section with divided personnel and educational activities. Map of company's qualification structure, specification of work positions, personal development	Cumulated personnel work and training management. Map of company's qualification structure, specification of work positions.	Good personnel work can be done even in an SME. It is necessary to evaluate the performance and reserves of every employee and to plan the use of it in a broader context, in new fields or at least by conserving the actual state. Employees, however, have to feel that

		plans. Evaluation of employees through interview. Annual training plan. Evaluation of training quality and effectiveness.	Annual training plan. Training evaluation.	they are followed and evaluated and that the company counts on them. The most suitable form of applying the requirement is a simple evaluation of ability and planning personal development of every single employee (regular detecting of training needs, training plans, evaluation). Use of experience and ability of employees is typical for SMEs-service providers, where the quality of the service often depends on experience of single employees.
3.3	**Infrastructure**	Demanding, large infrastructure. Infrastructure development planning based on long-term strategic plans, making use of different investment studies and scenarios. Annual maintenance plan.	Rather simple infrastructure. Infrastructure development realized under conditions of more simple decision making processes (owner makes short-term decisions based on actual resources). Annual maintenance plan.	SMEs often develop their infrastructure more dynamically than large enterprises. Continual detecting of the means needed to ensure conformity of the products involves technology, measuring devices, information system, car park, communication technologies, work tools for employees. It is to be recommended to improve the

				infrastructure development plan in relation to quality objectives.
3.4	**Work environment**	The organisation determines and manages the work environment needed to achieve conformity to product requirements. Besides control of compliance to obligatory requirements of related laws and standards (according to sector and field of activity) additional surveys are carried out on the impact of work environment on the quality of the product (especially in production companies).	The organisation determines and manages the work environment needed to achieve conformity to product requirements.	As an SME: do not forget to fulfill requirements of related laws and standards, as well as obligatory revision of state authorities! The ISO9001:2008 edition pays special attention to the management of the work environment needed in order to achieve conformity to sales requirements.
4.	**Product realisation**			
4.1	**Planning and product realization**	Main activity (production) usually planned in an annual or quarterly detailed factual plan. Planning quality, detecting risks.	If the production cannot be long-term factual planned (company satisfies direct demand of individual customers), than a planning in e.g. financial indicators is necessary. Products as well as production	Even in an SME it is useful to set requirements for the product. Consequently, there should be records providing evidence that the realization process and the product meet set requirements.

		Products as well as production processes have to meet requirements defined by laws and superior standards.	processes have to meet requirements defined by laws and superior standards.	
4.2	**Customer-related processes**	During the decision process regarding order acceptance all managers influencing the order have to make their comments. The standpoint has to be documented (recommended - in information system). Negotiations with customer specifying the contract are documented.	Review of order acceptance has always to be documented (at least simplified), even if the owner decides.	Records on order acceptance review make part of controlled documentation.
4.3	**Design and development**	The company usually disposes of own capacity for product/processes development.	Cases appear that companies ensure development mainly utilizing co-operating experts. This demands proper documentation reflecting requirements of clause 7.3. of the standard.	By SMEs the development of the product often happens by the customer, which can be qualified as not fulfilling of the requirement and may be even reason for exclusion.
4.4	**Purchasing**	List of suppliers for a limited	Evaluation of suppliers for a limited	Even by SMEs evaluation of suppliers

		period derives by running companies from repeated evaluation. Members of production and technical control department should be involved in the evaluation. The company has an own test room, where input control of purchased material is executed and its release into production approved. It is used to execute customer audits by supplier.	period and documenting of the list of approved suppliers has to be done even if a strong accumulation of information and responsibilities exists. Acquiring output control results and certificates from the supplier can replace the input control tests.	forms an important input for preventive actions and negotiations with partners. In the organization a permanent drive for evaluation has to be evident.
4.5	**Production and service provision**	Production or providing services is usually operated according to own documentation and procedures. Processes being verified. All material in production is properly signed; marking enables	Production or providing services often carried out according to documentation or procedures delivered by the customer. Documentation verified and released before use. Processes verified. Procedures for providing service of	If there is no service for own products provided and there is a co-operation with a service provider assigned instead. This co-operation has to be exactly specified (especially quality requirements).

		backward tracing of all relevant information. Procedures for providing service of own products exist, service realization documented.	own products do not always exist.	
4.6	**Control of monitoring and measuring devices**	In the frame of QMS laws on metrology usually count as superior standard. Member of metrology department participates in management. Calibration of measuring devices often provided internally. If the company uses to do calibration of measuring devices itself, calibration procedures have to be defined.	If there is no management member appointed as responsible for compliance with laws on metrology, than this responsibility lies automatically on the managing director of the company. Calibration of measuring devices is usually provided by an external competent center.	Even if calibration of measuring devices is carried out externally, in the company there has to be kept documentation that meets requirements of clause. 7.6 of the standard.

5.	**Measurement, analysis and improvement**			
5.1.	**General**	The organization shall plan and implement processes needed to demonstrate conformity of the	In SMEs the use of analyses and statistical methods is rather restricted. However, also in SMEs	

		product, ensure conformity of the QMS and its continually improvement. Used methods should be defined, including statistical methods (if applied).	there are certain monitoring, measurement and improvement outputs and processes such as management review report (owner's documented standpoint), records of nonconformity, corrective and preventive actions records etc., which should be analyzed and used for improvement.	
5.2	**Monitoring and measurement**			
5.2.1	**Customer satisfaction**	Besides top management also members of other departments have the possibility to obtain information on customer's satisfaction directly from customers, e.g. members of the marketing or service department. Collected information is processed, selected, and based on evaluation necessary actions are defined.	Relevant information on customer's satisfaction can usually be collected only by top management members or by the owner. Structure of the information needed (checklist) and strategy of its acquisition have to be worked out beforehand. Obtained information is evaluated, necessary actions defined.	Even in SMEs the collected information on customer's satisfaction should be documented in written form even in case of a strong accumulation of information by one person.

5.2.2	**Internal audit**	Internal audit plan guarantees that all departments and all clauses of the standard will be checked up in the course of current year. There is a team of own auditors ensuring the realization of internal audits. Members of this team are regularly retrained, their work evaluated. Summary of through internal audits acquired information forms an essential part of the management review report.	External auditors can be accepted for carrying out internal audits only if - because of a low number of employees - own auditors cannot ensure internal audits without facing conflict of interests. Audit plan for one year worked out in advance, compliance with requirements of the standard as well as extent and content of audits are monitored thoroughly. Audit findings have to be reflected and if necessary the QMS improved.	Even if the audit is ensured by external auditors, the audit procedure has to be described and documented According to requirements of clause 8.2.2 of the standard.
5.2.3	**Monitoring and measurement of processes**	All management and production activities are, to an adequate extent, monitored and evaluated. By specific production processes (e.g. welding, surface treatment) may the data, acquired as a result of control, be further used in the system of product monitoring and measuring.		By SMEs the number of processes liable to monitoring and measurement will be considerably lower than by large enterprises.
5.2.4	**Monitoring and**	Control between individual	Control between individual	Thanks to the controls

	measurement of product	operations as well as output control is carried out by professional inspectors, members of independent technical control department. All types of controls are specified in controlling and testing procedures. Control documents archived as quality records.	operations and sometimes also output control carried out by production workers in form of self-test. In that case, workers are extra trained for control activity and based on training they are entrusted with control. Evidence of conformity/authorization of release should be documented.	nonconformities can be detected.

5.3	**Control of nonconforming product**	Nonconforming (half-finished) product must be separated and protected from (even unintended) use, assessed and handled in one of the by the standard accepted ways.	Even by SMEs, monitoring and analysis of nonconformities is one of the inputs to be considered for decision on a corrective/preventive action.
5.4	**Analysis of data**	Adequate analyses are a non-excludable instrument for decision making and management.	The standard requires decisions to be made based on facts, not opinions. Monitoring of processes/products and analysis of acquired data is thus unavoidable even by SMEs (in appropriate extent).

5.5	**Improvement**	The company usually has a separate document to deal with improvement, the Continual improvement program. It expands on declared quality objectives specifying minor important tasks.	Annual quality objectives include usually also minor concrete tasks ensuring development of the enterprise. Thanks to a frequent actualization and completion in the course of the year an up-to-date state and effectiveness is guaranteed.	Overview of actions undertaken to improve the QMS forms a part of the complex report on given period (being input for management review).
5.5.1	**Corrective action**	The corrective action control system guarantees in both, a large enterprise as well as a SME, that suggestions for preventing insufficiencies will be evaluated, a procedure for a corrective action will be established and executed and result of the action controlled.		Every corrective action has to be proportional to consequences of nonconformity stated.
5.5.2	**Preventive action**	The preventive action control system guarantees in both, a large enterprise as well as a SME, that suggestions for preventing insufficiencies will be evaluated, a procedure for a preventive action will be established and executed and result of the action controlled.		Every preventive action has to be proportional to consequences of possible nonconformity.

APPENDIXB

(INQWISE) SURVEY SMEs

Inqwise

daseb@cput.ac.za | Give us your feedback! | Sign Out

Dashboard | Surveys | Polls | Help / Support | Account

Surveys › SMEs › Overall Results

Surveys › SMEs Rename

+ Create Survey

Copy | Delete | Distribute / Embed | Preview

Edit | Settings | Reordering | Branding BETA | Collectors | Overall Results NEW | Participants

Results

1. * ISO Standards enables a common "language" to be used across an industry sector.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	37% 14	47% 18	8% 3	3% 1	5% 2	38
					Answered	38
					Skipped	0

2. * ISO Standards open up export markets for products and services.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	26% 10	47% 18	16% 6	3% 1	8% 3	38
					Answered	38
					Skipped	0

3. * ISO Standards give SMEs the competitive edge.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	29% 11	50% 19	5% 2	5% 2	11% 4	38
					Answered	38
					Skipped	0

4. * ISO Standards add credibility to your organisation and confidence for your customers.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	26% 10	37% 14	18% 7	8% 3	11% 4	38
					Answered	38
					Skipped	0

5. * ISO Standards drive efficiency in the business operations.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	26% 10	32% 12	21% 8	11% 4	11% 4	38
					Answered	38

Statistics

Started: **38**

Completed: **38**

Partial (Incomplete): **0**

Completion Rate: **100%**

Organize Questions

Select the questions below you would like to see on report.

All | None

- [x] 1. ISO Standards enables a common "language" to be used across an industry sector.
- [x] 2. ISO Standards open up export markets for products and services.
- [x] 3. ISO Standards give SMEs the competitive edge.
- [x] 4. ISO Standards add credibility to your organisation and confidence for your customers.

Export Results

To export your results, select your preferred download format and click "Export".

Excel (*.XLSX) Export

Skipped	**0**

6. * ISO Standards help SMEs to discover best business practices.

	Strongly agree	Agree	Undeceded	Disagree	Strongly disagree	Total
Row choice	**26%** 10	**42%** 16	**11%** 4	**13%** 5	**8%** 3	38
					Answered	**38**
					Skipped	**0**

7. * ISO Standards helps SMEs to compete on the same basis with bigger enterprises.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	**21%** 8	**50%** 19	**11%** 4	**11%** 4	**8%** 3	38
					Answered	**38**
					Skipped	**0**

8. * ISO has helped the organisation to improve production through clearer working schedule.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	**26%** 10	**39%** 15	**11%** 4	**16%** 6	**8%** 3	38
					Answered	**38**
					Skipped	**0**

9. * Standards open up export markets for products and services.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	**13%** 5	**45%** 17	**13%** 5	**18%** 7	**11%** 4	38
					Answered	**38**
					Skipped	**0**

10. * ISO has helped to facilitate problem solving through simplifying root cause analysis.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	**18%** 7	**42%** 16	**8%** 3	**21%** 8	**11%** 4	38
					Answered	**38**
					Skipped	**0**

11. * ISO assist the SMEs to reduce cost of producing unnecessary products.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	**13%** 5	**45%** 17	**13%** 5	**21%** 8	**8%** 3	38
					Answered	**38**
					Skipped	**0**

12. * ISO assist SMEs to improve safety through establishment of stable working condition during production process.

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row	24%	34%	8%	26%	8%	
choice	9	13	3	10	3	38
					Answered	38
					Skipped	0

13. * Is the company using quality manual?

		Percent	Count
Yes		89%	33
No		11%	4
		Answered	37
		Skipped	1

14. * Pressure to reduce costs, on-conformance and technological development

		Percent	Count
Yes		81%	30
No		19%	7
		Answered	37
		Skipped	1

15. * Financial performance/Growth and Cash balance are some of the main measurements.

		Percent	Count
Yes		81%	30
No		19%	7
		Answered	37
		Skipped	1

16. * ISO standards increase competitive advantages of the firm.

		Percent	Count
Yes		76%	28
No		24%	9
		Answered	37
		Skipped	1

17. * ISO standards improve quality of product/service and ensures continuity of supply.

		Percent	Count
Yes		78%	29
No		22%	8
		Answered	37
		Skipped	1

18. * Does the company measure quality performance?

		Percent	Count

Yes	73%	27
No	27%	10
	Answered	37
	Skipped	1

19. * Does the company communicate company objectives to staff?

	Percent	Count
Yes	62%	23
No	38%	14
	Answered	37
	Skipped	1

20. * Does the company involve employees in decision making?

	Percent	Count
Yes	59%	22
No	41%	15
	Answered	37
	Skipped	1

21. * Does the company measure defect?

	Percent	Count
Yes	70%	26
No	30%	11
	Answered	37
	Skipped	1

22. * Competitive advantage

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	21% 8	32% 12	21% 8	18% 7	8% 3	38
					Answered	38
					Skipped	0

23. * Customer Confidence

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	21% 8	21% 8	16% 6	29% 11	13% 5	38
					Answered	38
					Skipped	0

24. * Increase productivity

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	13% 5	50% 19	13% 5	13% 5	11% 4	38
					Answered	38
					Skipped	0

25. * Continuously quality improvement

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	18% 7	42% 16	18% 7	11% 4	11% 4	38
					Answered	38
					Skipped	0

26. * Reduse cost and defects

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	11% 4	50% 19	13% 5	16% 6	11% 4	38
					Answered	38
					Skipped	0

27. * Increase profit

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Total
Row choice	21% 8	42% 16	13% 5	13% 5	11% 4	38
					Answered	38
					Skipped	0

28. * (Leadership) employee involvement in planning, decision-making

		Percent	Count
Yes		37%	14
No		63%	24
		Answered	38
		Skipped	0

29. * (Information and analysis)data must be in the right hands

		Percent	Count
Yes		45%	17
No		55%	21
		Answered	38
		Skipped	0

30. * (Strategic)Strong belief that continuous improvements is a strategic objective

		Percent	Count
Yes		68%	26
No		32%	12
		Answered	38
		Skipped	0

31. * Quality planning

		Percent	Count

Yes	71%	27
No	29%	11
	Answered	38
	Skipped	0

32. * (Human resource development)Reduce cost of training

	Percent	Count
Yes	45%	17
No	55%	21
	Answered	38
	Skipped	0

33. * (Quality assurance) Streamlined procedures and documentation

	Percent	Count
Yes	66%	25
No	34%	13
	Answered	38
	Skipped	0

34. * (Customer orientation) Increased customer preference

	Percent	Count
Yes	61%	23
No	39%	15
	Answered	38
	Skipped	0

35. * (Quality results) Increase percentage of time spent on actual production

	Percent	Count
Yes	71%	27
No	29%	11
	Answered	38
	Skipped	0

REFERENCES

Akhavan, P. & Jafari, M. 2008, "Towards learning in SMEs: an empirical study in Iran", Development and Learning in Organisations, vol. 22, no. 1, pp. 17-19.

Al Haj, S. (2005). "Barriers Affecting Implementation of ISO 9000 in UAE Public Sector Organisations", PhD research thesis in preparation for completion in 2005, Salford University, School of Management.

Al-Mashari, M; Zairi, M. (2000). "The effective application of SAP R/3: a proposed model of best practice", Logistic Information Management, Vol. 13, No. 3, pp. 156-166.

Anon (2004) "ISO 9000 and ISO 14000 Survey: Twelfth Cycle, upto and including 31st December 2003", International Organisation for Standardisation, Geneva, Switzerland.

Ashire S. and O'Shaughnessy K., (1998), the role of top management commitment in quality management: an empirical analysis of the auto parts industry, International Journal of Quality Science, Vol.3, No.1, pp.5-37.

Axland, S., "Forecasting the future of quality", Quality Progress, February 1993, pp. 215.

Bailey, S.J. (1998). Assuming the Quality of Local Government Services: A Case Study of School Meals Catering. Public Policy and Administration.

Badiru, Adedeji Docunde, 1995.Industry's Guide to ISO 9000. New York: John Wiley & Sons, Inc.

Buttle, F. (1997). ISO 9000: Marketing motivations and benefits. International Journal of Quality and Reliability Management.

Bhuiyan, N. and Alam, N. (2005), "An investigation into issues related to the latest version of ISO 9000", Total Quality Management and Business Excellence

Bruhn, M., 2006. Qualitätsmanagement für Diensleistungen. Grundlagen. Konzepte. Methoden. 6 Auflage. Berlin Heidelberg: Springer - Verlag.

Brown A, Wiele T, Loughton K. 1998.Smaller enterprises' experiences with ISO 9000, Int. J. Qual. Reliability Manage.

Calisir, F., Kulak, O., Dogan, I., (2005), "Factors Influencing Turkish Textile Companies' Satisfaction with ISO 9000", Total Qual. Manage.16 (10): 1193–1204.

Canavari, M., Regazzi, D., & Spadoni, R.(1998). Evaluation of quality assurance systems in the agrifood sector. In Proceedings, 6th Joint Conference on Food, Agriculture and Environment, Minneapolis.

chaudhry, P.E. & chaudhry, S.S. 2002. Managerial Perceptions of Quality Control in Japanese Businesses. Production and Inventory Management Journal 41, no. 4

checkland, P. 1989. Systems Thinking, Systems Practice. John Wiley & Sons.

Cheng K. Lai, T.C.E, 2005. Effects of quality management and marketing on organisational performance, J. Business Res.

Coleman S, Douglas A, (2003). "Where next for ISO 9000 companies?",The TQM Magazine, 15(2), 88-92.

Costa M.M, Lorente A.R.M. 2003. Effects of ISO 9000 certification on firm's performance: a vision from the market, TQM, Business Excellence.

Cooper, D. R. & Schindler, P.S. 2006. Business research methods. Boston: McGraw-Hill. students. Macmillan Press Ltd: Houndmills.

Collins, J. & Hussey, R.(2003). Business research: A practical guide for undergraduate and postgraduate students. 2nd ed. Houndmills, Basingstoke: Palgrave MacMillan.

Crosby, P. 1984. Quality without Tears. McGraw-Hill Book Company, New York.

Crosby, P.B., Quality Is Free: The Art of Making Quality Certain, McGraw-Hill, New York, NY, 1979.

Dale, B.G. and Tidd, J., Japanese total quality control: a study of best practice, Proceedings of Institution of Mechanical Engineers and Part B, Journal of Engineering Manufacture, Vol. 205, 1991, pp. 221-32.

Debbie, P. D. 2004. 100 Years Of Juran. Quality Progress. Milwaukee, Wisconsin: American Society for Quality 37 (5): 25–39

DE VOS, A.S. 2002. Scientific theory and professional research. in de Vos, A.S. Strydom, H. Fouché, C.S.L. & Delport, C.S.L. (eds). Reseasrch at grass roots: for the social sciences and human service professions.

deming, W. E. 1994. The New Economics: For Industry, Government, Education (2nded.). Cambridge, MA: MIT, Center for Advanced Educational Services.

Deming, W.E., Quality, Productivity, and Competitive Position, Massachusetts Institute of Technology, Cambridge, MA, 1982.

Deming, W.E., Out of the Crisis, Massachusetts Institute of Technology, Cambridge, MA, 1986.

Ebrahimpour.M, Withers B.E, Hikmet.N, 1997 Experiences of US- and foreign owned firms: A new perspective on ISO 9000 implementation, Int. J. Prod.

Emory. C.W. & Cooper, D.R. 1995. Business Research Methods. Boston: Irwin.Encyclopedia OF Business. 2010.

Fathian, M., Akhavan, P. & Hoorali, M. 2008, "E-readiness assessment of non-profit ICT SMEs in a developing country

Fawcett, S.E., Allred, c., Magnan, G.M. & Ogden, J. 2009, "Benchmarking the viability of SCM for entrepreneurial business model design", Benchmarking: An International Journal, vol. 16, no. 1, pp. 529.

Feigenbaum, A.V., Total Quality Control, 3rd ed., revised, McGraw-Hill, New York, NY, 1991.

Fouayzi, H., Caswell, J., & Hooker, N. (2006). Motivation of fresh-cut produce firms to implementation of quality management systems. Review of Agricultural Economics.

Garvin, D.A., Managing Quality, the Strategic and Competitive Edge, The Free Press, New York, NY, 1988.

Garvin, D.A., Competing through Quality, Viewer's Guide, Harvard Business School Video Series, Harvard Business School, Boston, MA, 1990.

Gadenne, D. & Sharma, B. 2009, "An investigation of the hard and soft quality management factors of Australian SMEs and their association with firm performance", International Journal of Quality & Reliability Management, vol. 26, no. 9, pp. 865-880.

Garengo, P., biazzo, S., Simonetti, A. & Bernardi, G. 2005, "Benchmarking on managerial practices: a tool for SMEs", The TQM Magazine, vol. 17, no. 5, pp.440-455.

Geraedts HPA, Montenariea R, Rijk PP (2001).The benefits of total quality management Computerized Medical Imaging and Graphic.

Ghanatabadi, F. 2005, Internationalisation of small and medium-sized enterprises in Iran , Luleå University of Technology, Department of Business Administration and Social Sciences, Division of Industrial Marketing and e-Commerce an unpublished PhD Thesis.

Grando, A. & Belvedere, V. 2006, "district's manufacturing performances: A comparison among large, small-to-medium-sized and district enterprises", International Journal of Production Economics, vol. 104, pp. 85-99.

Greiner, L. E. (1997). Evolution and revolution as organisations grow. 1972. Harvard business review, 76(3), 55-60.

Greiner, L. E., & Metzger, R. O. (1983). Consulting to management. Englewood Cliffs eNJ NJ: Prentice-Hall.

Heras-Saizarbitoria I, Casadesús, M. and Marimón, F. 2011. The impact of ISO 9001 standard and the EFQM model: The view of the assessors. Total Quality Management & Business Excellence, 22(2), pp. 197–218.

Hooker.N , & Caswell, J. (1999). Two case studies of food quality management systems. Journal of International Food and Agribusiness Marketing.

Hoyle, David. ISO 9000 Quality Systems Development Handbook. Great Britain: Butterworth Heinemann, 1998.

Huarng F. H., Integrating ISO 9000 with TQM spirits: a survey, Industrial Management & Data Systems, 8, pp.373-379, 1998.

Ilkay M.S, Varinli I (2005). ISO 9001:2000 Quality Management System: Applications of World, Europe and Turkey Comparison, Erciyes Univ. J. Fac. Econ. Admin. Sci., 25: 1-19 (In Turkish).

Ishikawa, K., What Is Total Quality Control? The Japanese Way, Prentice-Hall, Englewood Cliffs, NJ, 1985.

Jafari, M., Fathian, M., Akhavan, P. & Hosnavi, R. 2007, Exploring KM features and learning in Iranian SMEs, VINE: The journal of information and knowledge management systems, vol. 37, no. 2, pp. 207 218.

Jain, A. 2007, "Significance of SMEs in emerging markets", uploaded November 17, available at: www.insightory.com/view/83//significance_of_smes_in_emerging_markets.

Johnson, Perry L. 1997. ISO 9000: Meeting the International Standards. 2nd ed. New York: McGraw-Hill.

Juran, J.M., Juran on Leadership for Quality, An Executive Handbook, The Free Press, New York, NY, 1989.

Kavrakoglu.I (1998). Quality Assurance and ISO 9000", Quality Association Publishing, Istanbul, Turkey (In Turkish).

Karipidis. P, Belidis. P, Thomareis. A, & Magganaris,G. (2006). Environment analysis for SMEs adopting national quality systems.

Kodosca G. (2006). Research of Competitiveness Factors of SME. Acta Polytechniquea Hungaria.

Khan, Z., Bali, R.K. & Wickramasinghe, N. 2007, "Developing a BPI framework and PAM for SMEs", Industrial Management & Data System, vol. 107, no. 3, pp. 345-360.

Kotler, P. 1998. Marketing management. Ljubljana: Slovenska knjiga.

Lee. K. S. and E. Palmer; An empirical examination of ISO 9000-registered companies in New Zealand, Total Quality Management, 10 (6), pp.887-899, 1999.

McAdam R. & Kelly M. 2002, "A business excellence approach to generic benchmarking in SMEs", Benchmarking: An International Journal, vol. 9, no.1, pp. 7-27.

McAdam, R., Stevenson, P. & Armstrong, G. 2000, "Innovative change management in SMEs: beyond continuous improvement", Logistic Information Management, vol. 13, no. 3, pp. 138-149.

Mirbargkar, S.M. 2009, "Global Competitiveness: Iranian SME", SCMS Journal of Indian Management, October - December, 2009.

Morris, Alan S. Measurement and Calibration Requirements for Quality Assurance to ISO 9000. New York: John Wiley & Sons, 1997.

Okpara J.O. 2009, "Strategic choices, export orientation and export performance of SMEs in Nigeria", Management Decision, vol. 47, no. 8, pp. 1281-1299.

Olaru, M. and Dincă,V., 2008. Ensuring a fair competition for SMEs in the European Union. In: ASEBUSS, First ASEBUSS International Conference on "Building & Sustaining Competitive Advantage in a Global Business Environment". Bucharest, Romania, 16 September 2008. Bucharest: SRAC.

Olaru, M. and Herlemann, H., 2008, Improvement of competitiveness of international companies in a multicultural environment. Amfiteatru Economic.

Raisinghani, M. S., H. Ette, R. Pierce, G. Cannon, and P. Daripaly. 2005. Six Sigma: Concepts, tools, and applications. Industrial Management & Data Systems.

Simmons B.L, White M.A, 1999.The relationship between ISO 9000 and business performance: does registration really matter.

Singh, R.K., Garg, S.K. & Deshmukh, S.G. 2008, "Strategy development by SMEs for competitiveness: a review", Benchmarking; An International Journal, vol. 15, no. 5, pp. 525-547.

Singh, R.K., Garg, S.K. & Deshmukh, S.G. 2010, "The competitiveness of SMEs in a globalized economy Observations from China and India", Management Research Review, vol. 33, no.1, pp. 54-65.

Sohail, M.S. & Boon Hoong, T. 2003, "TQM practices and organizational performances of SMEs in Malaysia", Benchmarking: An International Journal, vol. 10, no.1, pp. 37-53.

Peach R.W, 1997. The ISO 9000 Handbook, third ed., Irwin Professional Publishing, Chicago

Thassanabanjong, K., Miller, P. & Marchant, P. 2009, "Training in Thai SMEs", Journal of Small Business and Enterprise Development, vol. 16, no. 9, pp. 678-693

Vail, C.F., "Course pack for COB 681", Strategic Quality Management, Winter 1992.

Weston F. C. , What do managers really think of the ISO 9000 registration process? Quality Progress, 28, pp.67-73, 1996.

Wenmoth, B. A., & Dobbin, D. J. (1994). Experience with implementing ISO 9000. Asia Pacific Journal of Quality.

Zook, Chris (2001) Profit from the Core - Growth Strategy in an Era of Turbulence. Harvard Business School Press, Boston, Massachusets, USA.