

**THE QUALITY MANAGEMENT PRACTICES OF MEDIUM-SIZED ENTERPRISES
OPERATING IN THE CITY OF MBOMBELA, MPUMALANGA, SA**

by

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ABSTRACT

SMMEs play a crucial role in the economy of South Africa. They create employment, contribute significantly to the GDP and close the income gap. The growth and sustainability of SMMEs is important and government had put in place a number of policies, programs and strategies to address the plight of SMMEs. Institutions exist by public and private mandate to support the development of the SMME sector. However, internal constraints such as weak quality control hinder such growth and generally lead to low levels of entrepreneurial activity and high rates of business discontinuity. Generally, SMMEs are known for losing customers and resultantly discontinuing after establishment. Research needed to be conducted to establish the quality management practices of medium-sized enterprises. Available knowledge lacked practical orientation on quality management practices and rather focused more on development trends, problems and needs of SMMEs. Published research did not provide much knowledge on how medium-sized enterprises respond to the customers' expectation of quality thereby pointing to a need for this study. The purpose of the study was therefore devised to determine whether medium-sized enterprises in the city of Mbombela are aware of and committed to quality management in order to satisfy their customers and to identify the quality management practices applied by the enterprises. The research was quantitative and was conducted using a non-experimental survey design. Participants were a group of 95 medium-sized enterprise owners or managers of which 47 returned the research instrument allowing the survey to obtain a response rate of 49.5%. The medium-sized enterprises were selected using probability based stratified random sampling. A standardised survey questionnaire was used to collect field data and a MoonStats program was used to perform statistical analysis and interpretation. The findings revealed that medium-sized enterprises in the city of Mbombela have a high level of quality awareness at the level of the owner or manager, are oriented towards customer and apply quality management practices in their operation. However, the level of quality awareness declines at the level of administrative, artisan or trade and general staff and the enterprises do not participate and compete in business excellence models and quality awards to assess their management practices, measure their growth and seek recognition. The study recommends that medium-sized enterprise owners and managers should raise the level of quality awareness amongst their staff and evaluate their management practices on a regular basis. Government, SMME development and support agencies should coherently promote business excellence models and quality award programs to medium-sized enterprises and provide incentive for participation in such programs as this will ensure that due diligence is paid to the development of the enterprises. **Key words: quality management, practices, principles, SMME, SME.**

DECLARATION

I declare that **THE QUALITY MANAGEMENT PRACTICES OF MEDIUM-SIZED ENTERPRISES OPERATING IN THE CITY OF MBOMBELA, MPUMALANGA, SA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



SIGNATURE
(Mr ZL Mncina)

DATE
20 January 2017

DEDICATION

I dedicate this report to my adorable and loving wife, Sylvia, and my two lovely boys, Banele and Lunga for their understanding when I had to be alone and spend my evenings working on this study. My humble and respecting sons, Sabelo and Samkelo, for the coffee and tea they made for me during my breaks.

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Lastly, thanks to all the enterprise owners and managers that returned the survey questionnaire. Without your support this study would not have been a success. I urge you to read the report not only for your personal career benefit but that of your business too.

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LIST OF ACRONYMS

ACRONYM	DEFINATION
SME	Small and Medium Enterprise
SMME	Small, Micro and Medium Enterprise
GDP	Gross Domestic Product
DTI	Department of Trade and Industry
SQI	South African Quality Institute
SEDA	Small Enterprise Development Agency
DEDET	Department of Economic Development and Tourism
AGI	Africa Growth Institute
GEM	Global Entrepreneurship Monitor
NPC	National Planning Commission
ICT	Information, Communication and Technology
CIPC	Companies and Intellectual Property Commission
VoC	Voice of the Customer
ISO	International Standardisation Organisation
SADC	Southern African Development Community
CRM	Customer Relationship Management

CHAPTER 1

INTRODUCTION AND SCOPE OF THE STUDY

1.1 Introduction

The quality management approach has its roots in the time and motion studies conducted by Frederick W. Edwards Deming in the 1940s and Phillip Crosby in the 1980s. Empirical evidence shows that firms implementing effective quality management practices improve their business results, achieve growth and thrive in the marketplace (Evans, 2011:22). The Small, Micro and Medium Enterprise (SMME) sector is a bigger part of the South African economy as it makes up 91% of formalised businesses and contributes between 52 and 57% to the GDP and provides 61% of employment (Abor & Quartey, 2010:218-22). Therefore, the growth and success of small and medium enterprises is very important if these enterprises are to contribute meaningfully to the alleviation of poverty, reduction of unemployment and inequality.

Varying definitions for SMME are stipulated in the National Small Business Act, as amended in 2004, for each industry sector depending on the number of employees, turnover and value of assets. A micro enterprise is defined as having up to 20 employees, a small enterprise up to 50 employees and a medium enterprise from 51 to 200 employees. The category of medium-sized enterprises is made up of enterprises with less than R4m to R50m turnover and less than R2m to R18m in gross assets excluding fixed assets depending on the industry (Goldstuck, 2014:1). The National Small Business Act mandates the Small Enterprise Development Agency (SEDA) to provide support services to SMMEs in order to enable their growth (the DTI, 2009:46). New enterprise growth is however influenced by both internal and external factors. Successful enterprises have proven that in addition to external factors, such as funding and government support, an appropriate combination of internal factors, such as innovation, management, marketing, customer care, development of people, etc. should also be considered as the best way to market success (Jones, Thomas & Thomas, 2008:17). One such market success influencing internal factor is the customer's expectation of quality.

However, there is not much knowledge available on how small to medium enterprises respond to the customers' expectation of quality as Rogerson (2008:223) discover the existence of so far very few surveys on SMEs and related growth issues in the less resourced and rural provinces such as Mpumalanga. There is clearly a need for insight concerning the state of quality practice for the SMME economy in the Mpumalanga Province. Rogerson (2008) discover that only fragmented contemporary survey material exist, rendering the

province information poor concerning the growth and development of SMMEs.

1.2 The purpose of the study

The purpose of this research was to determine whether medium-sized enterprises are aware of and committed to quality management and to identify quality management practices applied by medium-sized enterprises given their importance to the South African economy.

1.3 The context of the study

The study took place in a context where a number of policies, programs and strategies exist to address the plight of SMEs in South Africa. These policies and strategies seek to promote an entrepreneurial culture by providing targeted support to different SME segments. A number of institutions exist by public and private mandate to support the development of the SMME sector. These institutions include, amongst others, the South African Quality Institute (SQI) which promotes quality awareness and influences the general public to expect quality in products and services, the Africa Growth Institute (AGI) which organises the Annual Africa SMME Award (Biekpe, 2013) and the South African Bureau of Standards which promotes quality in connection with commodities, products and services. The study was conducted in a context of weak economic growth post the global recession with looming credit rating downgrade faced by South Africa. The national economy was concentrated in the formal sector with structural barriers hindering the participation of SMMEs (Roggerson, 2008). SMMEs were not growing, rather rich big firms were becoming richer and the poor SMMEs remaining poor. Poverty, inequality in income and unemployment remained a triple challenge facing South Africa (the DTI, 2008).

On the brighter side, the study was conducted in a context of regulatory reforms with an affirmative focus to increase SMME participation in the formal economy (the DTI, 2008). A shift towards strategic prioritisation of the SMME sector nationally and provincially was being experienced with the policy environment developing towards coherence and a coordinated approach being taken to support the SMME sector. However, at the local level there still existed ineffectiveness in the implementation of support programs for SMMEs. Despite support initiatives SMMEs still face critical challenges such as inadequate business and technical expertise, access to markets and suitable infrastructure as well as inadequate access to finance (the DEDET, 2011:13). The largest proportion of SMMEs were informal rather than formal businesses in the study area (the DEDET, 2008:80) described as a marginalised sector of the regional economy, not contributing optimally to economic growth and employment (Rogerson, 2008). Nonetheless, the local economy was still the largest contributor to the provincial GDP with manufacturing, mining and community services being the three largest contributors (Bhorat, 2009). The study area was rural in nature with a high

rate of poverty, unemployment and inequality in income distribution amongst its population groups (Rogerson, 2008). Unemployment was high amongst particularly the youth aged between 15 to 34 years (Bhorat, 2009). SMME support initiatives were, however, taking place in the study area which included affirmative public procurement, business incubators and local advice centers to nurture entrepreneurship and promote emerging entrepreneurs. Despite these support initiatives, there existed governance and effectiveness problems and there were concerns that funding allocations inevitably favored established rather than emerging small and medium enterprises (Rogerson, 2008).

1.4 The problem statement

The Global Entrepreneurship Monitor (Herrington & Kew, 2013) indicates that South Africa's rate for nascent entrepreneurs at 6.6% for 2013, new business entrepreneurs at 4.1% and total early-stage entrepreneurs at 10.6% remain significantly below that of other Sub-Saharan African countries. Schwab (2013) finds in the Global Competitiveness Report that this total entrepreneurial activity rating is considerably lower than what would be expected for middle-income efficiency-driven economies. This low entrepreneurial activity is attributed to the existing structural barriers hindering small and medium enterprise participation in the formal economy and a need for a more dynamic and inclusive economy (the NPC, 2011:25-32). These barriers to economic participation have resulted to poverty, unemployment and inequality identified as the triple challenge facing South Africa (the DTI, 2014:25). Apart from the low entrepreneurial activity and the structural barriers to economic participation, a number of internal constraints inhibit SMMEs in South Africa such as low levels of quality control (the SQI, 2013). Such constraints hinder SMME efficiencies and growth and generally result to high rates of business discontinuity (Herrington *at al* 2013:9). Efforts to promote the adoption of quality practices by various quality promoting organisations in South Africa have not gone beyond an elite group of big firms to reach SMMEs (Williams, 2008:4). This has resulted to a low level of quality awareness in the SMME sector (the SQI, 2013). It is therefore not surprising that the subject of quality is unfortunately not addressed in a number of books written for the SMME sector (Murray 2009:223). This study was conducted to contribute to the limited body of knowledge available on medium-sized enterprise quality management practices. There was clear evidence that much more research is required at national, provincial and local scales of analysis as there was unevenness in the research work that was being produced (Rogerson, 2008:22). Existing published research on quality management in the SMME sector showed a focus on specific industries such as finance, manufacturing, ICT and tourism (Prince, 2009), (Murray, 2009; (SEDA, 2012). There was a need for research that would investigate quality management practices across the trade, industrial and service sectors. The problem of this

research was therefore that due to lack of commitment to quality, medium-sized enterprises in the city of Mbombela do not implement quality management for customer satisfaction.

1.5 The significance of the study

This research fills a gap in that research work available focused on the trends, problems and needs of SMEs and lacked practical orientation on operations and management practices. This study was management oriented and focused on quality management as a way of managing a business with constant deliberate effort to increase competitiveness. The research was based on the premise that inherent in quality management are good management practices that if executed, excellent business results will follow. That consistent excellent business results lead to excellent performance - viewed as integrated enterprise performance management that leads to ever improving value necessary for long term success and survival. The study contributes into the limited body of knowledge available on SME operations and management practices, raises quality awareness amongst SMEs and generally support effort to promote quality. This study finds its value in the provision of evidence-based analysis that inform programs aimed at supporting the progress, growth and survival of the SMME sector as an important contributor to economic growth in South Africa.

1.6 Delimitations of the study

The study was limited to medium-sized enterprises operating in the city of Mbombela defined as enterprises having 51 to 200 employees with less than R4m to R50m turnover and less than R2m to R18m in gross assets. Welman, Kruger & Mitchell (2005:92) note that it is generally accepted a limitation of non-experimental research that conclusions about causal relationships may not be made. This study was a survey that sought to answer research questions rather than test hypothesis.

1.7 Assumptions

The assumption was made that respondents would tend to exhibit great variation in respect of the variables that are studied as they would respond to the survey based on their own opinion. Further the researcher assumed that respondents understood the concept of quality management as the preliminary literature review did not provide evidence on respondents' knowledge of the subject.

1.8 Chapter Outline

The chapter outline of the study is as follows:

Chapter 1	Introduction
Chapter 2	Literature review
Chapter 3	Research methodology
Chapter 4	Presentation of results
Chapter 5	Discussion of results
Chapter 6	Conclusions and recommendations

CHAPTER 2

LITERATURE REVIEW

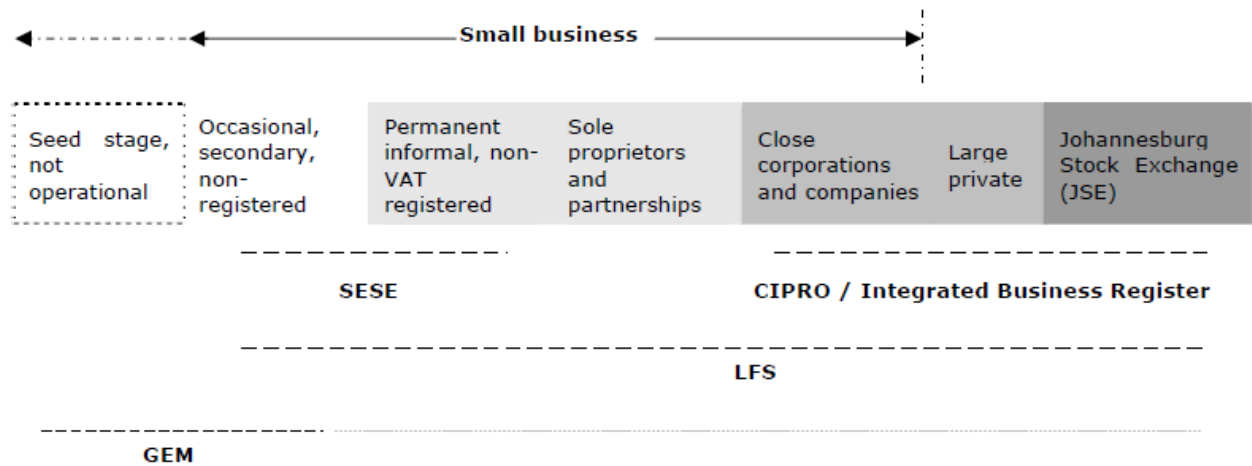
2.1 Introduction

Chapter one provided guidelines on what the research was all about, the research method, choices and the research question. This chapter is intended to further the research by sourcing the use of a literature review. Thus, in order to demarcate the research problem clearly, a preliminary literature review was conducted. The reviewed literature comprised of legislation, government support programs, institutions and research studies previously undertaken. The aim was to advance the research by reviewing attempts previously made to answer the research question. The review focused on quality as a concept and as a management approach, its fundamental principles and practices. The review also covered SMME quality management and performance excellence with a view to discover current research findings on SMME quality awareness, commitment, planning, staff training, business process control, quality measurement, monitoring and support.

2.2 Definition of SMMEs

The National Small Business Act (2004) provides definitions for SMMEs for each industry sector, including number of employees, turnover and value of assets. According to the act (the DTI, 2004) a small enterprise is defined as having up to 50 employees, a medium enterprise from 51 to 200 employees and a micro enterprise employs up to 20 employees. The category of medium-sized enterprises is made up of enterprises with less than R4 million to R50 million turnover and less than R2 million to R18 million in gross assets excluding fixed assets depending on the industry in which they operate. Medium-sized enterprises are viewed as owner managed or controlled but sometimes have other shareholders in the ownership (Goldstuck, 2014:1). According to the act (the DTI, 2004) a medium-sized enterprise is a separate and distinct business entity, managed by one owner or more, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub sector of the economy. According to the DTI (2009: 5) in the Annual Review of Small Business in South Africa, SMMEs may also be categorised as informal and formal as depicted in figure 2.1.

Figure 2.1: Informal to formal SMMEs



Source: (the DTI, 2009)

The enterprises that are formally registered have a continuous trade and are captured by several business registers and therefore reasonably well known and easy to find (the DTI, 2009:6). Sole proprietors and partnerships usually have a permanent and substantial formal activity but are usually not registered with the Companies and Intellectual Property Commission (CIPC). Informal enterprises, on the other hand, can be described best by the extensive survey of non-VAT registered businesses and therefore relatively not easy to find (the DTI, 2009:6). Lack of data is particularly acute among unregistered enterprises (seed stage and occasional) that employ only casual staff or none, are only a minor side occupation of their owner or operate on an on-and-off basis (the DTI, 2009: 6). This exploratory research focused on the ambit of medium-sized enterprises that are formally registered, have continuous trade and are reasonably well known and easy to find. The medium-sized enterprises investigated were those employing 51 to 200 employees with between R4 million and R50 million turnover and between R2 million and R18 million in gross assets excluding fixed assets. The research sought to know the quality awareness, commitment and management practices of the medium-sized enterprises across the trade, industrial and service sectors.

2.3 The definition of quality

What quality is depends on the opinion of the person defining it; so there is no universal definition of quality. Nonxuba (2010:19) points out that when defined by conformance to specifications quality measures how well the product or service meets the target and tolerance determined by its designer. Fitness for use focuses on how well the product performs its intended function or use. Value for the price paid is a definition of quality that consumers often use for products or service usefulness (Nonxuba, 2010). Fulfillment of customer requirements speaks to the fact that quality is the degree to which a set of inherent characteristics fulfill customer requirements (ISO, 9000:2000). The term quality can be associated with adjectives such as excellent, good or poor and requirements mean a need or expectation that is stated or generally implied by the customer (Goetsch & Davis, 2010:5). Quality does not apply only to the product or service itself, it also applies to the people, processes, and organisational environment associated with it (Goetsch *et al* 2010). This research concedes that the definition of the quality concept differs from individual to individual and if an enterprise wants to offer a quality product or service it has to understand what would be considered as quality by its customers. Basically quality lies in the eye of the beholder. What may be good quality for one customer may not be good quality for another customer (Nonxuba, 2010:19).

It is clear however that Goetsch *et al* (2010) and the ISO agree that quality is a dynamic state associated with products, services, people, processes, and environments that meet or exceed customer expectations and is the degree to which inherent product or service characteristics fulfill customer requirements. Quality is dynamic in the sense that what is considered quality can and often does change as time passes and circumstances change (Goetsch *et al* 2010).

2.4 Historical background to quality management

Quality management has its roots in the time and motion studies conducted by Frederick W. Edwards Deming in the 1940s and Phillip Crosby in the 1980s. Although quality management techniques were implemented prior the Second World War by many enterprises, the establishment of the quality management philosophy is generally credited to Dr. W. Edwards Deming (1900-1993). In the late 1920s, while working at Western Electric Company in Chicago, Deming found worker motivation systems to be demeaning and economically fruitless; incentives were tight directly to the quantity of output, and inefficient postproduction inspection systems were used to find defects in goods (Nonxuba, 2010:21). Deming teamed up with Walter Shewhart (1891-1967) in the 1930s, a Bell Telephone Company statistician whose work convinced Deming

that statistical control techniques could be useful to support traditional management methods. Using Shewhart's theory, Deming invented a statistically controlled management process that gave managers the means to define when to intervene in an industrial process and when to leave it alone (Nonxuba, 2010:21).

Deming was given the opportunity to put Shewhart's statistical quality control techniques as well as his own management philosophy to use during World War II. Government managers found that Deming's technique could easily be taught to engineers and workers, and then quickly implemented it in overloaded war production plants (Mote, 2009). According to Nonxuba (2010:21) the origin of quality management can be traced back to 1949 when the union of Japanese Scientists and Engineers formed a committee of scholars, engineers, and government officials devoted to improve Japanese productivity and quality of life. Quality management is generally regarded as a Japanese industry practice, which is heavily influenced by Deming, Juran and Phillip Crosby. According to Nonxuba (2010) the concept of quality management is based on the work of these quality gurus. Deming focused on management leadership and employee participation as the new philosophy. He advocated that companies make quality the concern of everyone to which Crosby agreed. Crosby emphasised on meeting the requirement of both the internal and the external customer and hailed that companies eliminate non-conformance, have zero defects on products and reduce the cost of process appraisal.

Ishikawa and Deming joined the call for the use of statistical and quantitative control methods and the implementation of problem solving using quality control circles. This call resulted in the use of Shewart's Plan-Do-Check-Act cycle (also referred to as the Deming cycle) and quality assurance. These quality proponents preached that companies should continually improve processes and products and propagated that quality management is a continuous process. The three leaders Crosby, Deming and Juran spread common messages calling for participatory management that involve input, problem solving and decision making by all members of an enterprise and its customers. Crosby promoted a defect prevention process whereas requirements for quality conformance are written together by managers and workers and address the needs of the customers. Crosby's theory focused on the standard of zero defects in which the cost of non-conformance to the standard are eliminated (Nonxuba, 2010:23).

Deming promoted the role of management as one of facilitating workers to do their best by removing the obstacles that prevent high quality work and by involving workers in decision making. This theory emphasises process improvement as crucial to product improvement (Nonxuba, 2010:23). Juran suggested

that management problems are related to the element of human error and promoted management training in quality concepts and the use of quality circles to improve employee communication across levels. Juran's theory is further focused on understanding customer needs (Nonxuba, 2010:23). Thus it can be seen that the concept of quality has existed for many years though its meaning has changed over the years. In the early twenties, quality management meant inspecting a product to ensure that it met with specifications. In the 1940's, it became more statistically based, while in the 1960's quality took a broader meaning and the concept began to be viewed as something that encompasses the entire enterprise. Since the 1970's quality is used as a competition base with enterprises focusing more on improving quality in order to be more competitive (Nonxuba, 2010:24).

2.5 The quality management approach

When compared with well-known management approaches, quality management stands out as capturing many aspects of these models and augments them by providing a useful approach to managing an enterprise (Williams, 2008:18). Management theories have studied the mechanistic, organismic and cultural approaches of management. The differences between these three management approaches are shown in table 2.1.

Table 2.1: Management approaches vis-à-vis quality management.

	<i>Quality Management approach</i>	<i>Mechanistic approach</i>	<i>Organismic approach</i>	<i>Cultural approach</i>
Goal	Long-term survival	Organizational efficiency and performance	Organizational survival	Meet individual needs, human development
Definition of quality	Satisfying or delighting the customer	Conformance to standards	Customer satisfaction	Constituent satisfaction
Role/nature of environment	Blurred organisation and environmental boundaries	Objective, outside boundaries	Objective; inside boundary	Enacted/boundaries defined through relationships
Role of management	Focus on improvement and creating a system that can produce quality outcomes	Coordinate and provide visible control	Coordinate and provide invisible control by creating vision and system	Coordinate and mediate negotiations regarding vision, system, rewards
Role of employees	Employees are empowered; training and education provide needed skills	Passive; follow orders	Reactive/self-control within system parameters	Active/self-control; participate in creation of vision, system
Structural rationality	Horizontal processes beginning with suppliers and ending	Chain of command (vertical)	Process flow (horizontal)	Mutual adjustment in any direction

	<i>Quality Management approach</i>	<i>Mechanistic approach</i>	<i>Organismic approach</i>	<i>Cultural approach</i>
	with customers and supported by teams	Technical rationality)	Organisational rationality	Political rationality
Philosophy toward change	Change, continuous improvement, and learning are encouraged	Stability is valued, learning arises from specialization	Change and learning assist adaptation	Change and learning are valued in themselves

Source: Spencer (2009).

The mechanistic management approach views an enterprise as a tool or a machine designed only to create profits for its owners. Work is reduced to elementary tasks with a focus on efficiency, conformity and compliance (Spencer, 2009:242). Although both the mechanistic and quality management approaches assume that the enterprise exists to achieve a specific performance goal such as profit, quality management has a much broader definition and takes a more open-systems perspective, which views managers as leaders and visionaries rather than as individuals who plan, organize, direct and control. The quality management approach broadens employee roles, uses a horizontal rather than vertical work organisation and focuses on continuous improvement rather than stability (Spencer, 2009:243). The organismic management approach views organisational systems as living organisms that depend on their environment for resources and adjust the behavior of their parts to maintain the properties of the whole within acceptable limits. This management approach assumes that system goals, such as the need to survive, displace performance goals such as profit (Spencer, 2009:243). The quality management approach is similar in that survival in competitive environments is often the primary motivation for adoption of quality systems.

Customer satisfaction as a definition of quality is compatible with this notion. In the organismic approach, enterprises are not autonomous entities (Spencer, 2009:243). This is consistent with the notion of partnerships development espoused by the quality management approach. In the quality management approach vision replaces fear as a motivator and driver of management actions; employees work for shared beliefs and values; horizontal communication becomes as important as vertical communication and direction in stressing coordination and organisational rationality; and the enterprise must adapt to a broad array of external forces. It is evident that the quality management approach shares many similarities with the organismic approach (Spencer, 2009: 244).

The cultural management approach views an organisation as a collection of cooperative agreements entered into by individuals with free will. The organization's culture and social environment are enacted or socially constructed by enterprise members. From the perspective of this model, the goal of an enterprise is to serve the diverse needs of all whom it affects – its stakeholders – a view often expressed by quality philosophers (Spencer, 2009:244). In the cultural model, managers take on a more distinctive leadership role, relinquishing control and sharing power in order to meet the needs of the many individuals in the enterprise; employees have a greater voice in establishing organizational goals; all structural decisions are value-based and have clear implications with regard to individual autonomy (political rationality); and learning needs are driven not by adaptation to environmental forces but in response to individual needs (Spencer, 2009: 245). It is clear that the mechanistic, organismic and cultural management approaches are characteristic of recent trends in the evolution of quality management in high performing enterprises.

2.6 Quality management principles

Evans, (2011:6) points out that all enterprises, large and small, manufacturing and service, profit and not-for-profit can benefit from incorporating quality principles. The International Standardisation Organisation (ISO) and Evans (2011:22) agree that quality principles are the fundamental rules or beliefs for leading and operating an enterprise and are the foundation of quality management. Evans (2011) asserts that quality principles are very basic management concepts and relate to aspect such as:

- A customer and stakeholder focus;
- A process orientation supported by continuous improvement and learning;
- Employee engagement and teamwork;
- Management by fact;
- A strategic focus on quality as a source of competitive advantage, and
- Visionary leadership that views performance excellence as an integrated system.

The ISO 9000:2000 standard for quality management is based on eight principles that provide a set of comprehensive and fundamental rules or beliefs for leading and operating an enterprise. These principles were approved by 36 representatives of countries that have delegates in the technical committee (TC) 176 responsible for revising the ISO 9000 standards (Evans, 2011:80). Goetsch *at al* (2010) define the ISO quality management principles as listed in the table below:

Table 2.2: ISO 9000:2000 Quality management principles

- **Customer Focus** – Enterprises depend on their customers and therefore should understand current and future customer needs, should meet customer requirements, and strive to exceed customer expectations.
- **Leadership** – Enterprise owners or managers should establish unity of purpose and direction of the enterprise. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives.
- **Involvement of People** – People at all levels are the essence of an enterprise and their full involvement enables their abilities to be used for the enterprise's benefit.
- **Process Approach** – A desired result is achieved more efficiently when activities and related resources are managed as a process.
- **System Approach to Management** – Identifying, understanding, and managing interrelated processes as a system contributes to the enterprise's effectiveness and efficiency in achieving its objectives.
- **Continual Improvement** – Continual improvement of the enterprise's overall performance should be a permanent objective of the enterprise.
- **Factual Approach to Decision Making** – Effective decisions are based on the analysis of data and information.
- **Mutually Beneficial Supplier Relationships** – An enterprise and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

Source: Goetsch & Davis (2010).

The above principles have been included in the revised ISO 9000:2000 quality management standard by the International Organization for Standardization (ISO). In addition, the ISO considers the following as major changes in the revised standard:

- Increased focus on management commitment;
- Customer satisfaction;
- Emphasis on processes; and
- Continual improvement.

The ISO 9000:2000 revision aligns much closer to the spirit of total quality. Although the revision included much of the Baldrige criteria's original principles, it is still not a comprehensive business performance framework. Nevertheless, it is an excellent way to begin a quality journey (Evans, 2011:82). The principles of total quality management can also assist in developing objectives and measures for quality. Total quality management is about embedding a culture of continuous improvement and customer focus within an enterprise. Williams (2009) provides the following basic principles of total quality management:

- Performance measurement
- Customer orientation
- Continuous improvement

- Employee involvement
- Purchasing and supplier management

Nonxuba (2010:28) agrees with Williams (2009) stating that focus on the customer is a critical element of total quality. An enterprise must continually and actively conduct market research, measure customer satisfaction and utilise market research information in the design of its products or services (Nonxuba, 2010). The aim of continuous improvement is to continuously identify and eliminate those activities that add little or no value to the product or service provided, i.e. waste including the waste of human potential. Continuous quality improvement has emerged as a dominant theme for survival and growth in fierce competitive business environments (Nonxuba, 2010:29).

Most work and customer contact takes place at the lower end of the enterprise. As a result, employees are the most likely source of improvements. Total quality also requires that there are clearly defined methods of gaining employee involvement and ensuring that the way in which the performance of employees is measured is in terms of meeting the objectives of the enterprise (Nonxuba, 2010:29). When an enterprise is viewed as a single process, the effect of supplied products and services becomes apparent. As a result a total quality environment requires that purchasing decisions are made with quality (i.e. fitness for purpose) as the main determinant. Therefore, supplier relations should progress in the direction of supplier partnerships that embrace quality management principles (Nonxuba, 2010:29).

The aim is to integrate suppliers into the enterprise's quality management process. The measurement of supplier performance should also be linked to the achievement of quality and enterprise objectives (Williams, 2009). According to Nonxuba (2010) total quality principles are sufficiently generic that they can be applied in both large and small enterprises. Crosby's model has five principles of quality management, all of which are vital for the implementation of a quality program in an enterprise, namely:

- Management commitment;
- Customer focus;
- Quality costs;
- Quality system, and
- Continuous improvement

(Nonxuba, 2010:24).

Management commitment is essential for an enterprise to implement quality management successfully as resources and leadership is required (Nonxuba, 2010:24). It is clear that Nonxuba (2010) concurs with Crosby who promoted that quality requirements be written by managers together with workers and address the needs of customers. Customer focus requires the elements of customer survey and trials, working closely with key customers, competitor analysis, analysis of customer complaints and compliments. Quality cost is incurred to ensure that products and services meet the customer requirements. Any enterprise can develop its own quality system to ensure that its principles, processes, and procedures are appropriate and adequate for its business operation.

Continuous improvement is the continual search for excellence and customer satisfaction (Nonxuba, 2010:24). The definition of continuous improvement presented by Nonxuba (2010) that continuous improvement is the continual search for excellence and customer satisfaction seems to be limited as compared to Goetsch *et al* (2010)'s definition that continuous improvement should extend to transformation in which improvement is everyone's job, from the enterprise owner or manager to the hands-on labour. Everyone in the enterprise must be involved, and the enterprise owner or manager must be committed to support and facilitate the effort.

2.7 Quality management practices

Quality management practices are the activities by which quality principles are implemented (Evens, 2011: 54). Goetsch *et al* (2010) state that implementing quality management practices leads to higher productivity, which in turn leads to long-term competitive strength. Prince (2009:38) agrees stating that implementing quality management practices improves an enterprise's long-term profitability and competitiveness. The Deming chain reaction shown in table 2.3 summarises this view:

Table 2.3: The Deming chain reaction

Improve quality
Cost decrease because of less rework, fewer mistakes, fewer delays and snags, and better use of time and materials
Productivity improves

Capture the market with better quality and lower price
Stay in business
Provide jobs and more jobs

Source: Evans (2011).

Deming further promoted a transformation in management practice with his fourteen points for quality management. These fourteen points date years back when enterprises were ruled by autocratic managers who were only concerned with short-term profits and had little respect for neither involving workers nor improving quality (Evans, 2011:49). Whilst management practices differ from the time of Deming, the fourteen points depicted in table 2.4 still give important insight for managers. Evans (2011) warns that failure to heed them will only lead to repeating mistakes that stand in the way of enterprise productivity and performance.

Table 2.4: Deming's 14 points for quality management

- Create and publish to all employees a statement of the aims and purpose of the company. Management must demonstrate constantly their commitment to this statement.
- Learn the new quality philosophy (top management and everybody).
- Stop depending on inspection to achieve quality. Build in quality from the start.
- End the practice of awarding business on the basis of price tags alone.
- Improve constantly and forever the system of production and service.
- Institute training.
- Teach and institute leadership.
- Drive out fear. Create trust. Create a climate for innovation.
- Optimize toward the aims and purposes of the company the efforts of teams and groups.
- Eliminate exhortations (slogans) for the workforce.
- Eliminate numerical quotas for production. Instead, learn and institute methods for improvement. Eliminate management by objective; instead, learn the capabilities of processes and how to improve them.
- Remove barriers that rob people of their pride of workmanship.
- Encourage education and self-improvement for everyone.
- Take action to accomplish the transformation.

Source: Evans (2011).

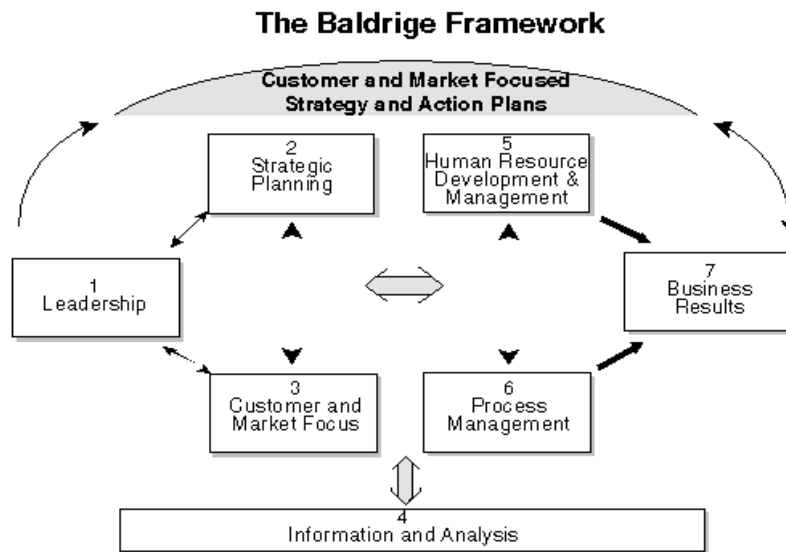
The quality management practices espoused by the Deming fourteen points all epitomise the joint wisdom of management theorists and experts and reveal what a truly world-class optimally performing enterprise must do to succeed. Their criteria represent the leading edge of authenticated management practice (Evans, 2011:64). However, the two management frameworks that have had the most impact on the implementation

of quality management practices worldwide are the US Malcolm Baldrige National Quality Award and the international ISO 9000 certification process (Evens, 2011:64). Recently, the concept of Six Sigma has also evolved into a unique framework for improving quality and subsequent productivity. The US Malcolm Baldrige National Quality Award, the international ISO 9000 certification and Six Sigma frameworks evolved from the philosophies of Edwards Deming, Joseph Juran and Philip Crosby (Williams, 2008:18). Each of these frameworks offer a different emphasis in assisting enterprises improve performance and increase customer satisfaction.

For example, Baldrige focuses on performance excellence for the entire enterprise in an overall management framework, identifying and tracking important enterprise results (Evens, 2011). ISO focuses on product and service conformity for guaranteeing equity in the marketplace and concentrates on fixing quality improvement problems and product or service non-conformities; and Six Sigma concentrates on measuring product quality and driving process improvement and cost savings throughout the enterprise (Evens, 2011). The Malcolm Baldrige National Quality Award establishes a framework for understanding and incorporating quality practices in any enterprise (the Baldrige, 2014). Evans (2011: 60) further agrees that the purpose of the award is to help stimulate companies to improve quality and productivity for the pride of recognition while obtaining a competitive edge through increased profits.

According to Evans (2011:60) the award recognises the achievements of those enterprises that improve the quality of their goods and services and provide an example to others; it establishes guidelines and criteria that can be used by business, industrial, governmental, and other enterprises in evaluating their own quality efforts; and provides specific guidance for enterprises that wish to learn how to manage for high quality by making available detailed information on how winning enterprises were able to change their cultures and achieve eminence. The Baldrige (2014) submits that whilst the Malcolm Baldrige National Quality Award exists to recognise enterprises that excel in performance and the quality practice, it does not exist simply to recognise neither product excellence nor does it exist for the sake of winning; its principal focus is on promoting performance excellence that lead to customer satisfaction and improving business results. Evans (2011: 63) enhances that the award examination is based on a rigorous set of criteria called the criteria for performance excellence, designed to encourage enterprises to enhance their competitiveness through an aligned approach to organisational performance management that results in the delivery of ever-improving value to customers, contributing to marketplace success and improvement of overall company performance and capabilities, organisational and personal learning (Evans, 2011).

Figure 2.2: The Malcolm Baldrige National Quality Award Framework



Source: The Baldrige Foundation (2014)

The criteria work as an integrated framework for managing an enterprise; they are simply a set of questions focused on critical aspects of management that contribute to performance excellence (Evans 2011:64) as shown in the table below.

Table 2.5: The Baldrige Framework Examination Criteria

- **Leadership** – This category examines how an enterprise’s senior leaders’ personal action guide and sustain the enterprise. Also examined are an enterprise’s governance system and how the enterprise fulfils its ethical, legal, and societal responsibilities, and supports its key communities.
- **Strategic planning** – This category examines how an enterprise develops strategic objectives and action plans. Also examined is how the chosen objectives and plans are deployed and changed if circumstances require, and how progress is measured.
- **Customer focus** – This category examines how an enterprise engages its customers for long-term marketplace success and builds a customer-focused culture. Also examined is how the enterprise listens to the voice of its customers and uses this information to improve and identify opportunities for innovation.
- **Measurement, analysis, and knowledge management** – This category examines how an enterprise selects, gathers, analyses, manages, and improves its data, information, and knowledge asserts, and how it manages its information technology. Also examined is how the enterprise evaluates and uses reviews to improve its performance.
- **Workforce focus** – This category examines how an enterprise engages, manages, and develops its workforce to utilise its full potential in alignment with the enterprise’s overall mission, strategy, and action plans. Also examined is the enterprise’s ability to assess workforce capability and capacity needs and to build a workforce environment conducive to high performance.
- **Operations/Process focus** – This category examines how an enterprise designs its work systems and how it designs, manages, and improves its key processes for implementing those work systems to

deliver customer value and achieve organisational success and sustainability. It also examines an enterprise's readiness for emergencies.

- **Results** – This category examines an enterprise's performance and improvement in key business areas – product outcomes, customer-focused outcomes, financial and market outcomes, and leadership outcomes. Performance levels are examined relative to those of competitors and other enterprises providing similar products and services.

Source: Evans (2011)

The seven categories form an integrated management system. The umbrella over the seven categories reflects the focus that enterprises must have on customers through their strategy and action plans for all key decisions (Evans, 2011:64). Leadership, strategic planning, and customer focus represent the leadership triangle and suggest the importance of integrating these three functions. Human resource development and management focus and process management represent how the work in an enterprise is accomplished and leads to business results. These functions are linked to the leadership triad. Finally, information and analysis supports the entire framework by providing the foundation for a fact-based system for improvement (the Baldrige, 2014). Each category consists of various items on which business should focus. Each item consists of a small number of questions to address that seek specific information on approaches used to improve competitiveness (Baldrige, 2014). Enterprises that wish to assess their management practices and identify improvement opportunities use these questions as a means to better understand their strengths and weaknesses.

The criteria define both an integrated infrastructure and a set of fundamental practices for a good enterprise management system (the Baldrige, 2014). These management practices represent the collective wisdom of management theorists and experts and reflect what a truly world-class high performing enterprise must do to succeed. The criteria have been described as representing the leading edge of validated management practice (the Baldrige, 2014). The ISO 9000:2000 standards focuses on developing, documenting, and implementing procedures to ensure consistency of operations and performance in production and service processes with the aim of continual improvement supported by fundamental principles of quality management (Evans, 2011:78). The standards consist of ISO 9000, 9001 and 9004. ISO 9000 provides definitions for key terms, 9001 provides a set of minimum requirements for a quality management system, and is intended to demonstrate compliance with recognised quality principles to customers and for third-party certification.

The requirements state precisely what an enterprise needs to do and are organised into four major sections; Management Responsibility, Resource Management, Product Realization and Measurement, Analysis, and

Improvement (Evans, 2011:78). ISO 9004 focuses on improving the quality management system beyond these minimum requirements. The standards are intended to apply to all types of businesses in both manufacturing and service industries (Evans, 2011:78).

ISO 9000 provides a set of good basic practices for initiating a quality program and is an excellent starting point for medium-sized enterprises with no formal quality system in place. The ISO 9000 provides detailed guidance on process and product control than Baldrige and provides a systematic approach to many of the Baldrige requirements in the process management category (Evans, 2011:82). Thus for enterprises in the early stages of developing a quality program, the standards enforce the degree of control necessary before they can seriously pursue quality management. The requirements of regular audits reinforce the adopted quality management practices until they become totally embedded in the enterprise. Using ISO 9000 as a basis for a quality system can improve productivity, decrease costs, and increase customer satisfaction (Evans, 2011:82).

General Electric (GE, 2013) defines Six Sigma as a statistical term that measures how far a given process deviates from perfection. Evens (2011: 83) describes Six Sigma as a business improvement approach that seeks to find and eliminate causes of defects and errors in manufacturing and service processes by focusing on outputs that are critical to customers and a clear financial return for the enterprise. Key behind Six Sigma is that if you can measure how many defects you have in a process, you can systematically figure out how to eliminate them and get as close to zero defects as possible from the process (GE, 2013). To achieve Six Sigma quality, a process must produce no more than 3.4 defects per million opportunities, an opportunity being a chance for non-conformance or not meeting the required specifications (GE, 2013). This means an enterprise needs to be nearly flawless in executing its key processes. At its core, Six Sigma revolves around the following key concepts:

Table 2.6: Six Sigma key concepts

Critical to Quality:	Attributes most important to the customer
Defect:	Failing to deliver what the customer wants
Process Capability:	What your process can deliver
Variation:	What the customer sees and feels
Stable Operations:	Ensuring consistent, predictable processes to improve what the customer sees and feels

Design for Six Sigma:	Designing to meet customer needs and process capability
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Source: General Electric (2013).

Although each of these frameworks is process-focused, data-based and management-led, each offers a different emphasis in helping enterprises improve performance and increase customer satisfaction. For example, Baldrige focuses on performance excellence for the entire enterprise in an overall management framework, identifying and tracking important enterprise results (Evens, 2011). ISO focuses on product and service conformity for guaranteeing equity in the marketplace and concentrates on fixing quality improvement problems and product and service non-conformities and Six Sigma concentrates on measuring product quality and driving process improvement and cost savings throughout the enterprise (Evens, 2011).

To acknowledge and appreciate the important role the SME sector plays in promoting wealth and prosperity in the African continent, the Africa-Growth Institute (AGI), in partnership with major private sector institutions and SME support agencies introduced the Africa SME Award (AGI, 2013). The award recognises the best performing SMEs in the continent and showcases the continent's best SMEs in the trade, services and industrial sectors. The overall winner receives the African SME of the Year Award. This unique annual award program has been established specifically to acknowledge, encourage and celebrate excellence amongst African SMEs (AGI, 2013). The main goal of the award program is, therefore to help the African SME business sector grow and prosper. Amongst the assessment criteria of the award program is quality control, financial performance and labour force (AGI, 2013).

The South African Business Award is also a quality award which recognises manufacturing enterprises that strive to conduct their business activities with high quality assurance and management standards (the DTI, 2013:1). The award aims to promote the production of high quality products and services, good business practices, industrial competitiveness and economic growth. This award is presented to an enterprise which proactively implements quality management practices.

The South African Quality Award intends to promote and raise awareness about the need for quality management and the different methods on how to achieve quality (the DTI, 2011:1). Many South African enterprises have risen to the challenge of competing on a global scale using various methods to improve the quality of their products. In order to recognise the efforts that these enterprises make towards the achievement of quality, the DTI (2011) decided to create a quality award that is run on a national level and

culminate in the winners being eligible for a corresponding Southern African Development Community (SADC) Quality Award. The SADC Annual Quality Award recognises enterprises for having robust quality management systems that have demonstrably contributed to the growth of their businesses (Molapo, 2013:3). The SADC Quality Award provides a regional platform and an opportunity to encourage local industries to be cognisant that the success of their services or products in local markets achieved due to excellent quality, translate into guaranteed success in regional and international markets (Molapo, 2013:3).

Worldwide, there are several quality awards, such as the Deming Prize in Japan, the European Quality Award in Europe, and the Malcolm Baldrige National Quality Award in the USA, the quality awards in the African continent, the SADC region and locally in South Africa. Each of these awards is based on a perceived model of quality management. They do not focus solely on product and service perfection or traditional quality management methods, but consider a wide range of management activities, behavior and processes that influence the quality of the final offering. These award models provide a useful audit or assessment against which enterprises can evaluate their quality management practices, the deployment of these practices, and the end business results (Nonxuba, 2010:34).

Nonxuba (2010) observed that the chase to adopt quality management practices by SMEs has been slow as compared to large companies. Yusof & Aspinwall (2008) argues that one of the reasons is that SMEs focus mainly on ISO 9000 certification and very few go beyond certification due to a disabling internal culture and resource constraints. Mendes (2012) finds that the quality of SME products is characterised by unawareness of quality issues and that SME product reflect poor quality control. Nonxuba (2010) argues that the tight deadline for production tasks is a major cause that prevents SME products from being improved by quality procedures. Thus, the debate of the two researchers seem to say that SMEs have not adopted quality management in the same extent as larger companies. Mendes (2012) agrees and indicate that in SMEs quality issues are not addressed explicitly with the real involvement of owners or managers.

The view of Mendes (2012) demonstrates the strength that the owners or managers of SMEs often have less familiarity with project management and planning, which affects deadlines and quality. The resources devoted to employee training and human resource practices are usually very limited due to budget constraints (Mendes, 2012). SME face difficulties to adopt a methodological approach to managing the quality of their products or services. The SMEs lack of quality knowledge and technical skills is attributed to the tendency they have on centralised operational structures and employ generalist rather than specialist workers. It is for this reason that Mendes (2012) agrees that SME have less in the way of resources to absorb shocks of

unsuccessful investment.

Lobo & Jones (2013) concur and observe that process improvement efforts require investment such as budget, time, training, task assignment and resources. They further argue that process improvement also requires sponsorship from the enterprise owner or manager and a good communication scheme to motivate the individuals involved in the improvement endeavor. Due to high turnover rates and less skilled employees who already have a bundle of work to do, SMEs do not put their efforts in quality tasks (Lobo *at al* 2013). Albeit, challenges increase when an enterprise wants to successfully carry out a process improvement project based on ISO or some other quality management system (Lobo and Jones, 2013). SMEs need to develop new ways of creating value supported by a quality oriented way of thinking about doing business (Lobo *at al* 2013). Mendes (2012) agrees and observes that a typical SME is looking for short-term solutions to known problems with minimum investment, minimal disruption, and quick tangible business results.

2.8 SME commitment to quality

Yusof, *at al*, (2008) points out that quality is an important consideration for enterprise management; that increased awareness of SME owners or managers who recognise that quality is an important strategy, will in return result in all levels of the enterprise focusing on the importance of quality. According to Nonxuba (2010) world renowned quality leaders such as Deming, Feigenbaum, Juran, Crosby and Ishikawa are all in agreement that business owners or managers are the cause of poor quality and poor quality is not due to the laxity of workers. SME owners or managers do not consider quality management as a priority and Nonxuba (2010) recommends that SME management need to be committed to quality management. Nonxuba (2010:118) further finds that for improving the quality of the products and staying competitive, enterprises are keen to implement quality management but argues, however, that quality management cannot be implemented without the total support and full involvement of the enterprise owner or manager since it is implemented to increase the profit and market share of the enterprise. Lee (2008) concurs and state that quality management must be used to direct a paradigm shift in management philosophy in order to improve enterprise effectiveness. Yusof, *et al* (2008) agrees with Nonxuba (2010) pointing out that by implementing quality practices, the enterprise not only motivates the employees but also takes new direction to grow continuously through customer satisfaction. The enterprise owners or managers should give direction to the enterprise and are the driving force steering the enterprise towards achievement through improvement and customer satisfaction.

2.9 SME customer orientation

Goetsch *at al* (2010:149) states that an enterprise that is customer focused has vision, commitment and a climate for the customer. Management demonstrates by actions and words that the customer is important, that the enterprise is committed to customer satisfaction and that customer needs take precedence over internal needs. One way such an enterprise show commitment to customer needs and establish a climate in which customer satisfaction prevail is by making the goal of being customer focused a major factor in all employee promotions and pay increases (Goetsch *at al* 2010). Rossouw (2015:2) agrees with Goetsch *at al* (2010) that quality management is a customer oriented management approach with strong emphasis on customer relationship management (CRM). CRM not only enhances the performance and effectiveness of customer related processes but also creates good image in the mind of customers (Rossouw, 2015). Medium-sized enterprises need to exceed their customer expectations so that the customers will come back over and over again because customers need to always be given what they want and a little more (Rossouw, 2015:2).

Nonxuba (2010) finds that the culture in most SMEs is not conducive for the adoption and implementation of quality management practices and recommend that SMEs need to change their behavior toward quality by creating a true quality culture. Goetsch *at al* (2010:118) concurs and states that enterprises that develop and maintain a customer oriented quality culture differ significantly from those with a traditional culture and the differences are most noticeable in the operating philosophy, management approach, problem solving and attitude towards customers. Goetsch *at al* (2010) state that the core of the operating philosophy of a customer oriented quality culture is customer satisfaction and quality enterprises are focused on doing what is necessary to exceed the reasonable expectations of customers. Enterprises that adopt a customer oriented quality culture plan strategically, they develop both long and short-term objectives, and they do so within the context of a vision (Goetsch *at al* 2010). In an enterprise with a customer oriented quality culture, managers are seen as coaches of the team of employees. They communicate the vision, mission, and goals; provide resources; remove barriers; seek employee input and feedback; build trust; provide training; and reward and recognise best performance (Goetsch *at al* 2010). In an enterprise with a customer oriented quality culture, continual improvement of processes, people, the working environment, and every other factor that affects performance is at the very core of the operating philosophy (Goetsch *at al* 2010). Enterprises with a customer oriented quality culture, regardless of the products or services they provide, share a number of common characteristics as shown in table 2.7.

Table 2.7: The characteristics of a quality culture

- Behaviour matches slogans
- Customer input is actively sought and used to continually improve quality
- Employees are both involved and empowered
- Work is done in teams
- Managers are both committed and involved, responsibility for quality is not delegated
- Sufficient resources are made available where and when they are needed to ensure the continuous improvement of quality
- Reward and promotion systems are based on contributions to the continual improvement of quality
- Fellow employees are viewed as internal customers
- Suppliers are treated as partners

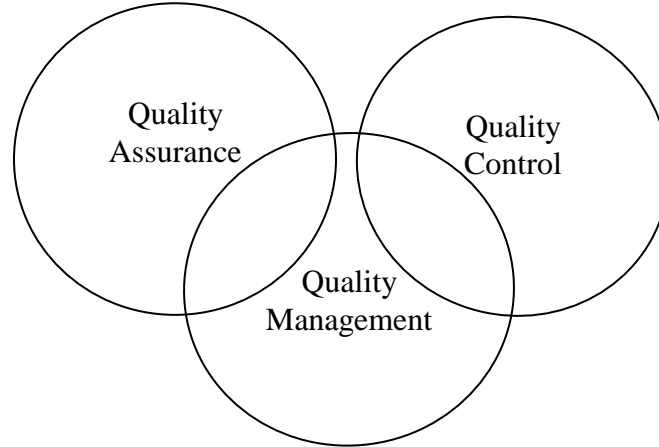
Source: Goetsch *at al*, (2010)

The SME culture in South Africa is quite hesitant about quality especially when viewed as a management philosophy. According to Nonxuba (2010) all quality management system implementation efforts by SMEs are not met with success. Goetsch *at al* (2010) agrees and substantiate that this is because quality management requires varying grounds for effective implementation based on long term planning and the enthusiasm of enterprise owners or managers to pursue improvement in enterprise performance.

2.10 Quality planning in SMEs

According to Nonxuba (2010) the quality guru, Feigenbaum, emphasised planning for quality and acting on standards after they have been set. Russell (2014:266) states that a quality plan specifies quality standards, practices, resources, specifications, and the sequence of activities relevant to a particular product or service. The quality plan result from the quality policy, which is linked to the enterprise business plan, and considers legal regulations, industry standards and good practices needed to meet customer requirements for products or services (Goetsch *at al* 2010). The essence of quality planning can be defined with the aid of three spheres of quality namely, quality control, quality assurance and quality management as shown in figure 2.3.

Figure 2.3: The three spheres of quality



Source: Self drawn

Quality assurance is all the planned systematic actions necessary to provide confidence that a product or service will satisfy customer needs. The objective of quality assurance is to have in place a formal system that continually checks the effectiveness of the quality function in the enterprise by auditing the various processes to determine if they meet their responsibilities for producing a quality product or service (Nonxuba, 2010: 32). Quality control is a set of activities intended to verifying one's own work or that of a co-worker. Quality management is the adhesive that keeps the control and assurance activities together as it is about holistically planning, organising, directing and controlling the quality effort in the enterprise (Goetsch *at al*, 2010).

The three basic aspects usually associated with quality planning are quality of design, conformance and performance (Nonxuba, 2010). As per renowned quality guru Juran, quality of design is an overall component of planning, which is defined as fitness for use. It refers to the level of excellence the product is intended to possess. Integrated to quality of design is quality function deployment which builds methods for deploying design into the processes that develop the product or service (Nonxuba, 2010). Quality function deployment captures and deploys customer needs and requirements into the design, production and service process. It involves identifying customer needs, known as the voice of the customer or VoC, identifying the product attributes that most satisfy the VoC, and establishing product development and testing targets and priorities (Goetch *at al* 2010:425). Quality of conformance defines how well the product conforms to the design, is about meeting the promise made in the design specifications and implies that the manufactured product or the service rendered meet the standards selected in the design phase.

Quality of performance is concerned with how well the product functions or the service is rendered for the customer. It measures the degree to which the product or service satisfies the customer. This is a function of both the quality of design and the quality of conformance. The final test of product or service acceptance always lies with the customer. If a product does not meet customer expectations or if a service does not live up to customer's expectation, then adjustments need to be made in the design or conformance phase (Nonxuba, 2010). The reason of quality failures in most SMMEs is the failure of management to plan and implement a quality method. SMME management presume quality planning and deployment as an over-head cost. They think that any type of quality control or quality assurance activity is something that increases the costs.

However, according to Nonxuba (2010) the quality guru, Philip Crosby, advocated that quality is free and that there is a cost for poor quality; the cost for poor quality is the expense of doing things wrong. Crosby explained that creating products or services of high quality is less expensive than creating products of poor quality. Using quality mechanisms requires time and effort, hence it involves costs, but it helps in reducing errors and thus results in products or services with a lower level of non-conformance. Poor quality means more product or service failure. Defect detection or prevention in the early phases therefore reduces the rework costs incurred due to product or service failure.

2.11 Integrating quality into SME workplaces

Quality expert, Deming, characterised employee involvement as a significant driver of quality management implementation. Mendes (2012:2) states that if defined from a people involvement perspective, quality management may be viewed as a management philosophy that seeks to achieve quality through the full participation of everyone in the enterprise. Watt (2009) agrees that employee involvement in decision making is intrinsically at the heart of the quality concept. Mendes (2012) concurs and points out that employee involvement may provide the foundation for quality effort and ensure that practices implemented conform to quality requirements that are followed by everyone in the enterprise. Mendes (2012) finds that employee empowerment is significantly correlated with overall enterprise performance and that there is a positive correlation between high employee involvement and enterprise productivity and long-term financial performance. Mendes (2012) further states that the low success rates of many quality management programs

is due to a lack of emphasis on human resource issues.

Hansson (2008) found that a trained and developed workforce is a key factor in quality programs. Mendes (2012) support Hansson (2008) finding that training and development in quality management issues improve employee abilities and skills allowing enterprises to promote employee commitment and foster workforce quality awareness. However, according to Mendes (2012) SMEs face particular problems which hinder their progress through quality management, namely capital, human and technical resources. Pun & Jaggernath-Furlonge (2012) argue that there are operational differences between SMEs and large enterprises. Pun *et al* (2012) point out that what applies to larger enterprises does not necessarily apply to SMEs, therefore some characteristics of quality management are more suitable for small to medium enterprises, while others are more suited to larger enterprises.

Principles such as employee participation, flexibility, and closeness to customers could be more successfully applied in small to medium enterprises than in larger ones. In fact, small to medium enterprises are generally characterised by a lean structure based on a direct and close link between management and employees at the lower levels resulting to SMEs benefiting from high flexibility, customer orientation and a faster decision-making process (Prasad & Tata, 2009). However, despite the perceived importance of training and development, Mendes (2012) observe that there is a general reluctance among SMEs to provide formal employee training. Mendes (2012) finds that owners or managers in small to medium enterprises generally perceive formal training as an investment they can hardly afford, attending to both course fees and costs due to reduced output while employees are off the job. Mendes (2012) finds that SMEs seldom perform formal training needs analyses and rather focus essentially on informal training and development initiatives since these can be easily integrated into daily operations, are centered on employee specific needs and involve lower costs.

2.12 Integrating quality to SME business processes

Customers perceive high dependability and full positioning of product characteristics to meet their expectations as a basic requirement. Becker, Bütterlin & Kahne (2013:1) observe that in successful enterprises there has already been an evolution in the role of quality management from a traditional business support function towards a role that is actively involved in shaping products and services that appeal to customers and identifies three typical stages of this evolution of quality. Stage one is assurance, where the focus is on achieving zero errors or defects and reducing warranty or complaint costs through improved processes with clear responsibilities (Becker *et al* 2013). Becker *et al* (2013) argues that this is the

traditional role of the quality management function and it has a number of disadvantages. For example, quality staff may only be involved at the end of the process, so they have little or no opportunity to influence product and service design. Stage two is empowerment, where quality management evolves towards empowering the entire enterprise to take ownership and responsibility for quality in a broader way (Becker *at al* 2013). Becker *at al* (2013) argues that this approach recognises more clearly the value add of quality management and its role in support of the business.

Quality management moves away from being a centralised and stand-alone entity towards greater decentralisation. In a recent study, Becker *at al* (2013) discover that more than 70% of customer focused enterprises are already implementing and moving towards the decentralisation of quality management into business units. Stage three is customer delight, where quality management acts as a central facilitator between marketing, sales, and production to ensure that product and service quality not only meets but exceeds customer expectations (Becker *at al* 2013). In this role and building on understanding of customer feedback quality management provide processes and tools that help support the transformation of customer demand into attractive products and services (Becker *at al* 2013).

Becker *at al* (2013) finds that smaller to medium enterprises describe the concept of integrating quality by design as the latest tang of the month. At the same time many of the larger enterprises, which are leading the business value chain, have taken on the design for quality challenge and its statistical tools as an opportunity to improve their products, services and processes early on in the design phase. Goetsch *et al* (2010:442) observes that as a result of the quality quest bigger enterprises require that suppliers, who are often small to medium enterprises, practice statistical process control (SPC), resultantly, smaller to medium enterprises are using SPC as part of their quality and competitive initiatives. Goetsch *et al* (2010: 449) point out that when an enterprise's processes are determined to be capable of producing acceptable products, and after they are in control using SPC, internal quality assurance can reduce its inspection and process observation efforts, relying to a greater degree on a planned program of process audits. This reduces quality assurance costs and with it the cost of quality.

2.13 Quality measuring and monitoring in SMEs

Kunene (2008:2) finds that the measurement of internal business processes is crucial to achieving excellence in customer satisfaction. The Chartered Quality Institute (2015) concurs advising that an enterprise must evaluate the effectiveness of ongoing processes as part of process control. The MITRE (2015) further agrees

and states that the purpose of quality measurement and analysis is to develop and sustain a measurement capability used to support management information needs. The focus of quality assurance is putting good processes in place so that the quality will be built into the product rather than trying to inspect quality into the finished product. The MITRE (2015) finds a capability maturity model and point out that it includes a process area called product and process quality assurance for measurement and analysis. The purpose of measurement and analysis is to develop and sustain a measurement capability that is used to support management information needs. There are eight specific practices recommended in the capability maturity model as shown in table 2.8.

Table 2.8: Eight practices for measuring and monitoring quality

- Establish measurement objectives
- Specify measures
- Specify data collection and storage procedures
- Specify analysis procedures
- Collect measurement data
- Analyse measurement data
- Store data and results, and
- Communicate results

Source: The MITRE Corporation (2015)

Kunene (2008:2) agrees with the MITRE (2015) that the most useful results often arise from measuring and improving processes in a way that stretches to wider areas of the enterprise, from the setting and evaluating of standards, to employee coaching, through to the training and development of staff. The MITRE (2015) contends that regular monitoring, support, feedback and training all help the enterprise maintain high standards without having to go hi-tech. Some monitoring, even the most basic, is better than no monitoring at all. The enterprise can start with simple activities such as a spreadsheet with tick boxes filled in manually and work its way up slowly. And if the enterprise set realistic targets, achieving them will be motivating, paving the way to other more ambitious goals (the MITRE, 2015). The MITRE (2015) warns that quality monitoring is not and should not be a negative top-down activity designed to trip employees up. In the best enterprises it is an integral part of the skills program of benefit to employees as well as customers. Monitoring that is collaborative rather than prescriptive, inclusive rather than authoritarian, is likely to lead to more acceptance and co-operation (the MITRE, 2015).

The MITRE (2015) advises that feedback from the monitoring process should be objective, using a method of scoring and evaluating that is fair and agreed by all in advance, and it must be consistent and regular.

Once milestones are agreed and set, they must be kept to, built on and progressed. Feedback can be delivered one-to-one, remotely, or via group sessions where employees share and spread best practice. Whatever method is selected, the important thing is that there is an opportunity for individual employees to contribute to the discussion (the MITRE, 2015). The MITRE (2015) state that not only does this encourage employees to buy into the process, their comments and suggestions are often extremely insightful. The MITRE (2015) enhances that staff support should be provided through interventions such as refresher and formal skills training and development as well as action plans to improve employee performance with the aim of improving the customer experience and achieving business objectives.

Quality evaluation is only as good as the person doing the evaluating. The MITRE (2015) points out that it is worthwhile investing in a dedicated person or in the case of larger enterprises, a specialist team to monitor quality in the enterprise. The enterprise should provide the team or person identified to handle monitoring, evaluating and training with the resources, training and skills they need to carry out appraisals, coaching, training and development, either by developing their own people or by recruiting in the required expertise (the MITRE, 2015). The MITRE (2015) finds that there is a direct correlation between product or service quality and the accuracy, frequency and excellence of quality monitoring. The equation is simple: the more time and effort the enterprise invest in quality monitoring, the better the product or service to customers will be, and the bigger the benefits to sales and customer retention levels (the MITRE, 2015). The MITRE (2015) advises that enterprises must reward high quality work through mechanisms such as employee of the month awards and staff excellence certificates or highlight it in the enterprise newsletter and intranet site. And if customers are pleased with the product or service pass on the messages. Integrate all these positive points into the company's annual appraisal and benefits schemes.

2.14 SMEs sustaining their quality effort

One of the most fundamental quality management practices is continual improvement. The concept applies to processes and the people who operate them as well as to the products or services resulting from the processes (Goetsch *et al* 2010:481). The philosophy is that all three – processes, people, and products must be continually improved. Goetsch *et al* (2010:482) emphasises that enterprises must improve constantly and forever the system of production and service as improvement is not a one-time effort. Enterprise management is obligated to continually look for ways to reduce waste and improve quality. Therefore enterprise owners and managers must play the necessary leadership in continual improvement by

establishing an enterprise-wide quality committee and serving on it, working with the quality committee to establish specific quality goals, providing moral and physical support, conducting progress reviews and making quality achievement part of the reward system, including promotions and pay increases (Goetsch *et al* 2010:481).

Goetsch *et al* (2010:482) contends that quality improvement is needed for both product features and freedom from deficiencies but finds however that small to medium enterprises do not maintain increases in sales income as they do not continually evolve new product features and new processes. Goetsch *et al* (2010) finds that customer needs are not a moving target in small to medium enterprises. To keep costs competitive, enterprises must continually reduce the level of product and process deficiencies as competitive costs must also be considered a moving target (Goetsch *et al* 2010:482). All the quality related activities can be done to make sure that quality is implemented with a true mindset focused on culture change, quality principles and practices. Only then an enterprise is able to introduce a quality program and make it a part of its regular processes. The maximum benefits of quality management in enterprises can be ascertained through adopting quality principles and implementing quality practices.

2.15 Conclusions of the literature review

Policies, programs and strategies exist to address the plight of SMEs in South Africa. These policies and strategies seek to promote an entrepreneurial culture by providing targeted support to different SME segments. A number of institutions also exist by public and private mandate to support the development of the SMME sector. These institutions include, amongst others, the South African Quality Institute which promotes quality awareness and influences the general public to expect quality in products and services and the Africa Growth Institute which organises the Annual Africa SME Award and the South African Bureau of Standards which promotes quality in commodities, products and services. SMMEs operate in a context of weak economic growth post the global recession with looming credit rating downgrade faced by South Africa. The national economy is concentrated in the formal sector with structural barriers hindering the participation of SMMEs (Roggerson, 2008). SMMEs are not growing, rather rich big firms are becoming richer and the poor SMMEs remain poor. Poverty, inequality in income and unemployment remain a major triple challenge in the economy (the DTI, 2008).

SMMEs operate in a context of new regulatory reforms with an affirmative focus on increasing SMME participation in the formal economy (the DTI, 2008). A shift towards strategic prioritisation of SMMEs nationally and provincially is being experienced with the policy environment developing towards coherence

and a coordinated approach being taken to support the SMME sector. Despite support initiatives provided, SMMEs still face critical challenges such as inadequate business and technical expertise, access to markets and suitable infrastructure as well as inadequate access to finance (the DEDET, 2011). The largest proportion of SMMEs are informal rather than formal businesses (the DEDET, 2011). SMMEs are described as a marginalised sector of the local economy, not contributing optimally to economic growth and employment (Rogerson, 2008). Medium-sized enterprises are formally registered, have continuous trade and are reasonably well known and easy to find. Medium-sized enterprises are those employing 51 to 200 employees with between R4 million and R50 million turnover and between R2 million and R18 million in gross assets excluding fixed assets (the DTI, 2008), (Goldstuck, 2014).

Quality is a dynamic state associated with products or services, people, processes, and environments that meet or exceed customer expectations and is the degree to which inherent product or service characteristics fulfill customer requirements. Quality is dynamic in the sense that what is considered quality can and often does change as time passes and circumstances change (Goetsch *et al* 2010). The establishment of the quality management philosophy is generally credited to Dr. W. Edwards Deming (1900-1993). Though the concept of quality has existed for many years, its meaning has changed over the years. Quality management is used as a competition base with enterprises focusing on improving quality in order to be more competitive (Nonxuba, 2010). Quality principles are the fundamental rules or beliefs for leading and operating an enterprise and are the foundation of quality management. The principles are very basic management concepts such as management commitment to quality, customer satisfaction, focus on processes and continual improvement. Quality management practices are the activities by which quality principles are implemented and include, amongst others, the Deming Chain Reaction, the 14 points for quality management and assessment criteria set by various quality management frameworks or excellence models (Evens, 2011).

The Baldrige and the ISO 9000 certification are two quality management frameworks that have had the most impact on the implementation of quality management practices worldwide. Recently, Six Sigma has also evolved into a unique framework for improving quality and subsequent productivity. These quality management frameworks epitomise the joint wisdom of management theorists and experts and reveal what a truly world-class optimally performing enterprise must do to succeed. Their enterprise examination criteria represent the leading edge of authenticated management practice (Evens, 2011). Worldwide, there are several quality award programs such as the Deming Prize in Japan, the European Quality Award and the Baldrige Quality Award in the USA. Locally, quality award programs include the Africa SME Award,

SADC Quality Award and the South African Quality Award (AGI, 2013), (the DTI, 2011), (Molapo, 2013). These award models provide a useful audit or assessment against which enterprises can evaluate their management practices, the deployment of these practices, and the end business results (Evens, 2011).

SMEs do not consider quality management as a priority. SME management need to be committed to quality. The SME culture is hesitant about quality especially when viewed as a management philosophy (Nonxuba, 2010). Quality management system implementation efforts by SMEs are not met with success. The reason for quality failures in SMMEs is the failure of management to plan and implement quality. SMME management regard quality planning and deployment as an over-head cost (Nonxuba, 2010). Owners or managers of small to medium enterprises perceive formal employee training as an investment their firms can hardly afford. SMEs seldom perform formal training needs analyses and rather focus essentially on informal training and development initiatives (Mendes, 2012). SMEs describe the concept of integrating quality by design as the latest tang of the month. At the same time larger enterprises, which are leading the business value chain, have taken on the design for quality challenge and its statistical tools. As a result of the quality quest, bigger enterprises require that suppliers, who are often small to medium enterprises, practice statistical process control (Goetsch *et al* 2010)

The more time and effort the enterprise invest in quality monitoring, the better the product or service to customers will be, and the bigger the benefits to sales and customer retention levels. It is worthwhile investing in a dedicated person to monitor quality in the enterprise. (the MITRE, 2015). Small to medium enterprises do not maintain increases in sales income as they do not continually evolve new product features and new processes. Customer needs are not a moving target in small to medium enterprises (Goetsch *et al* 2010). The literature revealed mainly a lack of commitment to quality and that SMMEs do not implement quality management successfully. The objective of the study was therefore to provide evidence-based empirical analysis that would confirm if in the city of Mbombela medium-sized enterprises are committed to the need to implement quality management in order to satisfy their customers and further identify the quality management practices applied by the enterprises.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Chapter two explored the literature review. The use of historical background and theories of different scholars were sourced to build a more comprehensive understanding on what quality is all about and established whether SMEs in Mbombela were adhering to quality issues. This chapter outlines the methodology that was followed to investigate the research questions put forward in chapter two as possible solutions to the research problem. This chapter contains the research paradigm and research design adopted for the study. The chapter also includes the chosen population, the sample method, the research instrument and procedures used for data collection. Further, information is provided on the method used for data analysis, the validity and reliability of the study as well as its ethical considerations.

3.2 Research methodology

A positivist paradigm was applied to allow the study to describe and explain the quality management practices of medium-sized enterprises. A quantitative research method was chosen for the study as this method seeks a more ethic science based on probabilities derived from the study of large numbers of randomly selected cases and would be more suitable to study medium-sized enterprises (Welman, *et al* 2005:8). The researcher wanted to understand the facts about medium-sized enterprises quality awareness and application of quality management practices from an outsider's perspective. Therefore, the quantitative approach assisted the researcher to keep to a detached yet objective view of the facts thereby keeping the research process free from bias (Welman, *et al* 2005:9).

3.3 Research design

A non-experimental research design was chosen as it uses structured methods to evaluate objective data consisting of numbers and may be conducted in natural environments such as the workplaces or business premises of medium-sized enterprises (Welman *et al* 2005:10, 92). A survey was conducted to determine awareness and commitment to quality as well as the application of quality management practices by medium-sized enterprises. The survey approach was chosen because it can be applied on relatively large samples from the total population (Welman, *et al* 2005:8).

3.4 Population and sample

The population of the study were medium-sized enterprises operating in the city of Mbombela. The study used a sample of 100 medium-sized enterprises which were selected using probability based random sampling.

3.4.1 Population

Welman, *et al* (2005:52) defines the population as the study object and consist of individuals, groups, organisations, human products and events or the conditions to which they are exposed. The target population of this study were medium-sized enterprises operating in the city of Mbombela.

3.4.2 Sample and sampling method

Probability based random sampling was used as it allows any element or member of the population to be included in the sample (Welman, *et al* 2005:62). Permission was granted to the study to obtain lists of SMMEs from SEDA and DEDET and these lists were used to develop a sampling frame of 500 medium-sized enterprises by integrating all data that appeared on the lists. The data that appeared on the lists was integrated into one database and the database was cleaned by eliminating all enterprises that appeared more than once or had incomplete information. The cleaned integrated database was then stratified according to the enterprise industry, sector and size. The sample of 100 medium-sized enterprises operating in the city of Mbombela was drawn.

3.5 The research instrument

The study used a standardised and structured survey questionnaire to collect primary data. A structured data collection method was preferred over an unstructured one as it would allow the researcher to put a collection of questions in a questionnaire to a respondent without having to make face to face contact (Welman, *et al* 2005:152). The structured questionnaire was used as it would reach all selected respondents by means of relatively low cost and easy communication method. Conducting the survey involved two stages, first the researcher assembled the questions and secondly the researcher emailed the questionnaire to respondents with a request that the questionnaire be completed and returned by email or fax to the researcher.

The first part of the questionnaire collected demographic particulars of the medium-sized enterprises. The demographic information collected consisted of the industry in which the enterprise operate and the size of the enterprise defined in terms of employment, turnover and assets. Important personal profile information was

also collected and included the respondent's position in the enterprise, age and education level. The second part of the questionnaire consisted of the research questions. Questions 9 – 18 of the questionnaire addressed research objective 1 which was to determine whether medium-sized enterprises in the city of Mbombela are aware of and committed to quality management for customer satisfaction. This included the constructs of quality awareness, commitment to quality and customer orientation. Questions 19 – 32 of the questionnaire addressed objective 2 which was to identify quality management practices applied by medium-sized enterprises in the city of Mbombela. This included the constructs of planning for quality, people trained on quality, integrating quality into the workplace, integrating quality to products or service design, and business processes, measuring and monitoring quality, and sustaining the quality effort.

3.6 Procedure for data collection

A database was created and stratified according to the enterprise industry, sector and size and a sample of 100 medium-sized enterprises operating in the city of Mbombela was drawn. The owners or managers of the selected medium-sized enterprises were contacted by telephone and requested to participate in the survey. Thereafter the survey questionnaire was emailed to 95 enterprise owners or managers who agreed to participate in the survey. The respondents were requested to complete and return the questionnaire to the researcher by either email or fax or arrange that the researcher collect the questionnaire at the enterprise premises or the owner or manager's place of work. Forty Seven (47) enterprise owners or managers returned the survey questionnaire allowing the research to obtain a response rate of 49, 5%.

3.7 Data analysis and interpretation

De Vos (2001:204) states that data can be analysed manually or by a computer. The data collected was entered into a computer, defined and analysed with MoonStats software. The data was then coded into numerical format and a code sheet created. The code sheet was cleaned to remove errors. Statistical calculations and analysis were then performed using MoonStats software. The statistical calculations and analysis were thereafter exported to an Ms Excel sheet which was used to store and retrieve the results. The results were interpreted and presented in diagrams and tables with accompanying explanations made part of this report.

3.8 Limitations of the study

The study was limited to medium-sized enterprises operating in the city of Mbombela. Welman *et al* (2005:92) notes that it is generally accepted a limitation of non-experimental research that conclusions about causal relationships may not be made with greater confidence. This study was a survey that sought to answer research questions rather than test hypothesis. The researcher was faced with a time constraint given that the qualification fulfilled by this research phased out in 2015 and the research had to be conducted and completed in the 2016 academic year.

3.9 Validity and reliability

The researcher took great care to obtain a representative sample from the population of medium-sized enterprises using probability based random sampling. The researcher took care to ensure a high level of congruence between the research questions and the questions in the survey questionnaire (Baily, 2007:104). The questionnaire was finalised after exposing its iterations to a subject matter expert and experienced researcher. The researcher tested the survey questionnaire by using it with at least three colleagues to check vagueness. The questionnaire addressed constructs comparable to the trade, industrial and service sectors from which enterprises were drawn for the study.

3.10 Internal validity

Internal validity describes the degree to which change in a dependent variable is attributed to an independent variable rather than to something else (Welman *et al* 2005:107). Internal validity is therefore important in the case of experimental research where the purpose is to draw conclusions about causal relationships. This was a survey research that sought to explore research questions rather than test hypothesis to conclude about causal relationships.

3.11 External validity

External validity refers to the degree to which the results and conclusions of the study can be generalised to the population from which a sample was drawn (Welman *et al* 2005:125). Welman *et al* (2005) notes that such a sample should consist of at least 25 units, but it is not necessary to use a sample of more than 500 for instance. The results and conclusions of this research are generalised to the population of medium-sized enterprises operating in the city of Mbombela across the trade, industrial and service sectors.

3.12 Reliability

Welman *et al* (2005:145) describes reliability as being concerned with findings of the research and relating to the credibility of the findings. Welman *et al* (2005:p146) states that an unreliable measurement cannot adequately measure what it is supposed to measure; in other words, it cannot be construct valid. Quantitative research focuses more on reliability, that is, consistent and stable measurement of data as well as replicability.

The study used a standardised survey questionnaire. The researcher tested the questionnaire by having at least three colleagues to complete it with the aim to check vagueness in the questions. The questionnaire could obtain comparable measurements for the same objects irrespective of when and by who it was administered.

3.13 Ethical considerations

The owners or managers of medium-sized enterprises were given a participant information sheet, which informed them of ethical considerations that the research observed as follows:

3.14 Confidentiality

Participants were assured of their right to privacy and informed that their identity would remain anonymous. The researcher kept the nature and quality of participants' responses strictly confidential. Moreover, participants were assured that the survey would serve for research purposes only.

3.15 Informed consent

The participant information sheet explained the purpose of the study to the participants and sought their cooperation. The nature of the study was explained and the research participants were given the choice of either participating or not participating. The participants were informed that participating in the study was voluntary and that if they agreed to participate, they would have the right to withdraw from the study at any time.

3.16 Pretest or pilot study

The questionnaire was finalised after exposing its iterations to a subject matter expert and experienced researcher. The researcher also tested the questionnaire by having at least three colleagues to complete it with the aim to check and verify vagueness of the questions and the time it would take to complete.

3.17 Conclusion

A positivist paradigm was applied to allow the study to describe and explain the quality management practices of medium-sized enterprises. The research was quantitative and conducted using a non-experimental survey design. Participants were 47 owners or managers of medium-sized enterprises operating in the city of Mbombela. The enterprises were selected using probability based stratified random sampling. A standardised questionnaire was used to collect field data. A MoonStats program was used to perform statistical calculations and analysis. The researcher ensured validity and reliability of the study and observed ethical considerations.

CHAPTER 4

EMPIRICAL RESULTS OF THE STUDY

4.1 Introduction

Chapter three provided research methodologies, the choice of the research instrument and sample frames. In this chapter the results of the statistical calculations and analysis are presented in diagrams and tables with accompanying explanations. This chapter includes an analysis of the demographic information collected and of the responses obtained to the main research questions.

4.2 Demographic profile of respondents

The demographic information collected in addition to main research questions consisted of the industry in which the enterprise operates and the size of the enterprise defined in terms of employment, turnover and assets. Important personal profile information was also collected and included the respondent's position in the enterprise, age and educational level.

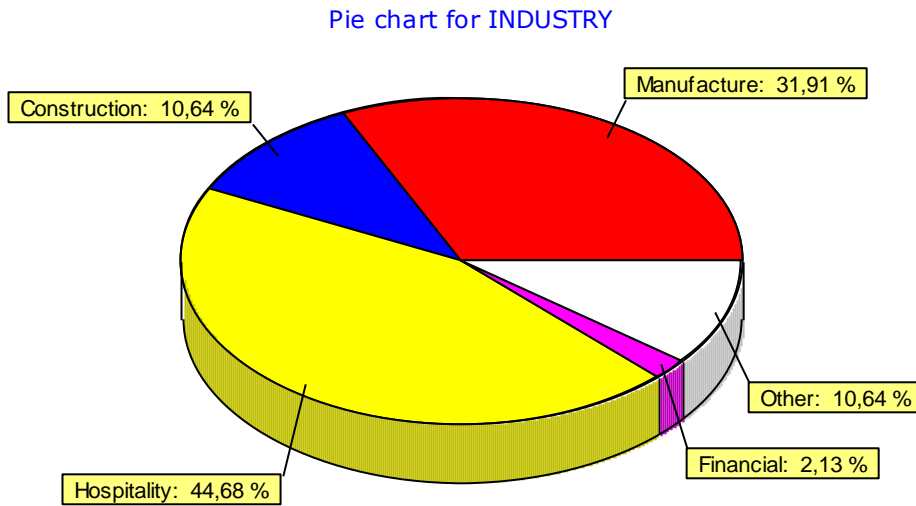
Distribution 4.1: Frequency distribution for industry

Value	Number	Percentage %	Cumulative %
Manufacturing	15	31,91	31,91
Construction	5	10,64	42,55
Hospitality	21	44,68	87,23
Financial	1	2,13	89,36
Other	5	10,64	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.1, the highest frequency of cases was obtained by the hospitality services industry with 21 cases, which is 44, 68% and financial services obtained 1 case, which is 2, 13%. The value "Manufacturing" was obtained by 15 cases, which is 31, 91%, whilst the construction industry obtained 5 cases, which is 10, 64% of the cases. The value "Other" constituted mostly enterprises in the trade and retail industries and was

obtained by 5 cases, which is 10,64% of the 47 cases.

Figure 4.1: Industries in which participant enterprises operate



Source: Drawn from MoonStats Software

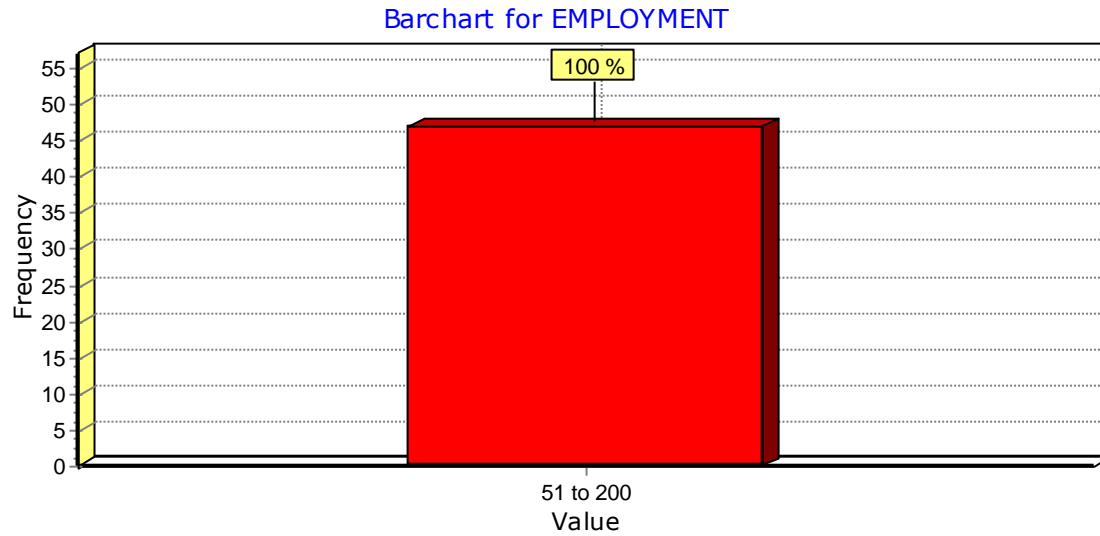
The research focused on medium-sized enterprises defined as those employing 51 to 200 employees.

Distribution 4.2: Frequency distribution for number of employees

Value	Number	Percentage %	Cumulative %
51 to 200	47	100,00	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.2, the value 51 to 200 employees obtained 47 cases, which is 100% of the total number of cases that participated in the study.

Figure 4.2: Size of participant enterprises



Source: Drawn from MoonStats Software

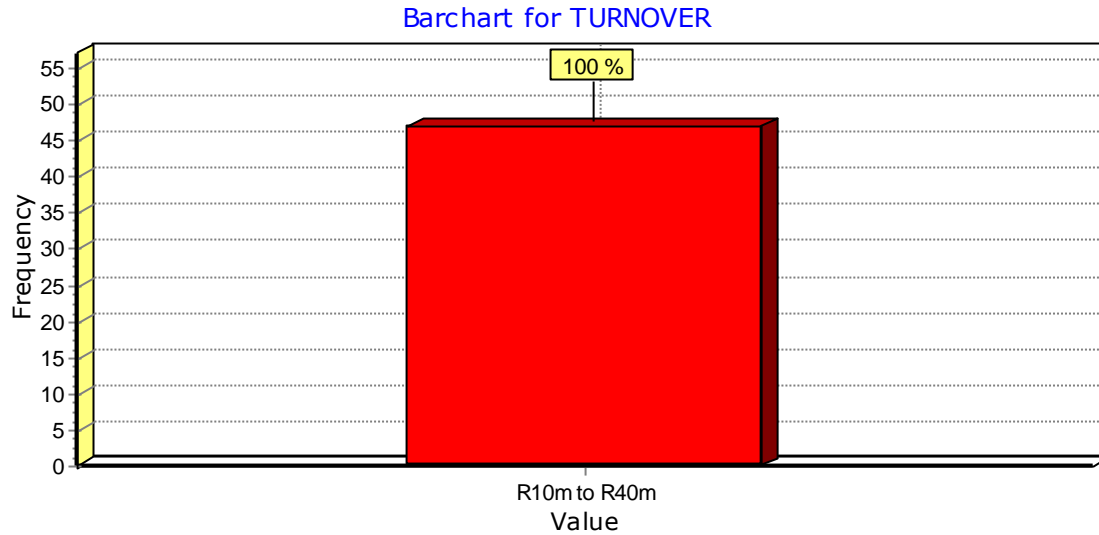
The research focused on enterprises that had between R4 million and R50 million turnover.

Distribution 4.3: Frequency distribution for turnover

Value	Number	Percentage %	Cumulative %
R10m to R40m	47	100,00	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.3, the value R10 million to R40 million was obtained by 47 cases, which is 100,00% of the cases.

Figure 4.3: Turnover value of participant enterprises



Source: Drawn from MoonStats Software

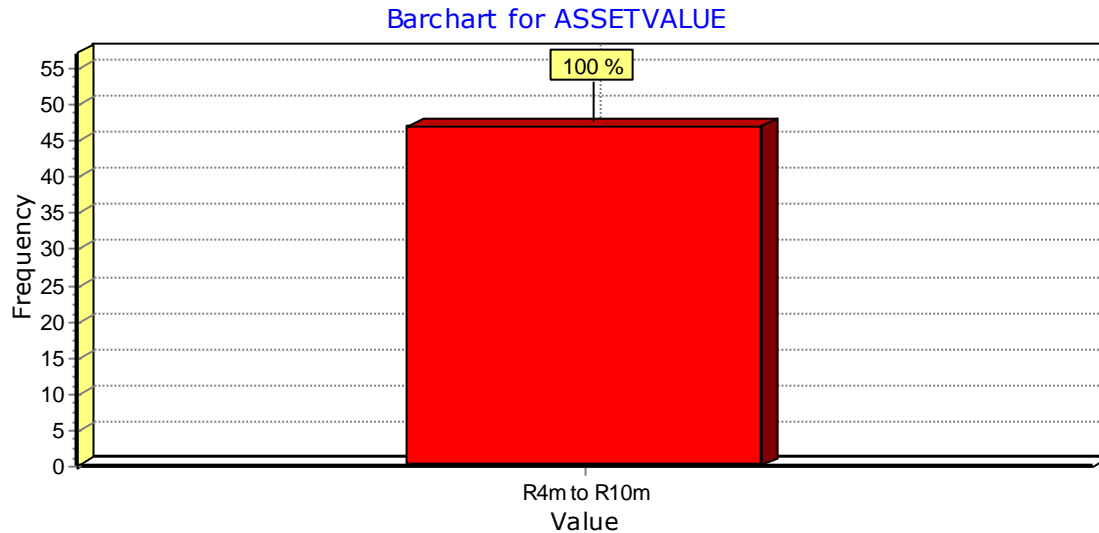
The research focused on enterprises that have between R2 million and R18 million in gross assets excluding fixed assets.

Distribution 4.4: Frequency distribution for value of assets

Value	Number	Percentage %	Cumulative %
R4m to R10m	47	100,00	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.4, the value R4 million to R10 million was obtained by 47 cases, which is 100, 00% of the cases.

Figure 4.4: Asset value of respondent enterprises



Source: Drawn from MoonStats Software

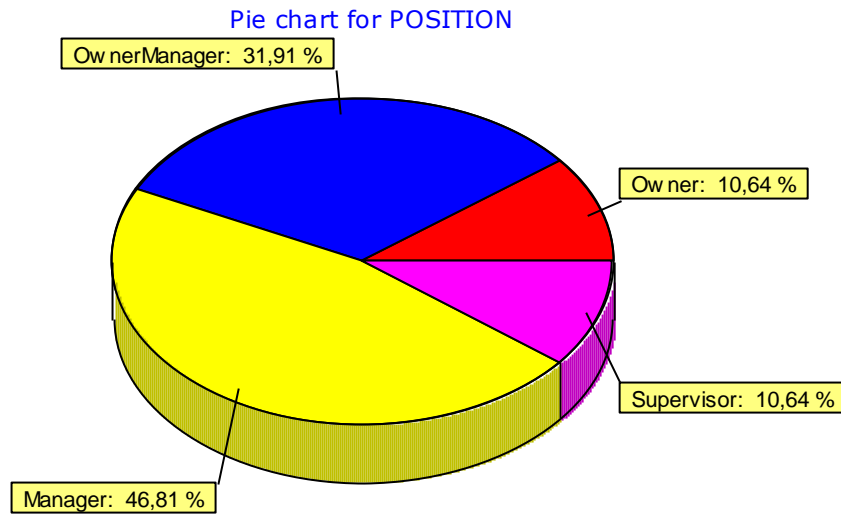
The study sought to collect data mainly from owners or managers of enterprises.

Distribution 4.5: Frequency distribution for position in the enterprise

Value	Number	Percentage %	Cumulative %
Owner	5	10,64	10,64
Owner Manager	15	31,91	42,55
Manager	22	46,81	89,36
Supervisor	5	10,64	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.5, the value “Manager” was obtained by 22 cases, which is 46, 81% of the cases, the value “Owner Manager” was obtained by 15 cases, which is 31, 91% of the cases and the value “Owner” was obtained by 5 cases, which is 10, 64% of the cases. The value “Supervisor” was obtained by 5 cases, which is 10, 64% of the cases.

Figure 4.5: Position of respondents in participant enterprises



Source: Drawn from MoonStats Software

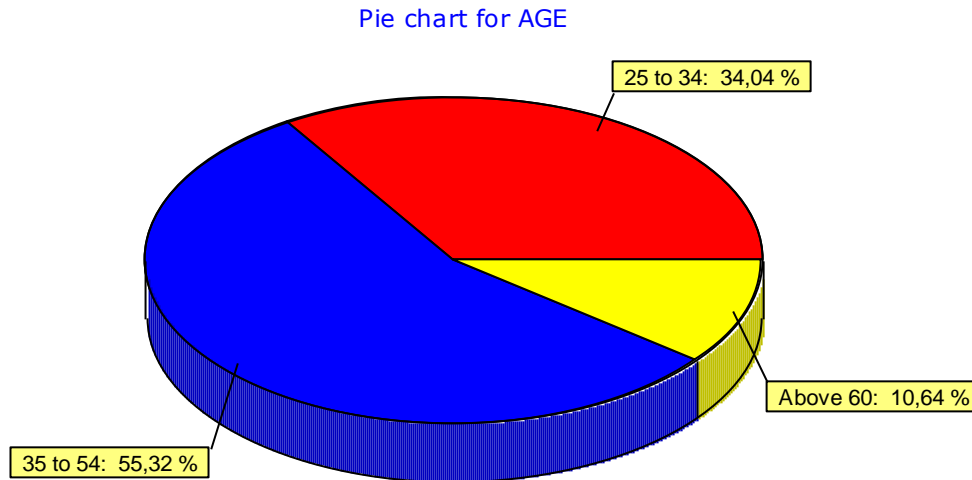
The research sought to know the age profile of the respondents in the participating enterprises

Distribution 4.6: Frequency distribution for age of respondents

Value	Number	Percentage %	Cumulative %
25 to 34	16	34,04	34,04
35 to 54	26	55,32	89,36
Above 60	5	10,64	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.6, the value “35 to 54” was obtained by 26 cases, which is 55, 32% of the cases. The value “25 to 34” was obtained by 16 cases, which is 34, 04% of the cases whilst the value “Above 60” was obtained by 5 cases, which is 10, 64% of the cases.

Figure 4.6: Age of respondents in participant enterprises



Source: Drawn from MoonStats Software

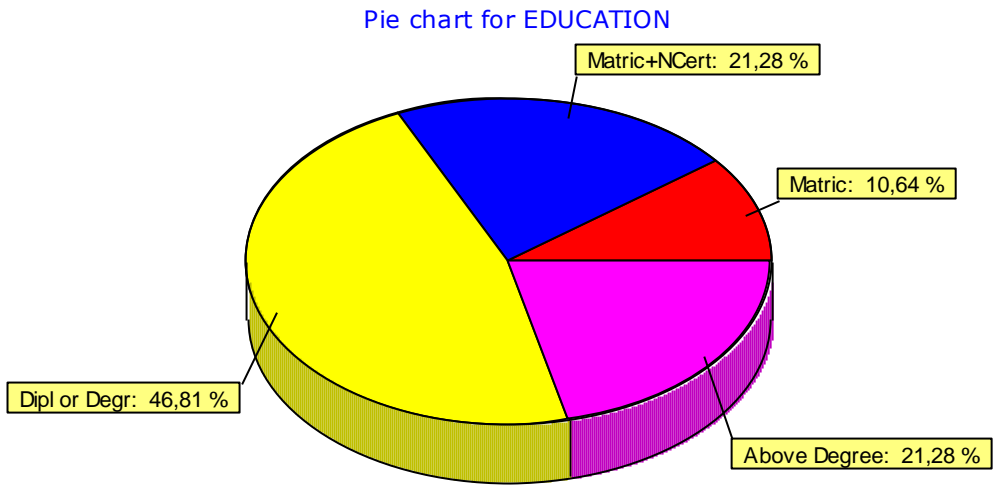
The research sought to know the education of the respondents in the participating enterprise

Distribution 4.7: Frequency distribution for education of respondents

Value	Number	Percentage %	Cumulative %
Matric	5	10,64	10,64
Matric + National Certificate	10	21,28	31,91
Diploma or Degree	22	46,81	78,72
Above Degree	10	21,28	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.7, the value “Diploma or Degree” was obtained by 22 cases, which is 46, 81% and the value "Above Degree" was obtained by 10 cases, which is 21, 28% of the cases. The value “Matric+National Certificate” was obtained by 10 cases, which is 21, 28% whilst the value “Matric” was obtained by 5 cases, which is 10, 64% of the cases.

Figure 4.7: Education level of respondents in participant enterprises



Source: Drawn from MoonStats Software

4.3 Are Medium-Sized Enterprises Aware of and Committed to Quality?

The first objective of the study was to determine whether medium-sized enterprises in the city of Mbombela are aware of and committed to quality management for customer satisfaction. This included the constructs of quality awareness, commitment to quality and customer orientation.

4.3.1 Customer orientation

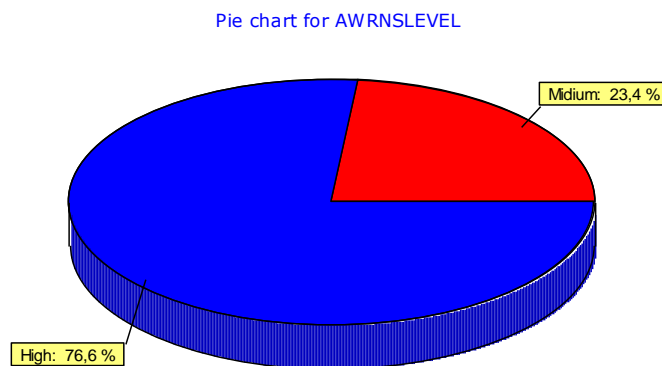
Respondents were asked to rate the level of quality awareness in the various levels within the participant enterprise.

Table 4.8: Frequency distribution for level of quality awareness

Value	Number	Percentage %	Cumulative %
Medium	11	23,40	23,40
High	36	76,60	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.8, the value "High" was obtained by 36 cases, which is 76, 60% of the cases.

Figure 4.8: Level of quality awareness within participant enterprises



Source: Drawn from MoonStats Software

Seventy six (76, 6%) percent of the respondents indicated that the level of quality awareness in the various levels within the participant enterprise is high, whilst 23, 4% indicated that the awareness is at a medium level. None of the respondents indicated a low level of quality awareness within their enterprise.

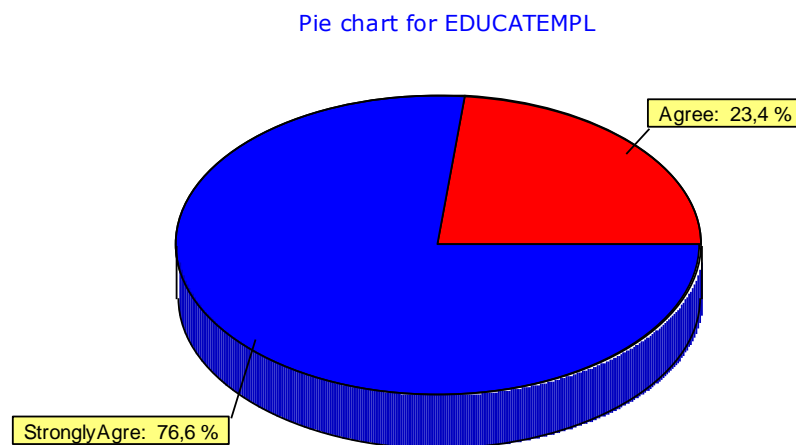
Respondents were asked indicate if the participant enterprise train or share information to educate employees on the need to give importance and value to customers.

Distribution 4.9: Frequency distribution for educating employees

Value	Number	Percentage %	Cumulative %
Agree	11	23,40	23,40
Strongly Agree	36	76,60	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.9, the value "Strongly Agree" was obtained by 36 cases, which is 76, 60% of the cases.

Figure 4.9: Educating employees on the importance and value of customers



Source: Drawn from MoonStats Software

Seventy six (76, 6%) percent of the respondents strongly agree whilst 23, 4% agree that the participant enterprise does train or share information to educate employees on the need to give importance and value to customers.

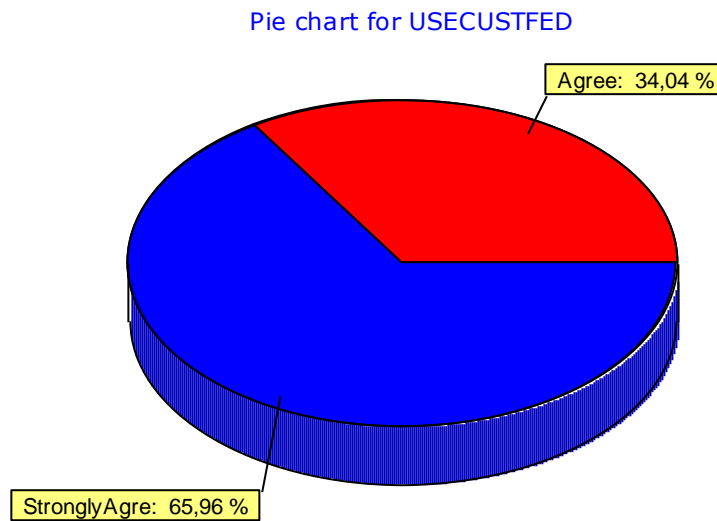
Respondents were asked to indicate if the participant enterprise use customer feedback to improve the quality of products or services, processes, people and work environment.

Distribution 4.10: Frequency distribution for customer feedback

Value	Number	Percentage %	Cumulative %
Agree	16	34,04	34,04
Strongly Agree	31	100,00	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.10, the value "Strongly Agree" was obtained by 31 cases, which is 65, 96% of the cases.

Figure 4.10: Use of customer feedback in participant enterprises



Source: Drawn from MoonStats Software

Sixty five (65, 96%) percent of the respondents strongly agree whilst 34, 04% agree that the participant enterprise does use customer feedback to improve the quality of products or services, processes, people and work environments.

4.3.2 Commitment to quality

Respondents were asked if the participant enterprise has planned for and launched a quality program.

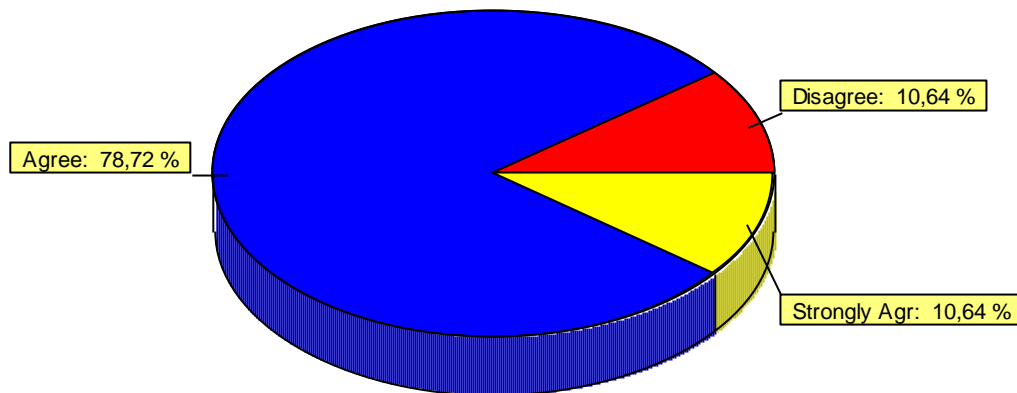
Distribution 4.11: Frequency distribution for launching a quality program

Value	Number	Percentage %	Cumulative %
Disagree	5	10,64	10,64
Agree	37	78,72	89,36
Strongly Agree	5	10,64	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.11, the value "Agree" was obtained by 37 cases, which is 78, 72% of the cases.

Figure 4.11: Quality program launched and planned

Pie chart for LAUNCHIMPL



Source: Drawn from MoonStats Software

Seventy eight (78, 72%) percent of the respondents agree and 10, 64% strongly agree whilst 10, 64% disagree that their participant enterprise has planned for and launched a quality management program.

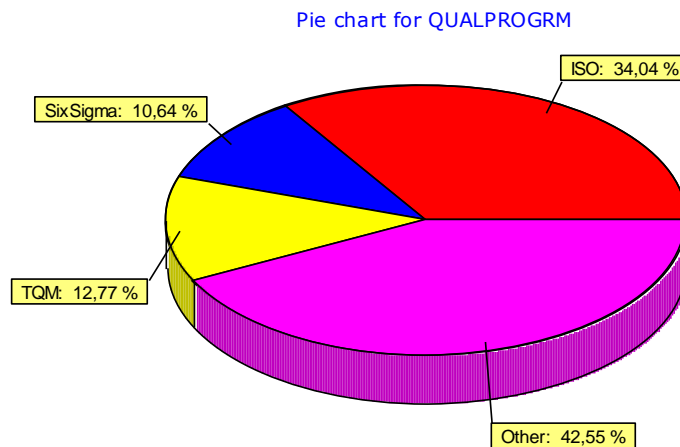
Respondents were asked to identify the quality program used by the participant enterprise.

Distribution 4.12: Frequency distribution for a quality program

Value	Number	Percentage %	Cumulative %
ISO	16	34,04	34,04
SixSigma	5	10,64	44,68
TQM	6	12,77	57,45
Other	20	42,55	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.12, the value "Other" was obtained by 20 cases, which is 42, 55% of the cases.

Figure 4.12: Quality programs used in participant enterprises



Source: Drawn from MoonStats Software

Forty two (42, 55%) percent of the respondent identified “other” as their quality program thereby specifying either their own enterprise specific quality program or none. Thirty four (34, 04%) percent of the respondents indicated that the participant enterprise has ISO, whilst 12, 77% identified Total Quality Management and 10, 64% identified Six Sigma as their quality program.

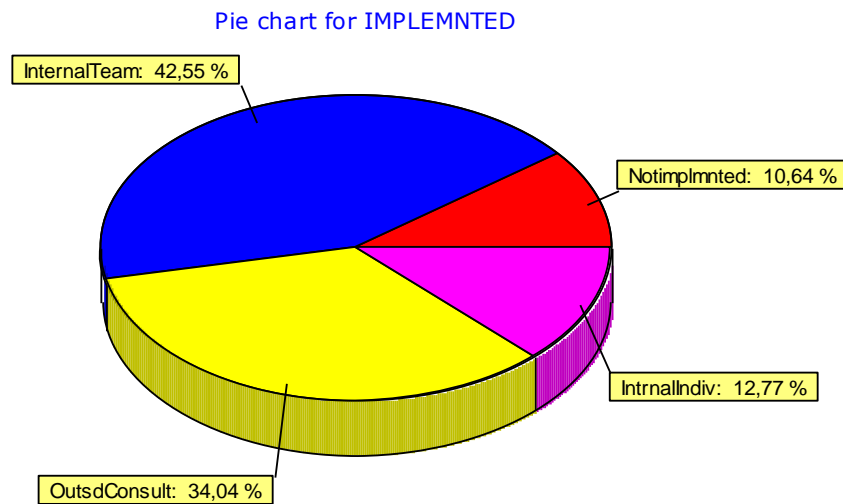
Respondents were asked to indicate how the quality program was implemented in their participant enterprise.

Distribution 4.13: Frequency distribution for implementing a quality program

Value	Number	Percentage %	Cumulative %
Not Implemented	5	10,64	10,64
By Internal Team	20	42,55	53,19
By Outside Consultant	16	34,04	87,23
By Internal Individual	6	12,77	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.13, the value "Internal Team" was obtained by 20 cases, which is 42, 55% of the cases.

Figure 4.13: How quality programs are implemented



Source: Drawn from MoonStats Software

Forty two (42, 55%) percent of the respondents indicated that an internal team in the participant enterprise implement the quality program whilst 34, 04% indicated that an outside consultant helps with the implementation of the quality program. Whereas 12, 77% indicated that an internal individual implements the quality program whilst 10, 64% indicated that the quality program is not implemented.

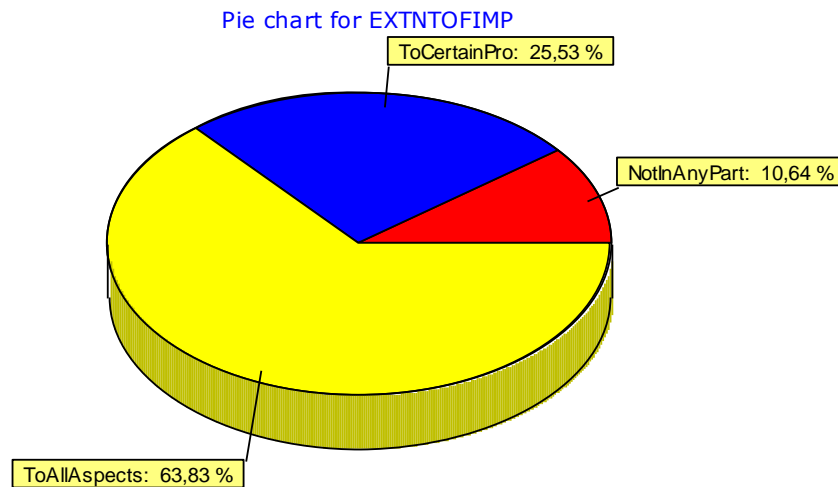
Respondents were asked to indicate the extent to which the participant enterprise implements the quality program.

Distribution 4.14: Frequency distribution for extent of implementing a quality program

Value	Number	Percentage %	Cumulative %
Not implemented in any part of the enterprise	5	10,64	10,64
Implemented to certain processes	12	25,53	36,17
Implemented to all aspects	30	63,83	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.14, the value "To All Aspects" was obtained by 30 cases, which is 63, 83% of the cases.

Figure 4.14: Extent of quality program implementation in participant enterprises



Source: Drawn from MoonStats Software

Sixty three (63, 83%) percent of the respondents indicated that the quality program of the participant enterprise was implemented to all aspects of the enterprise whilst 25, 53% implemented the quality program only to certain processes, whereas 10, 64% indicated that the quality program was not implemented in any part of the participant enterprise.

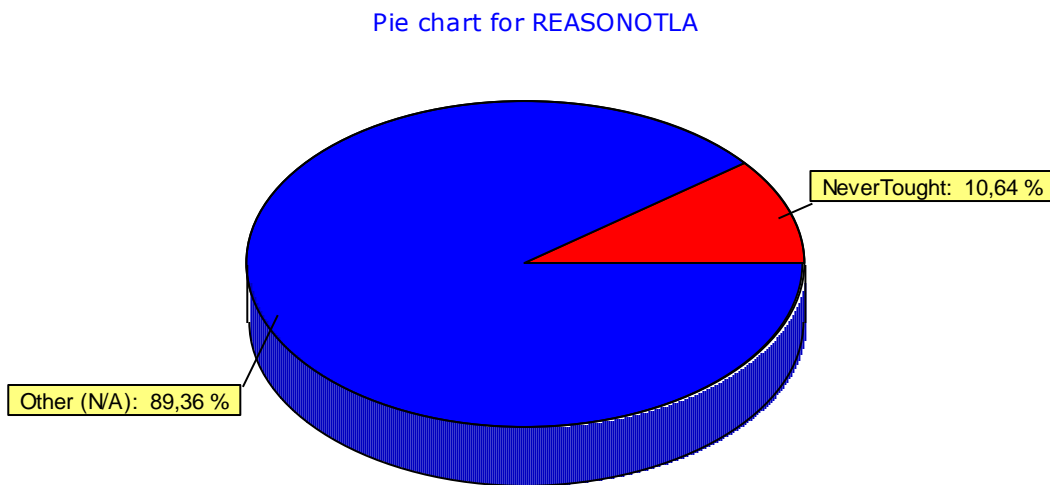
Respondents were asked to indicate the reason their participant enterprise has not planned and launched a quality program.

Distribution 4.15: Frequency distribution for reason for not planning and launching

Value	Number	Percentage %	Cumulative %
Never thought of a quality program	5	10,64	10,64
Other	42	89,36	100,00
Total	47	100.00	
Missing Cases: 0			

In 4.15 distribution, the value "Other (N/A)" was obtained by 42 cases, which is 89,36% of the cases.

Figure 4.15: Reason for not launching and planning a quality program in participant enterprises



Source: Drawn from MoonStats Software

Eighty nine (89,36%) percent of the respondents indicated that this question was not applicable to their participant enterprise as the enterprise had planned and launched a quality program, whilst only 10,64% indicated that they never thought of a quality program.

4.3.3 Quality planning

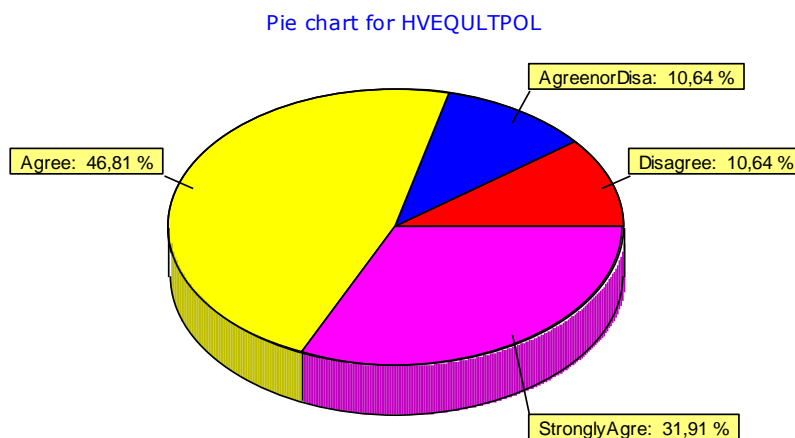
Respondents were asked to indicate if the participant enterprise has a quality policy.

Distribution 4.16: Frequency distribution for having a quality policy

Value	Number	Percentage %	Cumulative %
Disagree	5	10,64	10,64
Neither Agree nor Disagree	5	10,64	21,28
Agree	22	46,81	68,09
Strongly Agree	15	31,91	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.16, the value "Agree" was obtained by 22 cases, which is 46, 81% of the cases and "Strongly Agree" was obtained by 15 cases, which is 31,91% of the cases.

Figure 4.16: Existence of a quality policy in participant enterprises



Source: Drawn from MoonStats Software

Forty six (46, 81%) percent of the respondents agree whilst 31, 91% strongly agree that the participant enterprise has a quality policy, whilst 10, 64 neither agree nor disagree and another 10, 64% disagree.

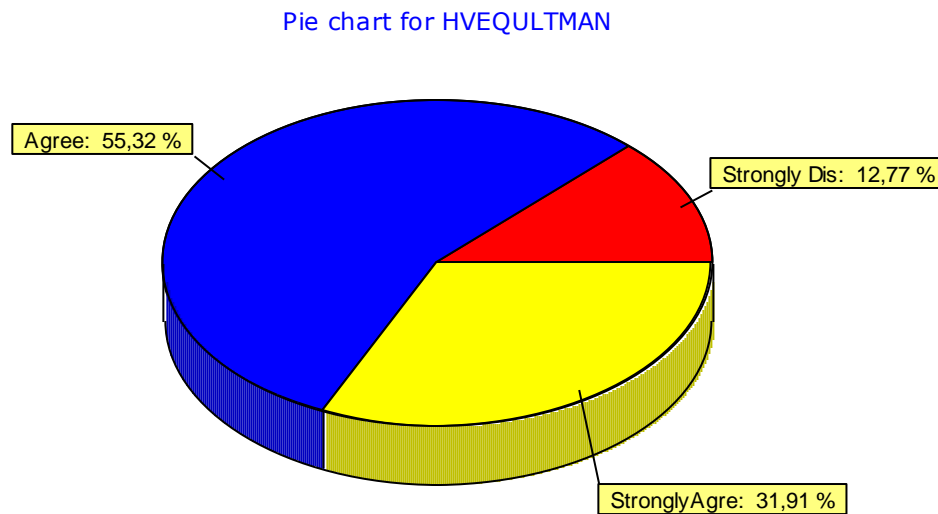
Respondents were asked to indicate if the participant enterprise has a Quality Manager.

Distribution 4.17: Frequency distribution for Quality Manager

Value	Number	Percentage %	Cumulative %
Strongly Disagree	6	12,77	12,77
Agree	26	55,32	68,09
Strongly Agree	15	31,91	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.17, the value "Agree" was obtained by 26 cases, which is 55, 32% and "Strongly Agree" was obtained by 15 cases, which is 31,91% of the cases.

Figure 4.17: Availability of a Quality Manager



Source: Drawn from MoonStats Software

Fifty five (55, 32%) percent of the respondents agree whilst 31, 91% strongly agree that the participant enterprise has a Quality Manager, whereas 12, 77% strongly disagree.

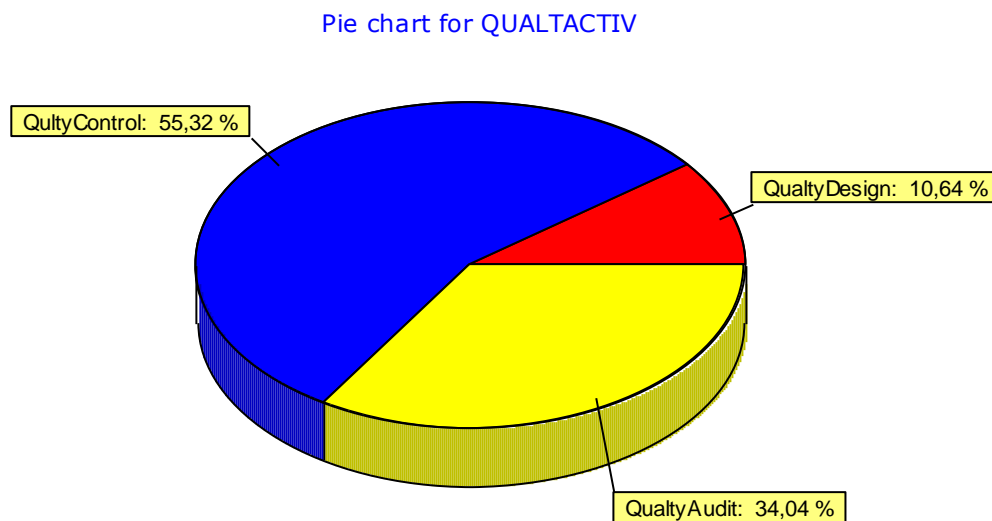
Respondents were asked to indicate the type of quality activities the participant enterprise implement.

Distribution 4.18: Frequency distribution for quality activities implemented

Value	Number	Percentage %	Cumulative %
Quality Design	5	10,64	10,64
Quality Control	26	55,32	65,96
Quality Audit	16	34,04	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.18, the value "Quality Control" was obtained by 26 cases, which is 55, 32% of the cases and "Quality Audit" was obtained by 16 cases, which is 34, 04% of the cases.

Figure 4.18: Type of quality activities implemented



Source: Drawn from MoonStats Software

Fifty five (55, 32%) percent of the respondents indicated that the participant enterprise carry out quality control activities whilst 34, 04% carry out quality audit activities, whilst 10, 64% indicated that the enterprise carry out quality design activities.

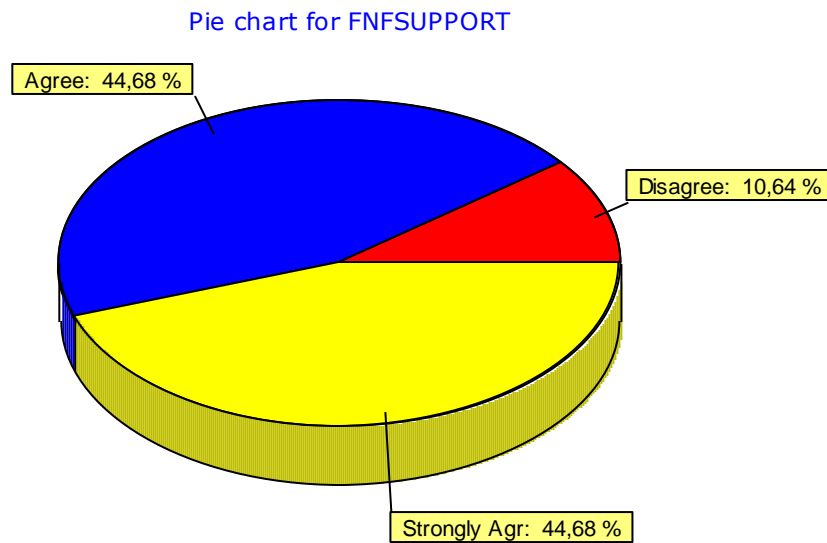
Respondents were asked to indicate if the participant enterprise provide financial and or non-financial support to quality activities.

Distribution 4.19: Frequency distribution for support provided

Value	Number	Percentage %	Cumulative %
Disagree	5	10,64	10,64
Agree	21	44,68	55,32
Strongly Agree	21	44,68	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.19, the value "Strongly Agree" was obtained by 21 cases, which is 44, 68% of the cases.

Figure 4.19: Financial and or non-financial support to quality activities



Source: Drawn from MoonStats Software

Forty four (44, 68%) percent of the respondents agree whilst another 44, 68% strongly agree that the participant enterprise does provide financial and or non-financial support to quality activities, whereas 10, 64% disagree.

4.4 What are the Quality Management Practices of Medium-Sized Enterprises?

The second objective of the study was to identify quality management practices applied by medium-sized enterprises in the city of Mbombela. This included the constructs of planning for quality, people trained on quality, integrating quality into the workplace, integrating quality to products or service design and business processes, measuring and monitoring quality as well as sustaining the quality effort.

4.4.1 People trained on quality

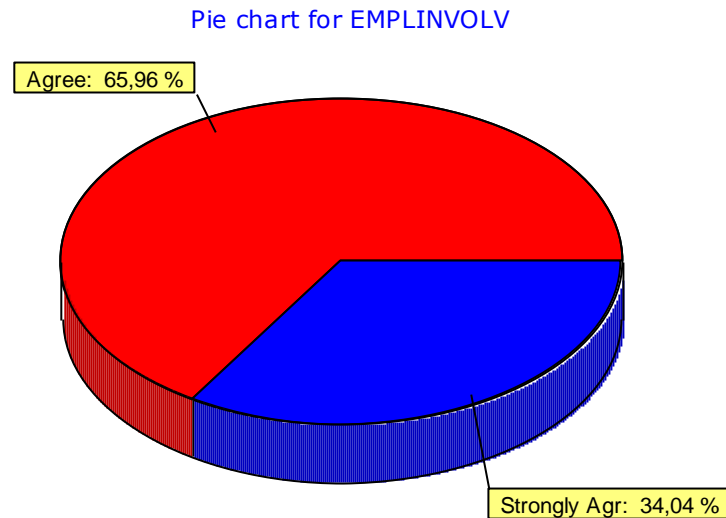
Respondents were asked to indicate if employees in the participant enterprise are involved in quality activities.

Distribution 4.20: Frequency distribution for employee involvement

Value	Number	Percentage %	Cumulative %
Agree	31	65,96	65,96
Strongly Agree	16	34,04	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.20, the value "Agree" was obtained by 31 cases, which is 65, 96% of the cases whilst "Strongly Agree" was obtained by 16 cases, which is 34, 04% of the cases.

Figure 4.20: Employee involvement in quality activities in the participant enterprises



Source: Drawn from MoonStats Software

Sixty five (65, 96%) percent of the respondents agree whilst another 34, 04% strongly agree that employees in the participant enterprise are involved in quality activities.

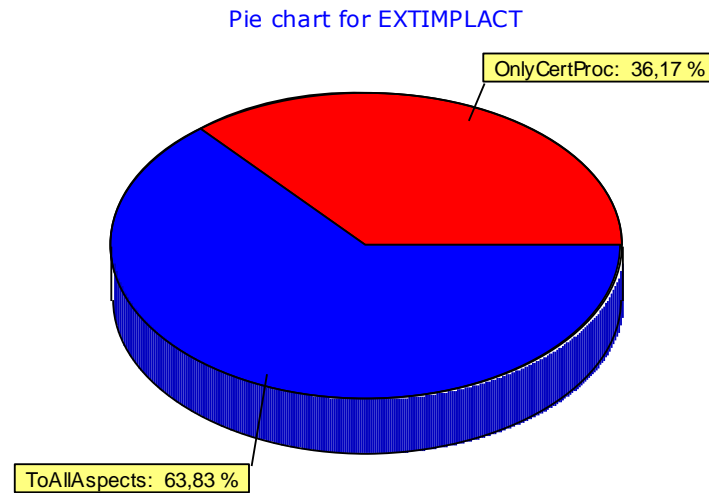
Respondents were asked to indicate the extent to which the participant enterprise implement quality activities.

Distribution 4.21: Frequency distribution for extent of implementing quality activities

Value	Number	Percentage %	Cumulative %
Implemented only to certain processes	17	36,17	36,17
To all aspects of the enterprise	30	63,83	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.21, the value "To All Aspects" was obtained by 30 cases, which is 63, 83% of the cases whilst the value "Only Certain Processes" was obtained by 17 cases, which is 36, 17% of the cases.

Figure 4.21: Extent of quality activity implementation in participant enterprises



Source: Drawn from MoonStats Software

Sixty three (63, 83%) percent of the respondents indicated that the participant enterprise implement quality activities to all aspect of the business whilst another 36, 17% indicated that the participant enterprise implement quality activities only to certain business processes.

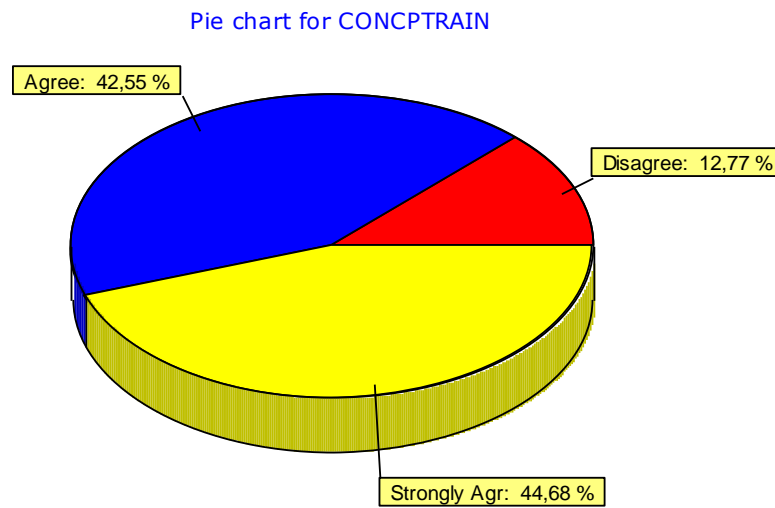
Respondents were asked to indicate if employees in the participant enterprise are given training on quality concepts, quality control and problem solving techniques.

Table 4.22: Frequency distribution for training on quality concepts

Value	Number	Percentage %	Cumulative %
Disagree	6	12,77	12,77
Agree	20	42,55	55,32
Strongly Agree	21	44,68	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.22, the value "Strongly Agree" was obtained by 21 cases, which is 44, 68% of the cases and the value "Agree" was obtained by 20 cases, which is 42, 55% of the cases.

Figure 4.22: Employee training on quality concepts in participant enterprises



Source: Drawn from MoonStats Software

Forty four (44, 68%) percent of the respondents strongly agree whilst 42, 55% also agree that employees in the participant enterprise are given training on quality concepts, quality control and problem solving techniques, whereas only 12, 77% disagree.

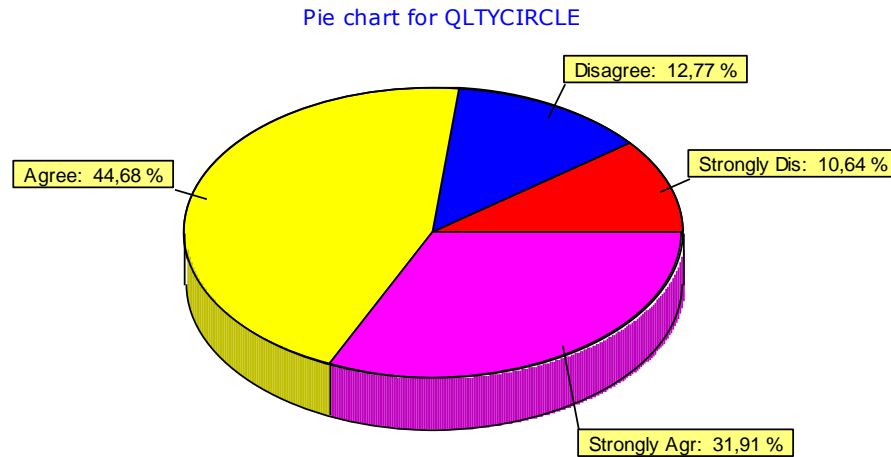
Respondents were asked to indicate if the participant enterprise does organize multi-functional teams or quality circles to improve quality.

Distribution 4.23: Frequency distribution for quality circles

Value	Number	Percentage %	Cumulative %
Strongly Disagree	5	10,64	10,64
Disagree	6	12,77	23,40
Agree	21	44,68	68,09
Strongly Agree	15	31,91	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.23, the value "Agree" was obtained by 21 cases, which is 44, 68% of the cases whilst the value "Strongly Agree" was obtained by 15 cases, which is 31,91% of the cases.

Figure 4.23: Existence of quality circles



Source: Drawn from MoonStats Software

Forty four (44, 68%) of the respondents agree whilst 31, 91% strongly agree that the participant enterprise does organize multi-functional teams or quality circles to improve quality, whereas 12, 77% disagree whilst 10, 64% strongly disagree.

4.4.2 Quality into the workplace

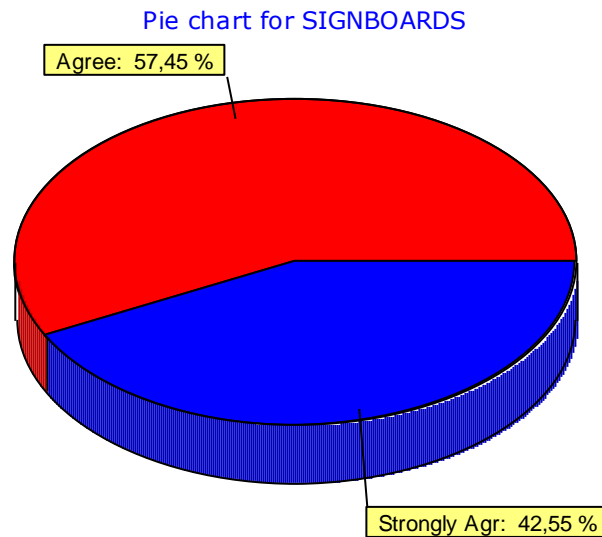
Respondents were asked to indicate if the participant enterprise has signboards and labels for easy location of records, inventory, machinery and equipment.

Distribution 4.24: Frequency distribution for sign boards and labels

Value	Number	Percentage %	Cumulative %
Agree	27	57,45	57,45
Strongly Agree	20	42,55	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.24, the value "Agree" was obtained by 27 cases, which is 57, 45% of the cases whilst the value "Strongly Agree" was obtained by 20 cases, which is 42,55% of the cases.

Figure 4.24: Sign boards and labels for easy location of records in participant enterprises



Source: Drawn from MoonStats Software

Fifty seven (57, 45%) of the respondents agree whilst 42, 55% strongly agree that the participant enterprise has signboards and labels for easy location of records, inventory, machinery and equipment.

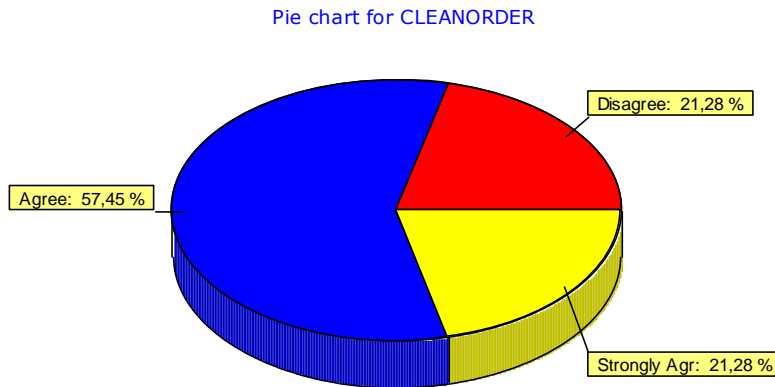
Respondents were asked to indicate if the participant enterprise is clean, orderly and hygienic with no unnecessary items, dust or dirt lying on the floors.

Distribution 4.25: Frequency distribution for a clean and orderly enterprise

Value	Number	Percentage %	Cumulative %	
Disagree	10	21,28	21,28	
Agree	27	57,45	78,72	
Strongly Agree	10	21,28	100,00	
Total	47	100.00		
Missing Cases: 0				

In distribution 4.25, the value “Agree” was obtained by 27 cases, which is 57, 45% of the cases whilst the value "Strongly Agree" was obtained by 10 cases, which is 21,28% of the cases.

Figure 4.25: Cleanliness, order and hygiene in participant enterprises



Source: Drawn from MoonStats Software

Fifty seven (57, 45%) percent of the respondents agree whilst 21, 28% strongly agree that the participant enterprise is clean, orderly and hygienic with no unnecessary items, dust or dirt lying on the floors, whereas 21, 28% disagree.

4.4.3 Quality into business processes

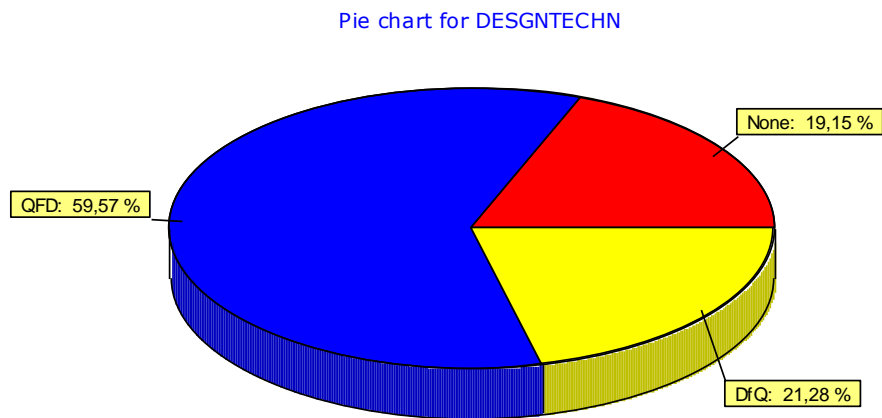
Respondents were asked to indicate the quality technique that the participant enterprise use in the design of its products or service.

Distribution 4.26: Frequency distribution for quality technique used in product design

Value	Number	Percentage %	Cumulative %
None	9	19,15	19,15
Quality Function Deployment (QFD)	28	59,57	78,72
Design for Quality (DfQ)	10	21,28	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.26, the value “Quality Function Deployment” was obtained by 28 cases, which is 59, 57% whilst the value "Design for Quality" was obtained by 10 cases, which is 21,28% of the cases.

Figure 4.26: Quality techniques used to design products and services



Source: Drawn from MoonStats Software

Fifty nine (59, 57%) percent of the respondents indicate that the participant enterprise uses Quality Function Deployment whilst 21, 28% indicate the use of Design for Quality in the design of products or service, whereas 19, 15% does not use any quality technique.

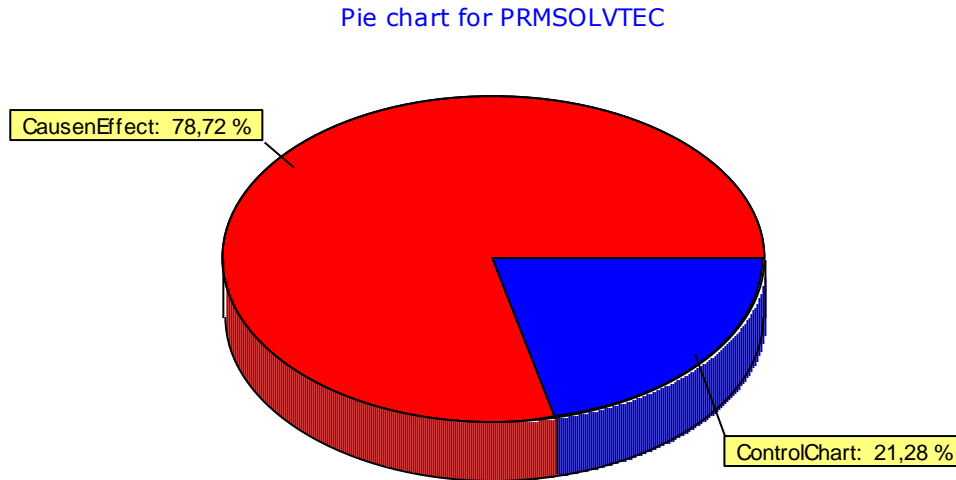
Respondents were asked to indicate the quality technique that the participant enterprise use to diagnose process or service problems.

Distribution 4.27: Frequency distribution for technique used

Value	Number	Percentage %	Cumulative %
Cause and Effect	37	78,72	78,72
Control Chart	10	21,28	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.27, the value "Cause and Effect" was obtained by 37 cases, which is 78, 72% whilst the value "Control Chart" was obtained by 10 cases, which is 21,28% of the cases.

Figure 4.27: Quality techniques used to diagnose problems



Source: Drawn from MoonStats Software

Seventy eight (78, 72%) of the respondents indicate that the participant enterprise uses Cause and Effect whilst 21, 28% indicate the use of Control Charts techniques to diagnose process or service problems.

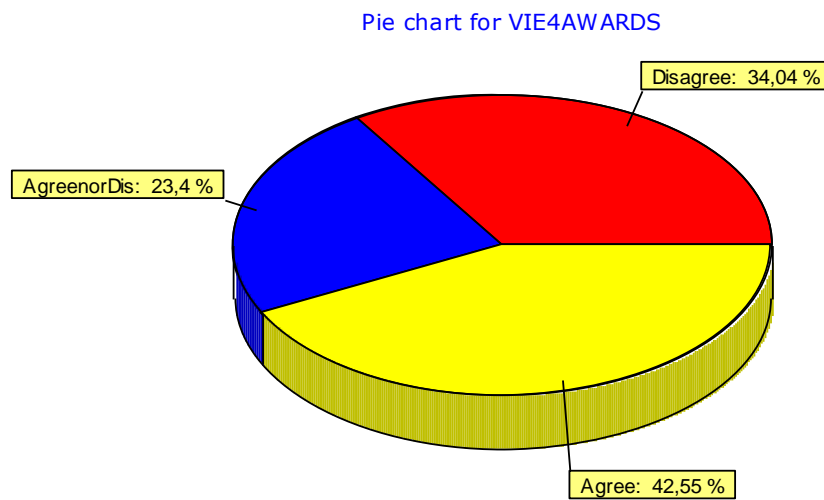
Respondents were asked to indicate if the participant enterprise vies for awards or recognition given to similar companies with excellent quality programs.

Distribution 4.28: Frequency distribution on vie for recognition

Value	Number	Percentage %	Cumulative %
Disagree	16	34,04	34,04
Neither Agree nor Disagree	11	23,40	57,45
Agree	20	42,55	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.28, the value "Agree" was obtained by 20 cases, which is 42, 55% of the cases, whilst the value "Disagree" was obtained by 16 cases, which is 34, 04% of the cases and the value "Neither Agree nor Disagree" was obtained by 11 cases, which is 23, 40% of the cases.

Figure 4.28: Vie for awards or recognition by participant enterprises



Source: Drawn from MoonStats Software

Fifty seven (42, 55%) percent of the respondents agree whilst 34, 04% disagree and 23, 4% neither agree nor disagree that the enterprise does vie for awards or recognition given to similar companies with excellent quality programs.

4.4.4 Measuring and monitoring quality

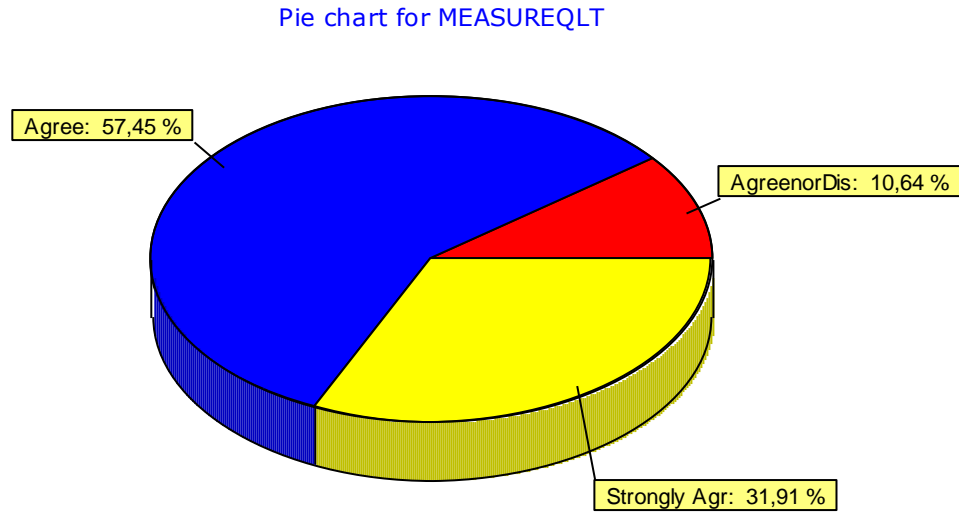
Respondents were asked to indicate if the participant enterprise measures quality not only on the final product or service but also at various critical stages starting from raw materials.

Distribution 4.29: Frequency distribution for measure quality

Value	Number	Percentage %	Cumulative %
Neither Agree nor Disagree	5	10,64	10,64
Agree	27	57,45	68,09
Strongly Agree	15	31,91	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.29, the value “Agree” was obtained by 27 cases, which is 57, 45% whilst the value "Strongly Agree" was obtained by 15 cases, which is 31,91% of the cases.

Figure 4.29: Measuring quality at various critical stages of production



Source: Drawn from MoonStats Software

Fifty seven (57, 45%) of the respondents agree whilst 31, 91% strongly agree that the participant enterprise measures quality not only on the final product or service but also at various critical stages starting from raw materials, whereas 10, 64% neither agree nor disagree.

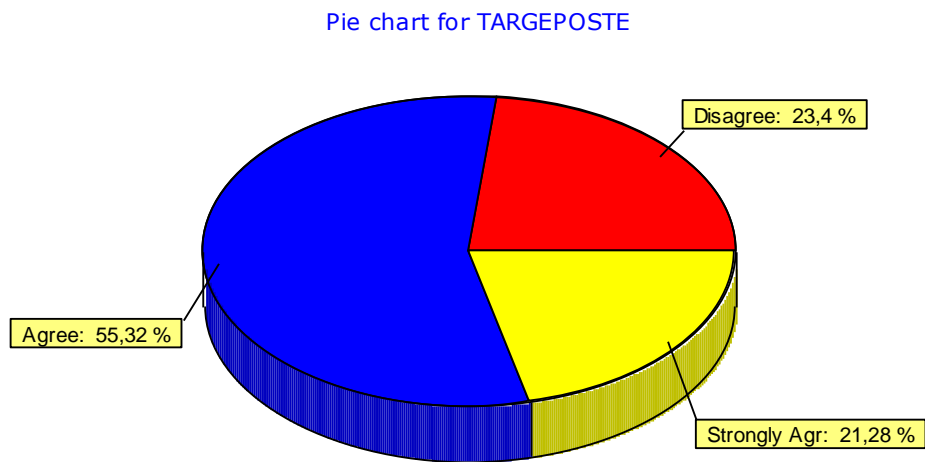
Respondents were asked to indicate if charts or graphs presenting quality data and progress towards targets are posted on the shop floor for everyone to see in the participant enterprise.

Distribution 4.30: Frequency distribution for charts or graphs

Value	Number	Percentage %	Cumulative %
Disagree	11	23,40	23,40
Agree	26	55,32	78,72
Strongly Agree	10	21,28	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.30, the value “Agree” was obtained by 26 cases, which is 55, 32% whilst the value “Strongly Agree” was obtained by 10 cases, which is 21,28% of the cases.

Figure 4.30: Posting charts or graphs presenting quality data



Source: Drawn from MoonStats Software

Fifty five (55, 32%) of the respondents agree whilst 21, 28% strongly agree charts or graphs presenting quality data and progress towards targets are posted on the shop floor for everyone to see in the participant enterprise, whereas 23, 4% disagree.

4.4.5 Sustaining quality effort

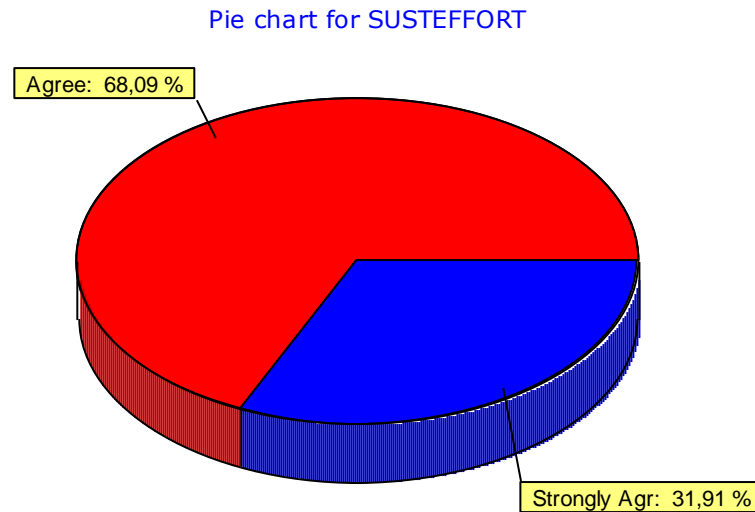
Respondents were asked to indicate if the participant enterprise provides continuous technical, financial and education assistance to sustain the company quality effort.

Distribution 4.31: Frequency distribution for sustain quality effort

Value	Number	Percentage %	Cumulative %
Agree	32	68,09	68,09
Strongly Agree	15	31,91	100,00
Total	47	100.00	
Missing Cases: 0			

In distribution 4.31, the value “Agree” was obtained by 32 cases, which is 68, 09% whilst "Strongly Agree" was obtained by 15 cases, which is 31,91% of the cases.

Figure 4.31: Sustaining the quality effort in participant enterprises



Source: Drawn from MoonStats Software

Sixty eight (68, 09%) percent of the respondents agree whilst 31, 91% strongly agree that the participant enterprise provides continuous technical, financial and education assistance to sustain the company quality effort.

4.5 Conclusion

Welman, *et al* (2005:252) advises that the results of the statistical tests performed on the data be presented without discussing or interpreting them. Welman, *et al* (2005) further states that tables and graphs may be used as concise and well organised summaries of results.

CHAPTER 5

DISCUSSION OF RESULTS

5.1 Introduction

Chapter four presented an analysis of the results obtained to the research questions. This chapter provides a discussion and explanation of the results in relation to the literature review to indicate similarities or differences between the findings and previous research. This chapter offers possible explanations and logical arguments where appropriate.

5.2 Demographic profile of respondents

The trade, industrial and service sectors were of significant importance to the study as these sectors contain industries that are amongst the main economic contributors to the local economy of the study area. It was for this reason that the research was delineated to study the quality management practices of medium-sized enterprises in these sectors. The survey obtained responses from enterprises operating in manufacturing, construction and services. The highest number of enterprises that participated in the study was obtained in the services sector represented by 46, 81% of the respondents who were mainly from tourism and hospitality. The industrial sector was the second highest represented by 42, 55% of the responses obtained mainly from the manufacturing and construction industries. The trade sector was represented by 10, 64% of responses obtained mainly from the wholesale and retail industry.

The research was planned to focus on medium-sized enterprises. The respondents that participated in the survey represented enterprises that employ between 51 and 200 employees, had between R10 to R40 million in turnover and between R2 to R18 million in gross assets excluding fixed assets. The research was therefore able, as intended, to study medium-sized enterprises as defined by the Small Business Act in South Africa. The research sought to collect data mainly from owners or managers of the participant enterprises. Forty six (46, 81%) percent of the respondents were employed managers in the participant enterprise whilst 42, 55% were owners who manage their own enterprise and only 10, 64% were supervisors employed in the enterprise. The participants were therefore mainly (89, 36%) owners and managers of the enterprises. Most (55, 32%) of the respondents were aged between 35 and 54 years whilst 34, 04% were aged 25 to 34 and only 10, 64% were aged between 55 and 60 years. The respondents of the study were therefore mainly (89, 36%) enterprise owners and managers aged between 25 and 54 years. Sixty nine (69, 09%) percent of the respondents had an education level of either a diploma, a degree or above a degree whilst 31, 92% had

matric (grade 12) and or a national higher certificate.

5.3 Discussion pertaining quality awareness and customer orientation

Are medium-sized enterprises in the city of Mbombela aware of quality and oriented towards the customer?

Nonxuba (2010) finds that SME products reflect poor quality indicating an unawareness of quality issues. The South African Quality Institute (2013) concurred finding that there is a low level of quality awareness in the SME sector. The survey sought to determine the level of quality awareness in various levels within the enterprise. The results reveal that 76, 6% of the respondents rate the overall awareness level as high, whilst 23, 4% rate the overall level of quality awareness as medium. None of the respondents expressed a low level of quality awareness. Table 5.1 indicates the rating of quality awareness achieved by the various levels in the enterprises.

Table 5.1: Rating of quality awareness

Quality Awareness Level	Owner Level	Manager Level	Administrative Staff Level	Artisan/Trade Level	General Staff Level
Score	2, 9	2, 9	2, 7	2, 4	2, 4
Rating	High	High	Medium	Medium	Medium

Source: Self drawn

The survey results disagree with prior research findings that there is a low level of quality awareness in medium-sized enterprises as none of the respondents rate a low level of quality awareness. Table 5.1 indicates that in the city of Mbombela the level of quality awareness declines from high at the level of the owner and manager to medium at the level of administrative, artisan or trade and general staff. However, it is clear that medium-sized enterprise owners and managers in the city of Mbombela need to raise the level of quality awareness amongst their staff. Raising quality awareness at the staff level is important because often than not it is the staff of an enterprise that is customer facing and have to listen to the needs of the customer. Unfortunately, Goetsch *et al* (2010) finds that customer needs are not a moving target in SMEs and argue that enterprise management need to demonstrate by actions and words that the customer is important and that the enterprise is committed to customer satisfaction. The best way for the enterprise management to demonstrate that the customer is important is to share information to educate its employees that the

enterprise values its customers. The result of this survey reveal that 76, 6% of the medium-sized enterprises surveyed in the city of Mbombela do share information to educate their employees on the need to give importance and value to customers. This finding differs from Goetsch *et al* (2010) who found that customer needs are not a moving target in SMEs. Valued and satisfied customers often freely share their opinion and give feedback to the enterprise both on the product and the service they receive. It is therefore only prudent for an enterprise to use such customer feedback to improve the quality of its processes, product and service. Prior research found that SMEs do not often take the design for quality challenge and its tools as an opportunity to improve the quality of their processes, product and service (Mendes, 2012). However, the results of this survey differ from prior research and reveal that 65, 96% of the medium-sized enterprises surveyed in the city of Mbombela use customer feedback to improve the quality of their processes, product and service.

5.3.1 Conclusion regarding quality awareness and customer orientation

In the city of Mbombela medium-sized enterprises are oriented towards the customer. The enterprise share information to educate their employees on the need to give importance and value to customers and use customer feedback to improve the quality of their products and services. The overall quality awareness is high amongst medium-sized enterprises. However, the level of quality awareness declines from high at the level of the owner and manager to medium at the level of administrative, artisan or trade and general staff.

5.4 Discussion pertaining commitment to quality

Are the medium-sized enterprises in the city of Mbombela committed to quality?

Prior research found that SME owners or managers do not consider quality management as a priority. Nonxuba (2010) recommends that SME management need to be committed to quality management as the chase to adopt quality plans by SMEs has been slow (Nonxuba, 2010). Efforts to promote the adoption of quality programs have not gone beyond an elite group of big firms to reach medium-sized enterprises (Williams, 2008). (Nonxuba, 2010) finds that SMEs have not adopted quality programs in the same extent as larger companies. The results of the survey, however differ from prior findings and show that 89, 36% of the respondents agree that the enterprise has planned for and launched a quality program. When asked to identify the quality program used in the enterprise 42, 55% of the enterprises surveyed identified an industry specific quality program as being used, whilst 46, 81% identified their own company specific quality program. The remaining 10, 64% of the enterprises identified neither their own nor an industry specific quality program.

When asked how the quality program is implemented, out of the 89, 36% of enterprises that had planned for

and launched a quality program, 42, 55% indicated that an internal team in the enterprise implements the program and 34, 04% indicated that an outside consultant helps with the implementation of the program, whilst 12, 77% indicated that an internal individual implements the quality program. Regarding the extent to which the enterprise implements the quality program, 63, 83% of the respondents indicated that the quality program was implemented to all aspects of the enterprise, whilst 25, 53% implemented the quality program only to certain processes, whereas 10, 64% indicated that the quality program was not implemented to any part of the participant enterprise. The results indicate that 89, 36% of respondents plan for, launch and implement a quality program and can identify either their own or industry specific quality program as being implemented in their enterprise. When asked to indicate the reason their enterprise does not plan for, launch and implement a quality program the 10, 64% of the respondents indicated that they never thought of a quality program. The finding by prior research that SMEs have been slow in adopting and implementing quality programs is therefore not supported by these results. In as far as the city of Mbombela is concerned, the claim by prior research that the effort to promote the implementation of quality management has not gone beyond an elite group of big firms to reach SMEs is refuted.

5.4.1 Conclusion regarding commitment to quality

In the city of Mbombela medium-sized enterprises are committed to quality. The enterprises adopt and implement quality programs either to all aspect of their business or only to certain business processes using either an internal person, team or outside consultant.

5.5 Discussion pertaining quality planning

Do medium-sized enterprises in the city of Mbombela plan for quality?

A quality policy forms the basis for the adoption of a quality plan and informs an appropriate quality program for the enterprise. However, Russell (2014) finds that most SMEs fail to develop and implement quality plans and standards due to the failure of management to adopt a quality philosophy. The results do not support the finding that SMEs fail to develop and adopt quality policies. The results of this survey reveal that 78, 72% of the respondents agree that they have a quality policy in their enterprise. However, further research may investigate if the quality policy of the medium-sized enterprises is formally documented and implemented. It is generally known that SMEs have tall structures and decisions are often made at the top by the owner or manager. The survey sought to know if decisions regarding quality in the enterprise are made by a designated Quality Manager. The respondents were asked if the enterprise has a Quality Manager.

The results indicate that 87, 23% of the respondents agree that their enterprise has a Quality Manager whereas 12, 77% disagree. However, this survey did not clarify if the designated Quality Manager is someone other than the owner or manager of the enterprise.

Prior research has also found that SME management think that quality control or quality assurance activities are things that increase the costs and are therefore reluctant to include quality control, assurance and design activities in their production processes (Nonxuba, 2010). The survey sought to know the kind of quality activities carried out by medium-sized enterprises and found that 55, 32% of the enterprises carry out quality control activities whilst 34, 04% carry out quality audit activities and 10, 64% carry out design for quality activities. The results are in contrast to the finding by prior research and indicate that medium-sized enterprises in the city of Mbombela are not reluctant to include quality activities in their production processes. Instead, the enterprises in the study area carry out quality design, control and audit activities as part of their production processes. However, only a small fraction (10, 64%) of enterprises carry out quality design activities. This indicates that most of the medium-sized enterprises surveyed may not be proactively designing their services or products with customer requirements in mind from the onset but reacting when picking up quality problems during quality control and audit. Mendes (2012) finds that SMEs focus essentially on informal support to quality activities. The results support prior research that SMEs do provide support as 89, 36% of the respondents agree that their enterprise provide financial and or non-financial support to quality activities, however, further enquiry may confirm if the support interventions provided are formal or informal.

5.5.1 Conclusion regarding quality planning

In the city of Mbombela medium-sized enterprises plan for quality. They make decisions regarding quality through a designated Quality Manager and undertake quality design, control and audit activities and provide financial and non-financial support for these activities.

5.6 Discussion pertaining people involvement and training

Are the people working for medium-sized enterprises involved and trained on quality?

The results support the observation made by Mendes (2012) that employee involvement and commitment is a key factor for the implementation of quality management, as the survey results reveal that 65, 96% of the respondents agree that employees in their enterprise are involved in quality activities. However, Mendes (2012) finds that SMEs focus on informal training and that there is a general reluctance among SMEs to provide formal training to employees. The survey finds that 87, 23% of the medium-sized enterprises

surveyed in the city of Mbombela do give training to their employees on quality concepts, quality control and problem solving techniques. The results agree with prior research and indicate that medium-sized enterprises do provide their employees with training. It may not necessarily be that medium-sized enterprises are generally reluctant to provide formal training to their employees. The enterprise may not always have sufficient resources to afford providing their employees with formal training due to the cost involved and time needed to be taken away from the business.

The quality gurus, Ishikawa and Deming, advocated for the implementation of problem solving using quality control circles which may well be informal quality teams within the enterprise. Goetsch *et al* (2010: 482) emphasized that enterprise owners and managers must play the necessary leadership by establishing enterprise-wide quality control circles or teams. The literature reviewed does not provide findings and conclusions on the existence and use of quality committees or quality teams in SMEs. Multi-functional teams assists the enterprises to identify and solve most quality problems, take action to improve the quality of products or services and monitor quality conformance on key business processes. The survey asked respondents if the enterprise does use multi-functional teams or quality control circles to solve quality problems. The results indicate that medium-sized enterprises in the city of Mbombela do make use of multi-functional teams or quality control circles. Seventy six (76, 59%) percent of the respondents agree that their enterprise does organize multi-functional teams or quality control circles to improve quality, whereas only 23, 41% of the respondents disagree.

Knowing the extent to which enterprises implement quality design, quality control and quality audit activities on their business processes can shed light on whether enterprises examine their business processes for quality. Goetsch *et al* (2010) finds that SMEs have only a general idea of whether their business processes are capable of doing what is expected of them. Often the reason is that SMEs do not conduct proper business process design, control and audit activities. The survey sought to know the extent to which the quality activities are implemented in the enterprise. The results indicate that 63, 83% of the enterprises surveyed in the city of Mbombela implement quality activities to all aspect of the business whilst 36, 17% implement quality activities only to certain business processes. The results do not agree with Goetsch *et al* (2010) finding and indicate rather that medium-sized enterprises in the city of Mbombela do apply quality design, control and audit activities, either to all aspects or only to certain aspects of their business. Further enquiry may clarify as to how well the enterprises get to know their business processes and learn how the business processes are internally and externally affected to produce the product or service they are expected to produce for the customer.

5.6.1 Conclusion regarding people involvement and training

In the city of Mbombela people working for medium-sized enterprises are involved and trained on quality. The enterprises involve their employees in quality activities. The enterprises give training to their employees on quality concepts, quality control and quality problem solving. The enterprises also organize quality control circles or teams to improve quality and implement their quality activities either to all or to certain aspects of the business.

5.7 Discussion pertaining quality in the workplace

Do medium-sized enterprises integrate quality into the workplace?

It is worth noting that everything that is done in the workplace is a process and all processes are affected by a variety of factors. Processes in the work environment are affected either positively or negatively by the machines, the materials used, the work instructions carried out, the measurements taken, and the man who operate the process – also known as the five M's – methods, measurements, man-power, machines, materials (Goetsch *et al* 2010). Suffice to say, therefore, that a quality work environment is one which is not negatively affected by untidiness, inaccurate and poorly followed work instructions as well as disorderly located records, inventory, machinery and equipment. Such a quality work environment provides certainty that its processes are in control, stable and can be relied upon to produce consistently improved business results. Process control ensures that the negative effects of the five M's can be identified and eliminated and the special causes of variation in production can also be removed and thereafter business processes can be improved. Goetsch *et al* (2010) finds that SMEs are using process control in the work environment as part of their quality and competitive initiatives. The results agree with prior research as all the medium-sized enterprises surveyed in the city of Mombela agree they have signboards and labels for easy location of records, inventory, machinery and equipment.

The results further support prior research and indicate that in the city of Mbombela medium-sized enterprises are using process control in their work environment as part of their quality and competitive initiatives. The survey finds that 78, 72% of the enterprises surveyed in the city of Mbombela agree that the enterprise is clean, orderly and hygienic with no unnecessary items, dust or dirt lying on the floors, whereas 21, 28% disagree. A business process can be improved to produce positive outputs if the negative effects of the five – M's and special causes are eliminated from the work environment. If the enterprise is clean, orderly and hygienic, quality control techniques can be applied to improve the business process and produce a quality product or service. However, removing the negative effects of the five – M's and special causes

alone is not enough. Key to giving customers the quality they expect is to get the customers involved early in the product or service design and produce a product or service that is fit for use and meet the needs of customers. Becker *et al*, (2013) found that SMEs do not often take the design for quality challenge and its tools as an opportunity to improve the quality of their processes, product or service. The results of this survey differ, however, and reveal that SMEs in the city of Mbombela do capture the voice of the customer and use quality control techniques and tools as part of their competitive initiative. The results reveal that 80, 85% of the medium-sized enterprises surveyed in the city of Mbombela are mainly using quality function deployment as part of their competitive initiatives. This entails that the medium-sized enterprises in the city of Mbombela have at their disposal a method for deploying quality into their product or service and are able to capture and include customer needs and requirements into their product or service. Quality function deployment as a technique allows the enterprises to focus the attributes of products or services on the view of customers and produce products or services with attributes that most satisfy the identified needs of customers.

5.7.1 Conclusion regarding quality in the workplace

In the city of Mombela medium-sized enterprises have signboards and labels for easy location of records, inventory, machinery and equipment. The medium-sized enterprises are using process control in their work environment as part of their quality and competitive initiatives. The enterprise are clean, orderly and hygienic with no unnecessary items, dust or dirt lying on the floors.

5.8 Discussion pertaining the design of products and processes

Do medium-sized enterprise in the city of Mbombela integrate quality into the design of their products or services and business processes?

Mendes (2012:2) finds that smaller to medium enterprises describe the concept of integrating quality by design as the latest tang of the month while larger enterprises have taken the design for quality challenge and its statistical tools as an opportunity to improve their products, services and processes early on in the design phase. One of the keys to give customers the quality they expect is to get the customers involved from as early in the product or service design process as possible (Goetsch *et al* 2010). The survey sought to know the quality technique that medium-sized enterprises use in the design of their products and services. The results show that 59, 57% of the respondents indicate that the participant enterprise uses Quality Function Deployment whilst 21, 28% indicate the use of Design for Quality in the design of products or service,

whereas 19, 15% does not use any quality technique. The results do not support Mendes (2012) finding that smaller to medium enterprises describe the concept of integrating quality by design as the latest tang of the month. The results rather reveal that medium-sized enterprises take the design for quality concept seriously as this research finds that 80, 85% of the medium-sized enterprises surveyed use design for quality techniques to deploy customer needs and requirements into the design of their products and services. Goetsch *et al* (2010) finds that smaller to medium enterprises are using process control as part of their quality and competitive initiatives. However, when thinking of process control the enterprises think only of the control chart. It is important that enterprises use more than the control chart in business process control, because the control chart has limited value until the negative effects of the five-Ms and special causes of variation are eliminated in the business process. The results do not support Goetsch *et al* (2010) finding that small to medium enterprises use only the control chart to diagnose business process or service problems . The results indicate that 78, 72% of the medium-sized enterprises surveyed in the city of Mbombela use cause and effect diagrams whilst only 21, 28% use control charts as quality techniques to diagnose business process or service problems. Goetsch *et al* (2010) advises that all of the process control tools be considered and used appropriately. Medium-sized enterprises may consider the use of process control tools such as flowcharts, parento charts, stratification, check sheets, histograms, scatter diagrams and run charts. The flowchart may be used to better understand the business process, the cause-and-effect diagram may be used to identify causes of variation and their effect on a business process. The use of these tools and other techniques make possible the control of variation in any business process. Successful enterprises adopt and implement business excellence models or quality programs in order to achieve greater business results. Business excellence is about developing and strengthening the management system and processes of an enterprise to improve performance and create value. It is about achieving excellence in everything that an enterprise does including leadership, strategy, customer focus, information management, people and processes. Worldwide, there are several quality award programs including those available in the SADC region and locally in South Africa. All of these awards are based on a model of business excellence. They do not focus solely on product or service but consider a wide range of management activities and processes that influence the quality of the final offering. These business excellence model based quality awards provide a useful tool for audit or assessment which enterprises can use to evaluate their management practices (Nonxuba, 2010:34). Research shows that enterprises certified through business excellence models or quality programs consistently outperform their counterparts in their industry by an average of 50% in terms of growth over a five-year period. Those that had won a quality award achieve an even higher growth of 75% above the industry average (Mann, Mohammad & Agustin, 2012). The results reveal that only 42, 55% of the medium-sized enterprises surveyed in the city of Mbombela agree whilst 34, 04% disagree and

23, 4% neither agree nor disagree that the enterprise does vie for awards or recognition given to similar enterprises with excellent quality programs. It is clear therefore that the medium-sized enterprises surveyed are yet to take up the opportunity provided by business excellence models and quality award programs available to assist them evaluate their quality management practices, the deployment of these practices, and the end business results. Many SMEs cannot afford to have external consultants to assess and evaluate their quality management practices and the health of their enterprise on a regular basis. However, the business owner can conduct cost free self-assessments which can contribute a lot in fulfilling this role and ensure that due diligence is paid to the development of the enterprise.

5.8.1 Conclusion regarding the design of products and processes

In the city of Mbombela medium-sized enterprise integrate quality into their business processes and the design of their products and services. The enterprises use quality function deployment and design for quality as techniques for capturing and deploying customer needs and requirements into the quality of their products and services. They diagnose business process problems using cause and effect diagrams as well as control charts. However, they do not participate in business excellence models and quality award programs to assess their management practice, measure their growth and seek recognition for business excellence.

5.9 Discussion pertaining measuring and monitoring quality

Do medium-sized enterprise in the city of Mbombela measure and monitor quality?

It is critical that quality be measured not only on the final product or service but at critical stages in the production process in as far as input materials, followed procedures, measurements taken and the use of man-power and machines is concerned. Further, focus should be on ascertaining that good quality inputs are always used to make the product or service so that the quality is built into the product produced or service offered. The best quality results often arise from measuring quality at the various stages of the production processes. The results of the survey support this view as 89, 36% of the enterprises surveyed in the city of Mbombela agree that the enterprise does measure quality at various critical stages of production. Some quality monitoring, even the most basic, is better than no quality monitoring at all. The enterprise can start with simple activities such as setting realistic quality targets and posting charts or graphs presenting quality data and progress towards targets on the shop floor of the enterprise. Feedback can be delivered one-to-one with employees or through group sessions where employees share best practice. The MITRE (2015) finds that not only does this encourage employees to buy into the effort to pursue quality but their comments and

suggestions are often extremely insightful. The results support current research as 76.6% of the enterprises surveyed in the city of Mbombela agree that charts or graphs presenting quality data and progress towards targets are posted on the shop floor for everyone to see in their enterprise. The survey did not however enquire whether the enterprises reward high quality work through mechanisms such as employee of the month awards and staff excellence certificates.

5.9.1 Conclusion regarding measuring and monitoring quality

In the city of Mbombela medium-sized enterprises measure and monitor quality. The enterprises are focused on ascertaining that good quality inputs are always used to make the product or service so that the quality is built into the product produced or service offered. The enterprises measure quality not only on the final product or service but also at critical stages in the production process. The enterprises set realistic quality targets and post charts or graphs presenting quality data and progress towards targets on the shop floor.

5.10 Discussion pertaining to sustaining the quality effort

Do medium-sized enterprise in the city of Mbombela sustain their quality effort?

Enterprises must provide employees with continuous technical, financial and education assistance to sustain their quality effort. The MITRE (2015) finds that successful SMEs provide staff support through interventions such as refresher courses and informal skills training as well as action plans to improve employee performance with the aim of improving the customer experience and achieving business objectives. The results support this view as all of the enterprises surveyed in the city of Mbombela agree that their enterprise provides continuous technical, financial and education assistance to sustain the enterprise quality effort. It was not enquired by the survey if enterprises also invest in a dedicated person to monitor quality in the enterprise. Enterprises must make time and resources available to carry out enterprise-wide quality monitoring and evaluation on an ongoing basis and appraise, coach and train their employees on their adopted quality practice.

5.10.1 Conclusion regarding sustaining the quality effort

In the city of Mbombela medium-sized enterprises sustain their quality effort as they provide their employees with continuous technical, financial and education assistance.

5.11 Conclusions

Medium-sized enterprises in the city of Mbombela are oriented towards the customer. The enterprises share information to educate their employees on the need to give importance and value to customers and use customer feedback to improve the quality of their products and services. The overall quality awareness is high amongst medium-sized enterprises in the city of Mbombela. However, the level of quality awareness declines from high at the level of the owner and manager to medium at the level of administrative, artisan or trade and general staff. Enterprises in the city of Mbombela are committed to quality. They adopt and implement quality programs either to all aspect of their business or only to certain business processes using either an internal person, team or outside consultant. Medium-sized enterprises in the city of Mbombela plan for quality. The enterprises develop and implement quality policies. They make decisions regarding quality through a designated Quality Manager and undertake quality design, quality control and quality audit activities and provide financial and non-financial support for these activities. The people working for medium-sized enterprises in the city of Mbombela are involved and trained on quality. The quality training and activities in which employees are involved include quality concepts, quality control and quality problem solving. The enterprises use quality control circles or multi-functional teams to improve quality and implement their quality activities either to all or to certain aspects of the business. In the city of Mbombela medium-sized enterprises integrate quality into the design of their products and services. The enterprises control their business processes as part of their quality and competitive initiatives. They maintain a clean, orderly and hygienic work environment and use quality function deployment and design for quality as methods for capturing and deploying customer needs and requirements into the quality of their products and services. In the city of Mbombela medium-sized enterprise integrate quality into their business processes. The enterprises diagnose business process problems using cause and effect diagrams and control charts. However, they do not participate in business excellence models and quality award programs to assess their management practice, measure their growth and seek recognition for business excellence. Medium-sized enterprises in the city of Mbombela measure and monitor quality. The enterprises are focused on ascertaining that good quality inputs are always used to make the product or service so that the quality is built into the product produced or service offered. The enterprises measure quality not only on the final product or service but also at critical stages in the production process. The enterprises set quality targets and post charts or graphs presenting quality data and progress towards targets on the shop floor. In the city of Mbombela medium-sized enterprises sustain their quality effort as they provide their employees with continuous technical, financial and education assistance.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions of the study in relation to findings made by previous research and advances the study's recommendations and suggestions for further research.

6.2 Conclusions

This research disagrees with existing published research, which found that there is a low level of quality awareness in the SME sector. This research finds that 76, 6% of the enterprises surveyed rate the overall quality awareness level in the enterprise as high, whilst 23, 4% rate the overall level of quality awareness as medium. The research further finds that, in the various staff levels within the enterprise, the level of quality awareness declines from high at the level of the owner and manager to medium at the level of administrative, artisan or trade and general staff.

- This research concludes that in the city of Mbombela the overall level of quality awareness is predominantly high in medium-sized enterprises but declines from high at the level of the owner and manager to medium at the level of administrative, artisan or trade and general staff.

The finding by prior research that SMEs are reluctant to train their employees on quality activities is refuted by this research. This research finds that 76, 6% of the medium-sized enterprises surveyed in the city of Mbombela train and share information to educate their employees on the need to give importance and value to customers and 65, 96% use customer feedback to improve the quality of their products or services, processes, people and work environments.

- This research concludes that in the city of Mbombela medium-sized enterprises are customer oriented and use customer feedback to improve the quality of their products or services, processes, people and work environments.

Existing published research found that most SMEs fail to develop and implement quality policies. This research refutes this prior research finding and finds to the contrary that 78, 72% of the medium-sized enterprises surveyed have a quality policy and 87, 23% make decisions regarding quality through a designated

Quality Manager.

- This research concludes that medium-sized enterprises in the city of Mbombela are committed to quality as they develop and implement quality policies through a designated Quality Manager.

Prior research found that the effort to promote the implementation of quality management has not gone beyond an elite group of big firms to reach SMEs and that SMEs have been slow in adopting and implementing quality programs. In contrast to these prior research findings, this research finds that 89, 36% of medium-sized enterprises surveyed plan for and adopt quality programs and 63, 83% implement such programs to all aspect of their business while 25, 53 % implement only to certain business processes using either an internal person, team or outside consultant.

- This research concludes that medium-sized enterprises in the city of Mbombela plan for quality as they adopt and implement quality programs.

This research finds that 65, 96% of the medium-sized enterprises surveyed in the city of Mbombela involve their employees in quality activities and 87, 23% give training to their employees on quality concepts, quality control and problem solving techniques. This finding disagrees with prior research which found that SMEs are generally reluctant to provide training to their employees but corroborate that SMEs recognize the importance of employee involvement in the implementation of quality management.

- The research concludes that the people working for medium-sized enterprises in the city of Mbombela are involved and trained on quality management.

Existing published research found that SMEs do not take the concept of quality by design seriously whilst larger enterprises use the quality by design concept and its statistical tools as an opportunity to improve their products and services. The finding of this research differs in that 80.85% of the enterprise surveyed use quality by design techniques when they design their products and services.

- This research concludes that in the city of Mbombela medium-sized enterprises deploy customer needs and requirements into the design of their products and services.

Prior research shows that SMEs are using process control as part of their quality and competitive initiatives. This research agrees as it finds that 78, 72% of the medium-sized enterprises surveyed use cause and effect

diagrams whilst only 21, 28% use control charts as quality tools to diagnose business process and service problems. The research further finds that all the enterprises surveyed have signboards and labels for easy location of records and 78, 72% maintain a clean, orderly and hygienic work environment.

- This research concludes that in the city of Mbombela medium-sized enterprise control their business processes to produce quality products and services.

Existing published research shows that enterprises certified through business excellence models or quality awards consistently outperform their counterparts in their industry by an average of 50% in terms of growth over a five-year period. Despite this encouraging finding by prior research, 57, 08% of the enterprises surveyed do not vie for awards or recognition given to similar enterprises with excellent quality programs.

- This research concludes that in the city of Mbombela medium-sized enterprises do not participate and compete in business excellence models and quality awards to assess their management practice, measure their growth and seek recognition for business excellence.

Existing published research found that the best quality results often arise from measuring quality at the various stages of the production process. The results of the survey support this finding by prior research as 89, 36% of the enterprises surveyed measure quality at various critical stages of production.

- This research concludes that in the city of Mbombela medium-sized enterprises measure and monitor quality not only on the final product but at various critical stages of the production process.

Prior research found that quality monitoring and group or one-to-one feedback encourages employees to buy into the effort to pursue quality and often provide extremely insightful comments and suggestions. This research support existing research as it finds that 76.6% of the enterprises surveyed post charts or graphs presenting quality data and progress towards targets on the shop floor for everyone to see in the enterprise.

- This research concludes that in the city of Mbombela medium-sized enterprises set quality targets, monitor the quality of output and provide employees with feedback on their quality performance.

Existing published research found that successful SMEs provide staff support through interventions such as refresher courses and informal skills training as well as action plans to improve employee performance with the aim of improving the customer experience and achieving excellent business results. The finding of this research support existing research as all the enterprises surveyed provide continuous technical, financial and

educational assistance to sustain the enterprise quality effort.

- This research concludes that in the city of Mbombela medium-sized enterprises sustain their quality effort by providing their employees with continuous technical, financial and educational assistance.

6.3 Recommendations

The level of quality awareness declines from high at the level of the owner and manager to medium at the level of administrative, artisan or trade and general staff.

- It is recommended that medium-sized enterprise owners and managers invest time and resources to raise the level of quality awareness amongst their staff.

Many SMEs cannot afford to have external consultants to assess and evaluate their quality management practices and the health of their enterprise on a regular basis.

- It is recommended that the enterprise owner or manager conduct regular cost free self-assessments which can contribute in fulfilling this role and ensure that due diligence is paid to the development of the enterprise.

A significant number of Medium-sized enterprises surveyed in the city of Mbombela do not participate and compete in business excellence models and quality awards to assess their management practice, measure their growth and seek recognition for business excellence.

- It is recommended that medium-sized enterprises take up the opportunities provided by business excellence models and quality award programs available to assess their management practice, measure their growth and seek recognition for business excellence.

Existing published research shows that SMEs that have won a quality award achieve an even higher growth of 75% above the industry average.

- It is recommended that government and SME development and support agencies streamline and focus the promotion of business excellence models and quality award programs to SMEs and give SMEs a tax incentive for participating in such programs.

6.4 Suggestions for further research

The findings and conclusions of this research raised questions that require further enquiry. Further research may be conducted to enquire on interventions undertaken by government and SME development and support agencies to train SMEs on quality management. Enquiry may also be conducted on interventions undertaken to assist SMEs to sign up for quality standard certification and participate in business excellence models or quality awards. Further enquiry may also be conducted on the activities of SMMEs to assess their performance and measure their growth.

6.5 Limitations of the study

The findings of this research are only generalised to the population of medium-sized enterprises operating in the city of Mbombela and may not be generalised to the rest of the medium-sized enterprises in the Republic of South Africa. This research focused only on the ambit of medium-sized enterprises that were registered with the CIPC, had continuous trade and were reasonably well known and easy to find. Micro enterprise having up to 20 employees and small enterprises having up to 50 employees were not investigated. Respondents exhibited great variation in respect of their responses to the variables studied as they responded to the survey based on their own opinion. The research was non-experimental in nature and could not make conclusions about causal relationships.

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ANNEXURES

8.1 Ethical Clearance



DEPARTMENT OF BUSINESS MANAGEMENT RESEARCH ETHICS REVIEW COMMITTEE

05 November 2015

Ref #: 2015_CEMS_BM_043

Zakhele Louis Mncina

Student #:34840117

Dear Mr Zakhele Louis Mncina,

Decision: Ethics Approval

Name: Mr Zakhele Louis Mncina– Principal Researcher (34840117@mylife.unisa.ac.za; 07696614829)

Proposal: The quality management practices of medium-sized enterprises operating in the city of Mbombela, Mpumalanga, SA.

Supervisor: Prof Chiloane-Tsoka (Staff #: 9016989)

Qualification: Postgraduate degree

Thank you for the application for research ethics clearance by the Department of Business Management Research Ethics Review Committee for the above mentioned research. Final approval is granted for the duration of the project from the date of issue.

For full approval: The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Department of Business Management on 05 November 2015.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Department of Business Management Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.
- 3) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

Kind regards,

Prof Watson Ladzani
Chairperson of the sub-unit RERC
Department of Business Management
wladzani@unisa.ac.za

Prof M. J. Mogale
Executive Dean
College of Economic and Management Sciences

8.2 Permission Letters

Mpumalanga

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1200
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1200

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Fax: +27 13 755 6043



University of South Africa
Preller Street, Muckeneuk Ridge, City of Tshwane
P O Box 392, UNISA 003, South Africa
Tel: 012 429 2008, Email: chiloge@unisa.ac.za

17th September 2015

Dear Sir/Madam

RESEARCH PROJECTS

The Small Enterprise Development Agency (Seda) grants permission to Mr Zakhele L. Mncina to do his dissertation on the topic, "*The quality management practices of medium-sized enterprises operating in the city of Mbombela, Mpumalanga, SA*". Seda request UNISA not to publish the dissertation without the permission of Seda.

Yours Sincerely

Ms Phumzile Mnisi
Branch Manager: Ehlanzeni
Date: 17/09/2015

Board Members:

Dr I Zwane (Board Chairperson) ■ Dr M Venter (Deputy Chairperson) ■ Mr S Zikode (Acting Chief Executive Officer)
Ms P Lugayeni ■ Mr D Thabaneng ■ Mr M Mohoto ■ Mr T Makhuvha

Request for access to SMME database for research purposes

07 September 2015

Mr. Ernest Jele

LED Manager: Mbombela Local Municipality

1 Nel Street, Nelspruit

Tel: 013 759 9174 Email: enerst.jele@mbombela.gov.za

Dear Mr. Jele

I, Zakhele Louis Mncina am doing research under the supervision of Professor Evelyn Chiloane-Tsoka in the Department of Business Management at the University of South Africa. I am doing the research towards fulfillment of requirements to a Master of Technology Degree in Business Administration.

I am requesting your permission to use the Mbombela Municipality SMME database to identify medium-sized enterprises that I can invite to participate in the research entitled "The quality management practices of medium-sized enterprises operating in the city of Mbombela, Mpumalanga, SA". The aim of the research is to discover and explain the quality management practices of medium-sized enterprises operating in the city of Mbombela.

The research entails a quantitative non-experimental survey. Participants will be medium-sized enterprise owners or managers selected using probability based stratified random sampling. A questionnaire will be used to collect field data and will be administered by the researcher who will personally interview enterprise owners or managers at their workplaces or business premises.

It is hoped that the information to be gained from this survey will help provide knowledge on the quality management awareness and practices in medium-sized enterprises, provide evidence-based analysis that inform programs aimed at supporting the progress, survival and growth of the SME sector and motivate efforts to formulate quality promotion programs.

There is no anticipated risk to the study and participants can withdraw any time if they wish to do so without any obligation. The results of the study will be used for academic purposes only. Once published, a copy of the research report with a summary of the findings will be made available to your institution on request.


Should you require any further information about any aspect of this request or the study, please contact me on 079 661 4829, 34840117@mylife.unisa.ac.za or fax 086 577 5264. My supervisor, Prof Evelyn Chiloane-Tsoka who may be contacted on 012-429 2008 or chiloge@unisa.ac.za.

Yours sincerely;


Signature:

Mr. Louis Z. Mncina: Student Researcher

I, Mr Ernest Jele, the LED Manager for Mbombela Municipality hereby give my permission for the use of the database for academic research purposes. I fully understand the objective of the study and consent to assist the applicant with the required database.



Signature

14/09/2015
Date

Request for access to SMME database for research purposes

09 September 2015

Mr. Peter Maseko

Director: SMME Directorate

Department of Economic Development, Environment and Tourism

Building 4, 1st Floor, Government Complex, Nelspruit

Tel: 013 766 4378, Cell: 079 4966 333, Email: masekop@mpg.gov.za

Dear Mr. Maseko

I, Zakhele Louis Mncina am doing research under the supervision of Professor Evelyn Chiloane-Tsoka in the Department of Business Management at the University of South Africa. I am doing the research towards fulfillment of requirements to a Master of Technology Degree in Business Administration.

I am requesting your permission to use the DEDET SMME database to identify medium-sized enterprises that I can invite to participate in the research entitled "The quality management practices of medium-sized enterprises operating in the city of Mbombela, Mpumalanga, SA". The aim of the research is to discover and explain the quality management practices of medium-sized enterprises operating in the city of Mbombela.

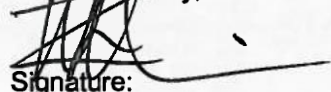
The research entails a quantitative non-experimental survey. Participants will be medium-sized enterprise owners or managers selected using probability based stratified random sampling. A questionnaire will be used to collect field data and will be administered by the researcher who will personally interview enterprise owners or managers at their workplaces or business premises.

It is hoped that the information to be gained from this survey will help provide knowledge on the quality management awareness and practices in medium-sized enterprises, provide evidence-based analysis that inform programs aimed at supporting the progress, survival and growth of the SME sector and motivate efforts to formulate quality promotion programs.

There is no anticipated risk to the study and participants can withdraw any time if they wish to do so without any obligation. The results of the study will be used for academic purposes only. Once published, a copy of the research report with a summary of the findings will be made available to your institution on request.

Should you require any further information about any aspect of this request or the study, please contact me on 079 661 4829, 34840117@mylife.unisa.ac.za or fax 086 577 5264. My supervisor, Prof Evelyn Chiloane-Tsoka may be contacted on 012-429 2008 or chiloge@unisa.ac.za.

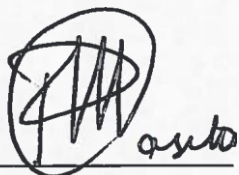
Yours sincerely;


Signature:

Mr. Louis Z. Mncina

Student Researcher

I, Mr. Peter Maseko, the Director for the SMME Directorate at the Mpumalanga Department of Economic Development, Environment and Tourism (DEDET) hereby give my permission for the research to be conducted using the requested database. I fully understand the objective of the study and consent to assist the applicant with the required database.



Signature

09 SEPTEMBER 2015

Date

8.3 Informed Consent

Appendix-G

CONSENT FOR PARTICIPATION IN SURVEY RESEARCH

PLEASE READ THIS DOCUMENT CAREFULLY. YOUR SIGNATURE IS REQUIRED FOR PARTICIPATION. YOU MUST BE AT LEAST 18 YEARS OF AGE TO GIVE YOUR CONSENT TO PARTICIPATE IN RESEARCH. IF YOU DESIRE A COPY OF THIS CONSENT FORM, YOU MAY REQUEST ONE AND I WILL PROVIDE IT.

1.1.1.1 **Research Study title: “The quality management practices of medium-sized enterprises operating in the city of Mbombela, Mpumalanga, SA”**

1.1.1.2

1.1.1.3 **Principal Researcher’s name: Zakhele Louis Mncina**

E-mail: 34840117@mylife.unisa.ac.za, Telephone: 013 002 0042 or Cell: 079 661 4829, P O Box 3014, Barberton, 1300

Researcher’s relationship to UNISA: Research Masters Student

Research Supervisor: Prof GE CHILOANE-TSOKA

I volunteer to participate in a research project conducted by Mr. Zakhele Louis Mncina from the University of South Africa. I understand that the study is designed to gather information about the quality management practices of SMES. I will be one of approximately 50 people completing a questionnaire for this research.

1. I have read the Information Sheet for this study and have had details of the study explained to me.
2. My participation in this study is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one in the business sector will be told.
3. I understand that most survey respondents will find the questionnaire interesting and thought-provoking. If, however, I feel uncomfortable in any way during the survey, I have the right to decline to answer any question.
4. Participation involves completing a survey questionnaire from the researcher at the University of South Africa (UNISA). Completing the questionnaire will last approximately 25 minutes. There will be no audio recording of the survey or any of my business activities.
5. I understand that the researcher will not identify me by name in any reports using information obtained from this survey, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.
6. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
7. I have been given a copy of this consent form.

My Signature

Date

My Printed Name

Signature of the Investigator

8.4 Survey Questionnaire

“THE QUALITY MANAGEMENT PRACTICES OF MEDIUM-SIZED ENTERPRISES OPERATING IN THE CITY OF MBOMBELA, MPUMALANGA, SA”.

Dear Participant

This research is in fulfilment of a master of technology degree in business administration with the department of business management at Unisa. Your company has been selected from a database listing enterprises operating around the city of Mbombela. You're requested to participate in this survey on behalf of your company by taking 20 – 25 minutes of your time to complete the attached questionnaire to the best of your ability. The survey seeks to discover and explain quality management practices in medium enterprises operating in Mbombela. The survey questionnaire is very easy to complete as the questions require multiple-choice responses.

The information that you provide will remain confidential in the sense that you and your enterprise will remain anonymous, the researcher will have no way of connecting the information you provide to yourself or your enterprise. You are under no obligation to complete this questionnaire and can withdraw from the survey prior to submitting the questionnaire.

Due to the anonymous nature of the survey, you will not be able to withdraw once you complete and submit the questionnaire. By completing this questionnaire, you agree that the information you provide may be published in a research dissertation in fulfilment of a master of technology degree in business administration.

We do not foresee that you will experience any negative consequences by completing this questionnaire. Nevertheless, we undertake to keep information provided herein confidential, not to let it out of our possession and to analyse the feedback received only on group level.

We hope that the information we gain from this survey will help provide us with evidence-based analysis that inform programs aimed at supporting the progress, survival and growth of the SME sector and motivate efforts to formulate quality promotion. You will not be reimbursed or receive any incentives for your participation in the survey.

Yours sincerely;

Signature:

Mr. Louis Z. Mncina

Student Researcher

Please mark the most appropriate box with an x:

1. What is the industry in which your company mainly does business?	Agriculture	Manufacturing	Construction	Tourism and Hospitality	Financial Services
	1	2	3	x4	5
	Other, please specify:				
2. How many employees does your company have?	Less than 05	5 to 20	21 to 50	51 to 200	Over 200
	1	2	3	x4	5
3. What is the estimated turnover of your company in Rands per annum?	Less than R0.15 m	R0.15 to R4 m	R4 m to R10 m	R10 m to R40 m	Over R40 m
	1	2	3	x4	5
4. What is the estimated value of your company assets in Rands per annum excluding fixed assets?	Less than R0.15 m	R0.15 to R4 m	R4 m to R10 m	R10 m to R40 m	Over R40 m
	1	2	3	4	x5
5. What is your position in the company?	Owner	Owner/Manager	Manager	Supervisor	Staff member
	1	2	x3	4	5
6. What is your age?	18 to 24	25 to 34	35 to 54	55 to 60	Above 60
	1	2	x3	4	5
7. What is your level of education?	Below Matric	Matric	Matric + N. Certificate	Diploma or Degree	Above Degree
	1	2	3	x4	5

Please indicate with an x the extent to which you agree or disagree with the following question:

8. Has your company planned and launched a quality program?	Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
	1	2	3	x4	5
9. If you agree to question 9, what is the quality program used by your company?	ISO	Six Sigma	Total Quality Management	Quality Award Program	Other
	1	2	x3	4	5
	If other, please specify:				
10. If you agree to question	Not	By internal	By outside	By internal	Other

9, how is the quality program implemented?

implemented	team	consultant	individual	
1	2	3	x4	5
If other, please specify:				

11. If you agree to question 9, to what extent is your company implementing the quality program?

Not in any part of the business	Only to certain processes	Only to final product or service	To all aspects of the business	Other
1	x2	3	4	5
If other, please specify:				

12. If you disagree to question 9, what is the reason you do not plan and launch a quality program?

Never thought of a quality program	The cost of a quality program is high	Quality is part of existing processes and procedures	Quality programs are cumbersome	Other
1	2	3	4	5
If other, please specify:				

Please rate by entering a number for each level using a scale of 1 to 3, where 1=Low, 2=Medium and 3=High

13. In your opinion, what is the level of quality awareness in the various levels within your company?

Owner Level	Manager Level	Administrative Staff Level	Artisan/Trade Staff Level	General Staff Level
	3	3	3	3

Please indicate with an x the extent to which you agree or disagree with the following questions:

14. Does your company train or share information to educate employees on the need to give importance and value to customers?

Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
1	2	3	4	x5

15. Does your company use customer feedback to improve the quality of products or services, processes, people and work environment?

Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
1	2	3	4	x5

16. Does your company have a Quality Policy?
- | Strongly Disagree | Disagree | Neither agree Nor Disagree | Agree | Strongly Agree |
|-------------------|----------|----------------------------|-------|----------------|
| 1 | 2 | 3 | x4 | 5 |
17. Does your company have a Quality Manager?
- | Strongly Disagree | Disagree | Neither agree nor Disagree | Agree | Strongly Agree |
|-------------------|----------|----------------------------|-------|----------------|
| 1 | 2 | 3 | x4 | 5 |
18. What type of quality activities does your company implement?
- | None | Quality Design | Quality Control | Quality Audit | Other |
|---------------------------|----------------|-----------------|---------------|-------|
| 1 | x2 | x3 | x4 | 5 |
| If other, please specify: | | | | |
19. Does your company provide financial and or non-financial support to quality activities?
- | Strongly Disagree | Disagree | Neither agree nor Disagree | Agree | Strongly Agree |
|-------------------|----------|----------------------------|-------|----------------|
| 1 | 2 | 3 | 4 | x5 |
20. Are employees in your company involved in quality activities?
- | Strongly Disagree | Disagree | Neither agree Nor Disagree | Agree | Strongly Agree |
|-------------------|----------|----------------------------|-------|----------------|
| 1 | 2 | 3 | 4 | x5 |
21. To what extent does your company implement quality activities?
- | Not implemented at all | Only to certain processes | Only to final product/service | To all aspects of the business | Other |
|---------------------------|---------------------------|-------------------------------|--------------------------------|-------|
| 1 | x2 | 3 | 4 | 5 |
| If other, please specify: | | | | |
22. Are employees in your company given training on quality concepts, quality control and problem solving techniques?
- | Strongly Disagree | Disagree | Neither agree Nor Disagree | Agree | Strongly Agree |
|-------------------|----------|----------------------------|-------|----------------|
| 1 | 2 | 3 | 4 | x5 |
23. Does the company organize multi-functional teams or quality circles to improve quality?
- | Strongly Disagree | Disagree | Neither agree Nor Disagree | Agree | Strongly Agree |
|-------------------|----------|----------------------------|-------|----------------|
| 1 | 2 | 3 | x4 | 5 |

24. In your opinion, does the company have signboards and labels for easy location of records, inventory, machinery and equipment?	Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
	1	2	3	x4	5

25. In your opinion, is the company clean, orderly and hygienic with no unnecessary items, dust or dirt lying on the floors?	Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
	1	2	3	x4	5

26. What quality technique does your company use in the design of its products or service?	None is used	Quality Function Deployment is used	Design for Quality is used	Concurrent Engineering is used	Other
	1	x2	3	4	5
If other, please specify:					

27. What quality technique does your company use to diagnose process or service problems?	None is used	Cause and Effect xis used	Pareto Analysis is used	Control Chart is used	Other
	1	2	3	4	5
If other, please specify:					

28. Does your company vie for awards or recognition given to similar companies with excellent quality programs?	Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
	1	2	x3	4	5

29. Are charts or graphs presenting quality data and progress towards targets posted on the shop floor for everyone to see?	Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
	1	2	3	x4	5

30. Does your company measure quality not only on the final product or service but also at various critical stages starting from raw materials?

Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
1	2	3	x4	5

31. Do you provide continuous technical, financial and education assistance to sustain the company quality effort?

Strongly Disagree	Disagree	Neither agree Nor Disagree	Agree	Strongly Agree
1	2	3	x4	5

... END ...

Thank you for taking your time to participate in the survey by completing this questionnaire. Please return the questionnaire to the researcher on Email: 34840117@mylife.unisa.ac.za or Fax 086 577 5264.