# TOTAL QUALITY MANAGEMENT AND ORGANISATIONAL PEFORMANCE IN THE MALUTI-A-PHOFUNG MUNICIPALITY IN THE FREE STATE PROVINCE

by

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## DECLARATION

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I declare that

TOTAL QUALITY MANAGEMENT AND ORGANISATIONAL PERFORMANCE IN THE MALUTI-A-PHOFUNG MUNICIPALITY IN THE FREE STATE PROVINCE 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.

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SIGNATURE DATE

(TP MASEJANE)

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## SUMMARY

The overall aim of this study is to determine whether and how the application of Total Quality Management (TQM) can improve organisational performance in the Maluti-A-Phofung Municipality. There is a reason to believe that TQM can be and is a viable approach for improving productivity and performance in the public sector. TQM principles centred on customer satisfaction, process orientation and continuous improvement are very compatible with preferred public sector management styles. Therefore, a theoretical and conceptual analysis is undertaken of TQM as it is discussed in various volumes of published literature. As a result, quality is examined in terms of how it historically evolved during the various stages of development of mankind and overview of essential concepts that contributed to modern professional practice of the concept.

Furthermore, TQM defined within a broad framework of management theory and its dimensions are scrutinised. These dimensions are analysed in such a way that describe a model of how organisations could use TQM as a management theory. A thorough analysis of individual dimension and unique contribution of each to organisational performance is made. The role of managers to implement TQM principles and practices is analysed as well as factors contributing to failures as a check list of what managers must avoid in order to implement TQM effectively. Moreover, the criterion upon which TQM in public institutions could be evaluated is also discussed as the corner stone of a performance measurement system.

Local government introduced municipal performance management systems as part of the new public management paradigm shift, adopted in an attempt to find more effective and efficient methods of delivering services. Therefore, the concept of performance management and its impact on TQM on municipal performance is thoroughly discussed. The meaning of quality and performance is defined and evaluated in terms of components of performance management. In this way the fundamental value and impact TQM may have on performance management can be determined. To determine whether and how the application of TQM can improve organisational performance in the Maluti-A-Phofung Municipality, a structured questionnaire survey is undertaken based on nine TQM dimensions identified in the study.

## KEY TERMS

Total Quality Management

Performance management

Leadership

Strategic planning

Human resource management

Organisational culture

Process management

Management information system

Communication

Continuous improvement

Customer satisfaction

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# CHAPTER 1

# INTRODUCTORY EXPLANATION OF THE DISSERTATION

## 1.1 INTRODUCTION

The decades of the 1980s and 1990s may be remembered for producing more desire to adoption and implementation of Total Quality Management (TQM) approaches than in the whole of the preceding years of the twentieth century combined. Application of these quality management approaches by a wide range of organisations led to the emergence of performance measurement frameworks of TQM, such as Malcolm Baldrige National Quality Awards (MBNQA) and European Foundation for Quality Management (EFQM). This study focuses particularly on determining whether and how the application of Total Quality Management can improve organisational performance in Maluti-A-Phofung Municipality.

A brief synopsis is provided to serve as a frame of reference for the research. This includes a rationale for the research orientation and background information relevant to the dissertation in order to put the problem in context. It also outlines the research plan, which crystallise the choice of study, a hypothesis and research assumptions. This is followed by the demarcation of the study, research methods and reference technique used. Furthermore, the abbreviations that are used throughout the research are listed, followed by a brief explanation of terms frequently used in the dissertation. Finally, the contents of further chapters are outlined.

## 1.2 BACKGROUND OF THE STUDY

Total quality origins can be traced back almost 80 years to the first use of statistical tools to improve the quality of manufactured products in the United States of America. The genesis of modern quality management had its roots in manufacturing. With the blossoming of the public sector in almost every economy, quality imperative are no longer the sole concern of manufacturing. As a result, service organisations are facing the same ground realities as those

that confronted their manufacturing counterparts in the past. This led to quality moving from its manufacturing origins into public organisations.

There has been a lot of debate on whether quality concepts from the manufacturing or private sector can be transferred to the public sector in some meaningful way. Whereas TQM proponents tend to argue that big private companies and big public authorities face the same kind of bureaucratic problems, more critical experts argue that the private and public sectors operate under different frameworks and conditions (Hassounah 2001:153). However, this debate has become somewhat irrelevant since, to a large extent, the public-private sector dichotomy does not exist anymore in most countries. As a result of contracting-out, public services are provided by public, private and none governmental organisations (Caddy & Vintar 2002:22). Thus, the borders between public, private and none governmental organisations have become increasingly blurred.

A survey by National Governors Association in 1992 indicated that more interest in quality management as a solution to public sector performance problems has increased. Local governments are also moving along the path of implementing TQM. This is according to the study by the University of Miami which found that 25% of all large cities in United States of America have adopted TQM for use in at least one functional area of local government (Bouckaert & Halchmi 1995:153). Improving municipal performance depends upon local government transformation in South Africa. The transformation of local government in South Africa is premised on democratising and improving municipal performance (Asmah-Andoh 2009:201).

Bvuma and Russell (2001:241) make a point that "municipalities exhibited many features of traditional bureaucracy, including hierarchical structures, low levels of training, a poor work culture and an overall orientation towards inputs and process rather than meeting the basic needs of all South African citizens". However, the mandate of local government requires new capacities, attitudes and approaches. Relations between municipal councils and the administration, between management and the operational officials, between municipality and

consumers, and between municipalities and the international world, need to improve (Municipal System Act, Act 32 of 2000).

The internationalization of capital, production, services and culture has had, and will still continue to have a major impact in particular on municipal areas. The economic transactions and the integration of systems of production on a world-wide basis together with the rapid development of information technologies have resulted in the emergence of the global economy. In this context municipalities become the nodes of contact which connect economies across the globe (White Paper on Local Government 1998:8).

Municipalities will need to manage the consequences of globalization, such as restructuring, promoting comparative advantages of the area for competitive industries, as well as supporting the growth of local enterprises. Davis and Goetsch (1995:7) argue that "when global competition became a reality for even small and medium-sized organizations decision-makers must begin to look to Total Quality (TQ) as a way to survive". While competition will improve both service efficiency and innovations, it is necessary for municipalities to develop approaches that will enhance performance of their administrations. Improving organizational performance in public service calls for a paradigm shift from inward-looking, bureaucratic systems, processes and attitudes to new ways of working which put the needs of the public first (White Paper on Transforming Public Service Delivery 1997:3).

The introduction of TQM approaches to municipalities might serve as a postmodern organizational theory in the context of a broader transformation associated with quality. In this context TQM is essentially seen as part of cultural reconstruction to challenge the rigidities of bureaucracy (Tuckman 1994:728). The need for change has driven new initiatives in South Africa. Within the first three years of the new democracy, 1995-1997, substantial effort was devoted to reforming and restructuring the bureaucracy. English become the language of administration, municipalities were amalgamated and substantial authority was devolved to departments, provinces and municipalities. Despite these reforms, progress in improving results in terms of organizational performance in municipalities is mixed (Bvuma & Russell 2001:241).

At the same time municipalities have faced increasing demands and expectation to establish and organise their administration in a manner that would enable the municipality to be responsive to the needs of the local communities; facilitate a culture of public service and accountability of staff; publish service standards for existing and new services; and be performance orientated. A specification of the overall mandate of municipalities appears in the Municipal Systems Act (Act 32 of 2000). Moreover, citizens are demanding quality in products, services and in life. Citizens have become increasingly discerning and have started looking for options more in tune with their basic needs, requirements and self-esteem. (Anantharaman, Rajendran & Sureshchandar 2001:343).

As a need to deliver quality to public service increased, municipalities had to look for a quality management and customer sensitive approach to service delivery. Quality is an effective strategic weapon for improving productivity or service in the organisations. Service quality can improve the competitiveness of an organisation, and the organisation can gain a competitive advantage and differentiate itself from others by improving service quality (Hasan & Kerr 2003:286). One of the approaches that seem to provide the solution to the aforesaid challenges could be a management philosophy of TQM. Organisations increasingly view the application of TQM approaches as a way that can promote and sustain organisation renewal and performance. This greater emphasis on quality management makes performance a powerful tool for organisational change and quality improvement (Haines 111, Marcoux & St-Onge 2004:146).

Performance measurement is critical to the success of organisational change programmes in general and TQM in particular (Chang 2006:1094). As TQM changed the way that many organisations operated, many managers began to recognize that all fundamental business activities such as role of leadership, decision-making, strategic plans and so on needed to be aligned with quality and be continuously improved as organisation conditions and direction change. The notion of quality has evolved into the concept of performance excellence that aligns all organisations activities, and contributes to overall effectiveness and organisational sustainability (Evans & Lindsay 2008:11). Therefore, this study will describe the relevancy of TQM with special reference to Maluti-A-Phofung (MAP) Municipality by investigating a link between performance and TQM.

The rationale for choosing MAP Local Municipality as the site for this study is the following: First, it is an amalgamation of four municipal councils, namely Qwa-Qwa rural council, Phuthaditjhaba transitional council, Kestell transitional council and Harrismith transitional council. Therefore, the municipality had a peculiar challenge to undergo some administrative changes in order to address the question of variations in capacities of amalgamating large and small towns on the one hand and rural on the other. This provides an ideal environment to study how this municipality has transformed its management approaches on quality, customer service, and employee satisfaction in order to deliver a decent quality of life to different communities in a holistic way.

Second, MAP Municipality is a local government institution, thus making it ideal to determine how the application of TQM can improve organisational performance in the public sector. Thus, it is an ideal site for the study to serve as a microcosm of other municipalities.

Third, it has an extremely poor natural resource environment; a large population of over 425 000 people with 80% of this figure rural; a relatively good record in the provision of basic infrastructure; a poor tax base leading to an overdependence on external sources of finance; housing the headquarters of the district municipality and advantages thereof; and, persistent service delivery backlogs. These often contradictory elements of its current profile provide a management and administrative profile suitable for investigating whether the application of TQM can improve organisational performance in MAP Municipality.

## 1.3 CHOICE OF SUBJECT MATTER

The author realised the potential academic value of TQM implementation as a tool to enhance organisational performance while working in MAP Municipality. The following observations and events were identified:

- Apartheid has fundamentally damaged the social and economic environment in which people live, work, raise their families, and seek to fulfil their aspirations. MAP has a critical role to

play in rebuilding local communities as the basis for a creation of democratic, integrated and prosperous society.

- MAP had to undergone administrative changes in terms of Municipal Systems Act (Act 32 of 2000). It had to transform structures for efficiency, focusing on the needs of the community. This called for radical change and redesign of management systems and organisational approaches.
- Apartheid policies have bequeathed a legacy of massive poverty, gross inequalities in municipal services. MAP is obliged to ensure sustainable, effective and efficient services, and promote social and economic development in which all people can lead dignified lives.
- MAP has been involved in a protracted, difficult and challenging transition process in order to provide core approaches, mechanisms and techniques that are necessary to enable it to move towards the social and economic uplifting of the community.
- Owing to the amalgamation of municipalities, there are major variations in the capacities of large and small towns on the one hand and rural villages on the other. As a result, MAP is faced with the challenge of uneven development. Small towns and rural villages had limited potential to provide adequate services due to limited potential to generate tax base and service charge revenue.
- The change mandate of local government requires municipalities to come up with new approaches, capacities and attitudes toward service delivery. MAP is facing pressure in the form of service delivery protests to improve the quality of its services. This was demonstrated by a community service delivery protest mass action in Harrismith in 2007 whereby the N3 free way next to Harrismith was barricaded. The protest spread to Kestel and a municipal office was burned down.
- In order to establish an enabling framework for the process of planning, performance management, resource mobilisation and organisational change which underpin the notion of developmental local government, MAP needs TQM as a technique to improve performance.
- TQM is an integrated management technique that has to take place in a coordinated manner in order to ensure that the institution satisfies both the needs and expectations of customers (Djerdjour & Patel 2000:26). TQM involves all divisions, departments and levels in an institution. Top management initiates and manages the general strategy and all activities focussed on the needs of the customer, while at the same time developing a culture of high

employee participation. TQM focuses on the systematic management of data in all processes and work procedures in order to prevent corruption and to maximise continuous improvement (Oschman 2004: 13).

- Top management must guide the institution strategically and be committed to the vision of the municipality and be able to empower employees to achieve customer satisfaction. A successful implementation of TQM would in all probabilities ensure continuous improvement in the provision of quality services to the people, thus leading to community satisfaction and zero service protest match. In this study this theory is tested at MAP Municipality in the Free State Province.

## 1.4 PROBLEM STATEMENT

Although TQM initiatives initially focused on reducing defects and errors in products and services through the use of measurement, statistics, and other problem solving tools, organisations began to recognise that lasting improvement could not be accomplished without significant attention to the quality of management practices used on a daily basis. Managers began to realise that the approaches they use to deliver services as leaders are the true enablers of quality, customer satisfaction, and business results (Evans & Lindsay 2008:10). In order words, they recognise that quality management is as important as management of quality.

However, the experience of public and private sector institutions that have implemented TQM has not always been positive (Boyne, Goud-Williams, Law & Walker 2002:10). Failure is frequently identified as an implementation issue, rather than a failure of the concept and theory of TQM (Elshennawy & McCarthy 1992:37). Empirical studies of TQM reflect these concerns by exploring the extent of and success of implementation, rather than its consequences.

Locally, at least in South Africa to date, little empirical work appears in the relevant literature that assesses the relationship between TQM and organisational performance in a local government environment. Thus, firms and governments have been implementing quality models without clear evidence on their effectiveness. Therefore, the main question which this study will address is:

"How can the application of TQM improve organisational performance in the Maluti-A-Phofung Municipality?"

## 1.5 OBJECTIVES OF THE STUDY

Flowing from the problem statement, the aim of this dissertation follows, namely to determine how the application of TQM can improve organisational performance in the Maluti-a-Phofung Municipality. In order to achieve the aim of the study, the objectives of the study may be structured as follows:

- To provide a historic evolution of TQM and experts' contribution to the management theory of TQM.
- To provide a conceptual analysis of TQM within the context of organisational theory and to identify TQM dimensions that can be applied to improve organisational performance.
- To describe a TQM implementation model and evaluation methodology that can be used by MAP Municipality to improve performance.
- To provide a conceptual analysis of organisational performance within the context of performance management theory
- To determine empirically the extent of awareness and current application of TQM principles in MAP Municipality.
- To determine empirically the attitude of personnel at MAP municipality regarding theoretical findings towards TQM improving performance.
- To identify key obstacles to the application of TQM in the MAP Municipality.

A hypothesis usually follows the formulation of the objectives. The hypothesis formulated for this study will now be described in detail.

## 1.6 HYPOTHESIS

Research hypothesis is a statement that is formulated as a possible solution or response to the problem question, without knowing whether there is any empirical evidence to accept it as true.

Mouton (1996:121) defines hypothesis as "a statement that makes a provisional or conjectural knowledge claim about the world". Therefore, the aim of a research study is to test, with a view to verify or falsify the hypothesis within the theoretical framework of the research project (Bak 2004:22). Established theory or previous research suggest that the greater the degree to which comprehensive dimensions of TQM practices are adopted by an institution, the greater the advantages achieved, and the higher the institution's performance (Coff 1999:119). Therefore, the following hypothesis has been formulated for this study:

*Application of TQM dimensions in Maluti-A-Phofung Municipality can contribute to the improvement in organisational performance.*

This hypothesis postulates that a certain kind of relationship exists between TQM and organisational performance. Therefore the aim of this research is to specifically prove the stated hypothesis as being correct or incorrect at MAP Municipality. Should the result of this research be consistent with available facts or theory, it would be possible to deduce that if TQM principles are applied, organisational performance will improve. However, should the results be negative, explanation will have to be provided delinking application of TQM to organisational performance. The purpose of the study is therefore to make available the empirical data showing the relationship between TQM and organisational performance.

The formulation of the hypothesis is followed by the research assumptions. The research assumptions of the study will now be stated in detail.

## 1.7 RESEARCH ASSUMPTIONS

The following assumptions have been identified in the research process:

- To establish the impact of TQM practices on organisational performance, a conceptualisation on TQM approach to management is required.

- TQM dimensions applied as functional strategy would assist MAP to integrate leadership

role, planning, employee empowerment, customer focus, quality assurance of processes, information and analysis. These activities when linked together would lead to improved organisation performance.

- That TQM introduces systems and processes designed to ensure that services are delivered with greater efficiency and effectiveness.
- That MAP Municipality is more likely to achieve better performance with the application of TQM than without TQM.

## 1.8 DEMARCATION OF THE STUDY

MAP Municipality was established on the 5th of December 2000 in terms of the Municipal Structures Act. It is an amalgamation of Harrismith Transitional Local Council, Kestel Transitional Local Council, Phuthaditjhaba Transitional Local Council and Qwa-Qwa Rural Council. It falls under Thabo Mofutsanyana District municipality located in the North-Eastern part of the Free State. It covers a land area of 4,421 square kilometres and has an estimated population, as of end of 2008 of 425 000 people. Its administration head office is Phuthaditjhaba. The municipality has nine departments with each headed by a director who reports to the municipal manager. All the departments are housed at head office in Phuthaditjhaba.

Therefore all nine departments are used for the purpose of this study, namely Department of Municipal Manager, Department of Land and housing, Department of Finance, Department of Corporate Services, Department of Infrastructure, Department of Community Services, Department of Local Economic Development, Department of Sports and Recreation and Department of Safety and Transport. Owing to the fact that the researcher is a former director of the Department of Development Planning and Housing of this municipality, information sources are readily available for the research project.

TQM as an encompassing management philosophy falls under the sub-discipline of Organisational Science of the subject Public Administration. The analysis of the areas in which TQM dimensions could be applied at MAP Municipality and its linkage to organisational

performance occurs against this background. After a comprehensive review of TQM literature from the quality experts, the quality awards models and other existing TQM literature, the following nine dimensions were considered to be the most important TQM dimensions in public service. The dimensions are leadership and top management, strategic planning, human resource management, process management, organisational culture, management information systems, communication, continuous improvement and customer satisfaction. The evaluation is done mainly on the basis of behavioural science aspects and therefore the result is basically a reflection of perceptions.

## 1.9 RESEARCH METHODOLOGY

A development of research methodology follows logically from the research problem (Mouton 2001:107). Against the background of the problem set out in the preceding paragraphs, the research is conducted in two phases. Phase one is a literature study followed by phase two which is a questionnaire. As the study is limited to MAP municipality, the resulting data and findings are only applicable to MAP municipality.

### 1.9.1 Literature study

According to Allan (1998:2) "research in TQM is not located in any one paradigm, rather it can be eclectic, drawing on both positivism and interpretive approaches and utilising quantitative and qualitative methods where each is deemed to be appropriate". The aim of literature study is to find out what has been done in a specific field of study. That is, to review the existing scholarship or available body of knowledge to see how other scholars have investigated the research problem that one is interested in (Mouton 2001:87). In this case, a thorough research on TQM is done in other to test the hypotheses that the application of TQM dimensions in MAP municipality can contribute to the improvement in organisational performance. The literature study endeavours to give credence to the hypotheses. This is corroborated by Bak's (2004:135) assertion that "the literature review on a discipline is a necessary source on which to draw information in order to help one to answer a research question".

Literature in respect of management is also scrutinised for the in-depth study of various management process models for TQM. The literature study is based on local and international literature on the subject, namely:

- Municipal publications and policy documents;
- Subject catalogues and scholarly books at various libraries;
- Research reports, case studies, historical diaries, policies, laws and curricular outlines;
- Literature articles in journals, academic books and websites that report on and discuss the ideas and findings of other authors; and
- Literature lists included in various publications obtained.

The mentioned sources are consulted in order to establish a theoretical framework for TQM. The official documents and files from the office of the municipal manager of MAP are also consulted. The literature study provides a basic insight to the research already conducted within the field of study. Over and above these, it gives a perspective on the most current research results and findings applicable to TQM in the public and private sector.

Different ideas, views and perspectives held by various researchers and writers are compared and assessed. Other researchers will be able to use this dissertation to satisfy their curiosity and desire for better understanding. It will in a way form the basis for further empirical studies concerning TQM and organisational performance.

### 1.9.2 Questionnaire survey

The focus of this study is on the activities of eight departments of MAP Local Municipality in the Free State Province and information obtained from people working in the various departments. The total number of MAP employees is 1076. The total target population for the questionnaire in the six departments is 162 (15% questionnaires to the total workforce in the departments).

A questionnaire is an instrument designed for a specific purpose, containing questions to determine a link, cause or result between various variables in order to determine the current position of matters in respect of the uniqueness of the subject that is examined (Claver, Tari & Molina 2003:95). In order to collect data, a structured questionnaire survey is employed. According to Zhang (2000:132) a structured questionnaire is an effective and efficient way for obtaining information within a short time period. This is collaborated by Van Der Westhuizen (1993:8) who table the following advantages of a structured questionnaire:

- It is an inexpensive way of collecting data and is not time consuming;
- Information can be obtained from a large target group; and
- It provides a high degree of anonymity.

The purpose of the questionnaire is to determine whether there is a direct relationship between the application of TQM and organisational performance. The questionnaire is directed at personnel at all levels of MAP Local Municipality including management and councillors. It is designed to measure the perception of councillors, management and employees, with respect to several dimensions of TQM, which are critical to improve organisational performance. The questionnaire will also measure the extent to which certain management practices are TQM orientated. However, respondents will be given an option to indicate if the dimension is not desirable in the municipality.

All questionnaires are checked for completeness prior to them being made available for computer processing (including statistical processing). The questionnaires that are returned are used once the completeness thereof is checked. Permission for the study and approval to access the relevant official documents is granted by the ordinary Mayoral Committee on its meeting held on the 21/04/2010. The research contained in this dissertation is therefore original.

#### 1.9.2.1 Reliability and validity of questionnaires

When social researches construct and evaluate measurements, they must pay special attention to two technical considerations, namely: reliability and validity. Reliability is a matter of whether a

particular technique if applied repeatedly to the same object; yield the same results each time (Babbie 2005:145). It therefore, implies that if the same matter is researched again by the same or different persons it must render the same findings. The questionnaire method complies with this characterisation to a satisfactory degree, but is not infallible as it is impossible to control the environment in which the questionnaire is answered. That is to say, the mood of the respondent may for example influence his/her responses. Such environment factors have an influence on the research methods (Oschman 2004:20). All social researches want their measures to be reliable and valid.

Validity implies truthfulness. It refers to how well an idea fits with actual reality (Neuman 2006:188). In other words, how well the social reality being measured through research matches with the constructs researches use to understand it. All reasonable steps are taken to ensure the internal validity of the research. The questionnaire is also designed in such a way that it can be completed simply and accurately. Control questions are also added to in order to determine whether respondents are contradicting themselves.

## 1.10 REFERENCE TECHNIQUE

Acknowledging sources of information is very important in academic writing. This is a matter of honesty, and it shows that one has an idea of how ideas develop and are related (Bak 2004:89). In this dissertation reference is done according to the Harvard method. The format is, (author's surname, followed by the year in which the source was published and the applicable page number).

Where various quotations from the same source are used, one after the other in the same paragraph a full stop appears at the end of the sentence and after the page number inside the bracket. Where only one quotation is from a source a full stop appears after the bracket. Sources of reference within the text where the author's name forms part of the sentence, the publication date of the source and the appropriate page number appear between the brackets. In case where the author's name does not form part of the sentence, the author's name, the publication date and the appropriate page number appear between brackets. A full list of references, listed

alphabetically according to the surname of the author, is used. The abbreviations and terms used in this dissertation will be discussed briefly in the following paragraphs.

## 1.11 TERMINOLOGY

In view of the fact that diverse meanings are sometimes attributed to specific terms, it is of critical importance to define terms peculiar to the public sector environment that are used continuously in this dissertation. The user already knows these terms and abbreviations, however, the purpose of this section on terminology is to briefly familiarise the reader, who is not necessarily a user, with such terms and abbreviations. In this way it can be ensured that points of view and arguments are meaningful. Detailed explanations, where applicable, will be rendered in the chapters under which they fall. Other terms will be defined in the body of research where they are used for the first time in this dissertation.

### 1.11.1 Abbreviations

| | | |
|---|---|---|
| MAP | - | Maluti-A-Phofung |
| TQM | - | Total Quality Management |
| IDP | - | Integrated Development Plan |
| PMS | - | Performance Management System |
| FSGDS | - | Free State Growth and Development Strategy |

### 1.11.2 List of terms

The following terms are utilised throughout the dissertation and are peculiar to municipalities in South Africa.

#### 1.11.2.1 Municipality

The local sphere of government consists of municipalities, which must be established for the whole territory of the Republic of South Africa. A municipality comprises of local community management and administration. It encompasses the political and bureaucratic structures and processes that regulate and promote community services (Cloete 1995:1).

#### 1.11.2.2 Department

A department is an organisational unit entrusted with a specific function or a number of related functions, for example a department of community services. The characteristics of a municipal department are that (a) it is entrusted to a specific political office bearer; and (b) a director who is appointed member of the public administration services and who serves as the head of the department under the continuous control of the executive political office bearer (Cloete 1988:123).

#### 1.11.2.3 Management

Management enjoins managers to evolve external, open-system focus, continually striving to adapt the organisation to perceived threats, opportunities and stimuli that could affect survival. This entails formulating visions and missions and transforming them into operational policy (Bouckaert & Halachmi 1995:51.)

#### 1.11.2.4 Organisational performance and performance management

Organisational performance denotes a progress towards goal achievement, and performance management is intended to build on municipalities` capabilities to be responsive, effective and sensitive to the demands of their constituents, also being efficient in utilising available resources to address those demands (Putman 1993:3).

#### 1.11.2.5 Improve

For purposes of this study, improve means a positive and progressive change that increases the efficiency of an action; task or assignment and; ultimately contributes materially to achieving a higher level of performance without necessarily increasing operational costs. This amounts to increasing the efficiency of production at the level of every individual unit in the organisation - be it physical processes or personnel (Hutchins 1992:5).

#### 1.11.2.6 Quality

Quality is the degree to added value to products and/or service delivery as perceived by all stakeholders through conformance to specification and the degree to added excellence to product and/or service delivery through a motivated workforce, to meeting customer satisfaction (Oschman 2004:38).

#### 1.11.2.7 Total Quality Management

TQM is a system of behaviour which embraces everyone within an organisation and which determines their relationships with the customers, suppliers, competitors, society and the environment. Its driving principle is continuous improvement (Deven & Hand 1993:3). Anantharaman et al. (2001:344) defines TQM as "an approach for continuously improving the quality of every aspect of business life and, it is never ending process of improvement of individuals, groups of people, and the whole organisation".

## 1.12 EXPOSITION OF CHAPTERS

On completion of the research and after collecting the necessary data, the material collected are integrated and coordinated so that the facts and observations can speak for themselves. A thematic approach is followed throughout and results are divided into the following chapters (see figure 1.2 on the structure of the study) namely:

- **Chapter 1** outlines the general orientation and background study to the dissertation. The reason for the study, problem statement and objectives of the study, hypotheses, research assumptions and the demarcation of the study are discussed in this chapter. Finally, the research methodology, reference technique, abbreviations, terminology, exposition of chapters and a summary is laid out.

- **Chapter 2** provides an analysis of the way in which the concept of Total Quality Management evolved in the public sector and the contribution of experts in this regard. It will be shown that quality is not a new concept for public administration but the current notion of quality public service stems from the business concept of Total Quality Management.

- **Chapter 3** provides a conceptual analysis of TQM, identifies nine TQM dimensions. The aim of this chapter is to provide a working definition of TQM and describe a TQM implementation model to improve organisational performance.

- **Chapter 4** provides a conceptual analysis of organisational performance in the context of management theory and discusses various international self-assessment models on improvement of organisational performance.

- **Chapter 5** deals with data collecting methodology on TQM at MAP municipality as well as with data analysis of the data collected. The aim of this chapter is to determine empirically the views of personnel at MAP municipality regarding theoretical findings towards TQM dimensions improving performance.

- **Chapter 6** presents analysis and interpretation of results.

- **Chapter 7** presents the summary, conclusion and recommendations.

Figure 1.1: A model to implement TQM

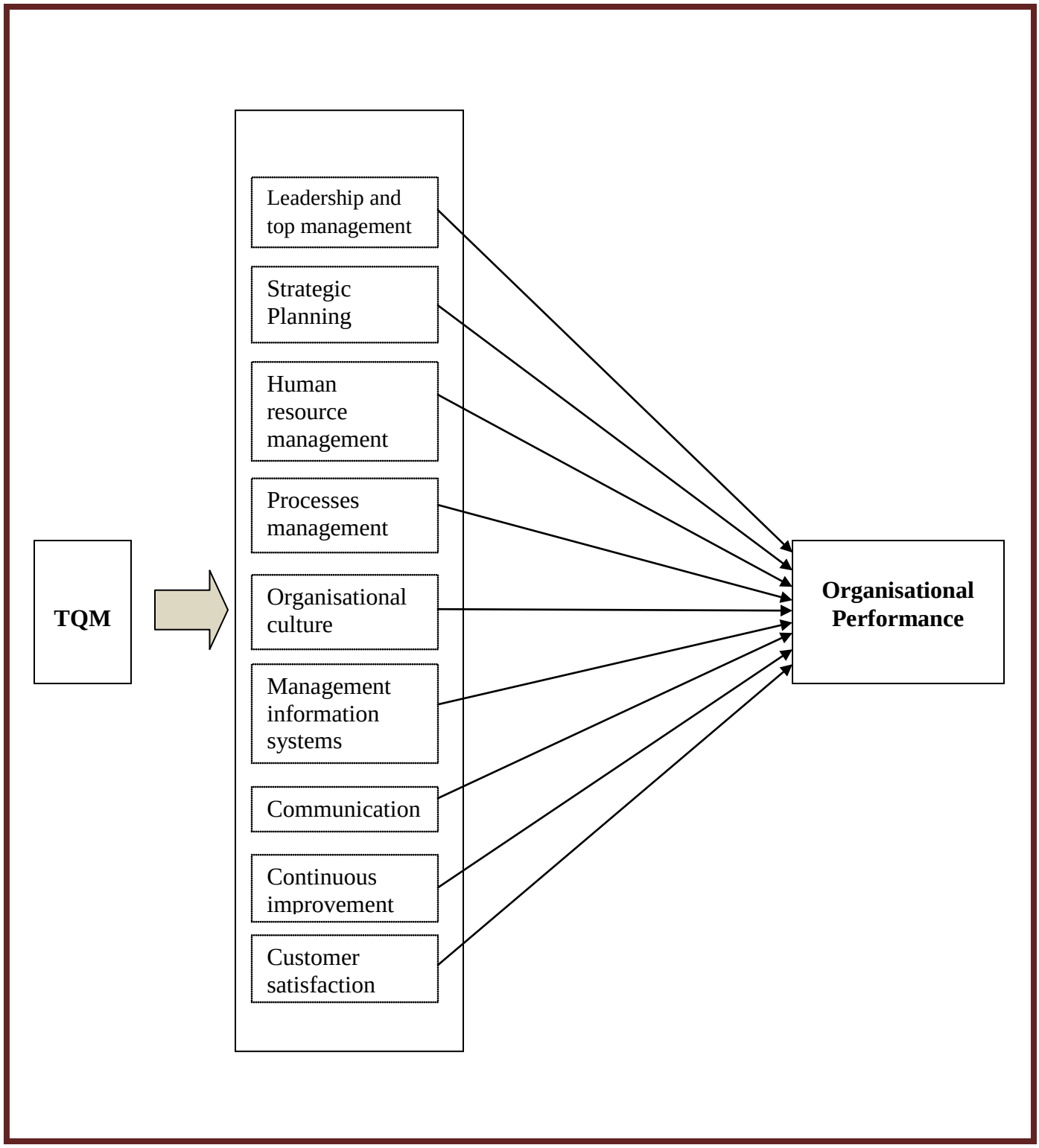
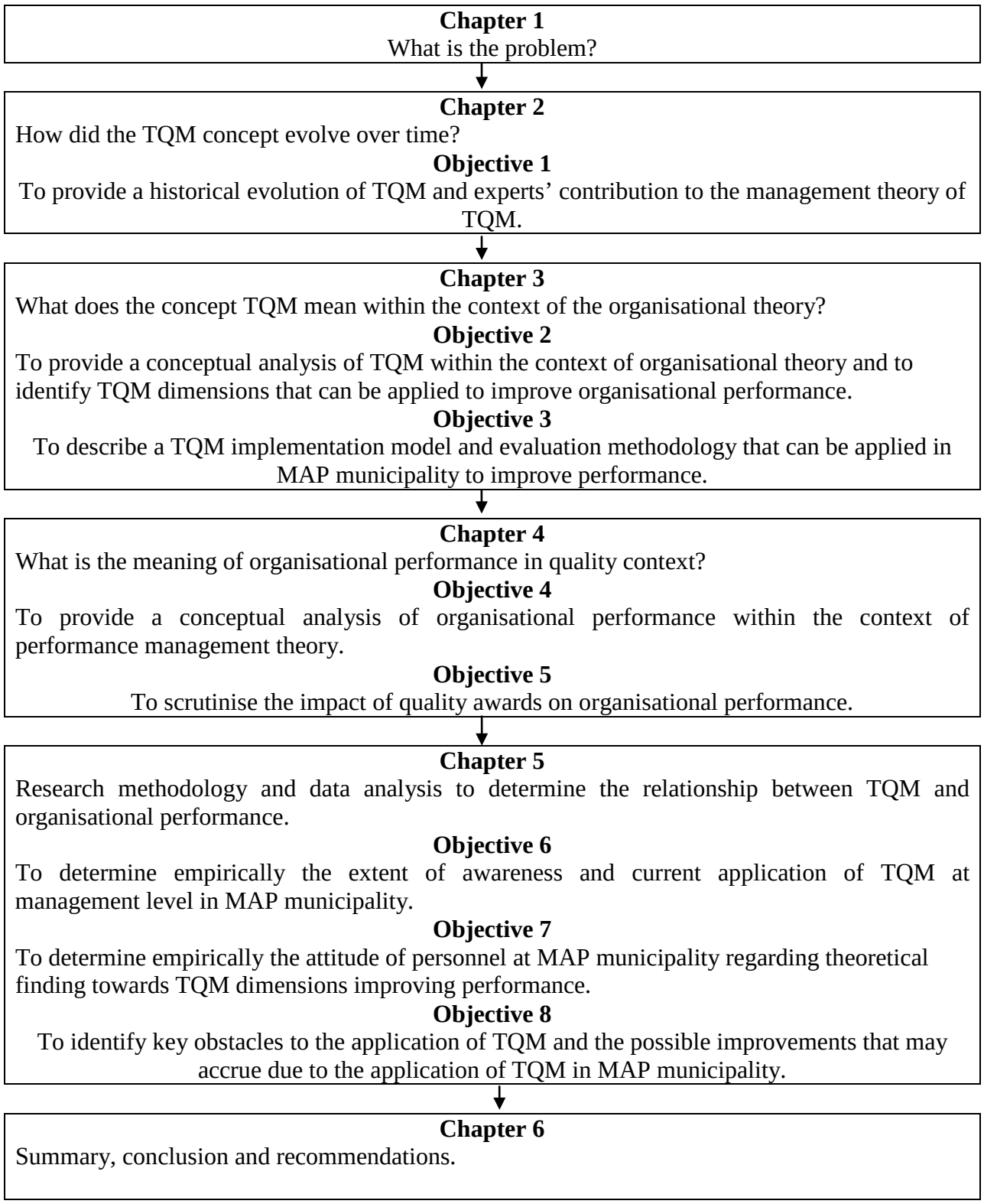


**Figure 1.2: Structure of the study**



## 1.13 SUMMARY

This chapter provides the background against which the research reported in this dissertation was conducted. It presented reasons for undertaking the research in the form of the problem statement, study objectives, hypothesis, research assumptions and a demarcation of the extent of the study. It further outlined details of the preferred research methodology, the reference technique, an explanation of the terms used throughout the dissertation, as well as an exposition of the further chapters that make up this study. An attempt was also made to identify the contribution this study could make to the existing knowledge about the subject of Total Quality Management.

There is a reason to believe that Total Quality Management can be and is a viable approach for improving productivity and performance in the public sector. Total Quality Management dimensions centred on committed top management leadership, process management, employee empowerment and customer satisfaction are very compatible with preferred public sector management styles. As for productivity, the dichotomy that exists between quality and productivity should lessen as Total Quality Management adapts to the public sector and its service side, while the public sector becomes more familiar with quality management dimensions, precepts and strategies. However, to achieve this analysis, it is necessary to consider the concept of Total Quality Management by examining the available literature dealing with the concept and its international application, as will be done in the following chapters.

# CHAPTER 2

# HISTORICAL EVOLUTION OF TOTAL QUALITY MANAGEMENT

## 2.1 INTRODUCTION

The strife for quality improvement is best viewed as a natural historic evolution of effective and transformational organisation of management theory and practice. However, quality can be both a problem and an opportunity for organisations. Therefore, it is critical to look at historic events and contemporary forces that set the stage for quality thrusts.

This chapter examines quality in terms of how it evolved during the age of craftsmanship, viz: the early twentieth century and post World War II period. It discusses the historic development of quality improvement and overview the essential concepts that contributed to modern professional practice of the concept of product quality and Total Quality Management (TQM). It further profiles the background, management theories, and the role and importance of contributions of acclaimed quality management experts, such as Deming, Juran, Crosby, Feigenbaum, Ishikawa, Tagushi and Shingo in developing the Total Quality Management theory.

## 2.2 EVOLUTION OF THE QUALITY CONCEPT

### 2.2.1 Age of craftsmanship

The quality of goods and services produced has always been monitored, either directly or indirectly. However, the use of a qualitative base involving statistical principles to control quality is a modern concept (Mitra 1998:2). For example, the ancient Egyptians demonstrated a commitment to quality in the construction of their pyramids. This indicates that quality assurance has been an important aspect of production operations throughout history. The quality of Greek architecture of the fifth century B.C. is a testimony to this (Evans & Lindsay 2008:5). It was so envied that it had a profound effect on the subsequent architectural construction of Rome.

In the middle of the eighteen century, a French gunsmith, Honoré Le Blanc, developed a system for manufacturing muskets to a standard pattern using interchangeable parts. The use of

interchangeable parts necessitated careful control of quality. The parts were produced according to a carefully designed standard. Special machine tools were designed and unskilled workers were trained in order to make appropriate parts following a fixed design, which were then measured and compared to a model. During this period the effect of variation were underestimated in product processes. Owing to resultant problems of variation that continue to plague the company it took much longer time to complete a project. Nonetheless, the value of the concept of interchangeable parts is recognised, making quality assurance a critical component of the production process during the Industrial Revolution (Evans & Lindsay 2008:5).

### 2.2.2 Early twentieth century

During the early 1900s, jobs were segmented into specific work tasks and focusing on increasing efficiency and quality assurance (Montgomery 2005:8). In 1924, Walter A. Shewhart of the Bell Telephone Laboratories developed the statistical control chart concept, which is often considered to be the formal beginning of statistical quality control. By the 1930s, statistical quality control methods were in widespread use at Western Electric, the manufacturing arm of Bell system. However, the value of statistical quality control was not widely recognised by the industry until later (Montgomery 2005:8).

World War II saw a greatly expanded use of and acceptance of statistical concepts in manufacturing industry. Wartime experience made it apparent that statistical techniques were necessary to control and improve product quality. The United States (US) military began using statistical sampling and imposing stringent standards on suppliers. The War Production Board offered free training courses in the statistical quality control methods. Topics such as control charts and acceptance sampling plans were taught (Godfrey, Stephens & Wadsworth 2002:7). This effort developed quality specialists, who began to use and extent these tools within their own organisations. Thus, statistical quality control became widely known and gradually adopted throughout manufacturing industries (Evans & Lindsay 2008:7).

### 2.2.3 Post-World War II

After the war, during the late 1940s and early 1950s, the shortage of civilian goods made quality production a top priority. A look at Japan's post-war economic success in the framework of quality development sets the stage for understanding the specifics as well as the attendant generalisation of TQM and its historic contexts.

#### 2.2.3.1 Developments in Japan

Perhaps the best-known quality control success stories came from Japan. Even before World War II, there were quality control pioneers in leading Japanese companies such as Toshiba. However, there was no organisation to promote quality control and few incentives to encourage its use (Godfrey et al. 2002:9). At that time, Japan had a reputation of poor quality and their domestic economy was in shambles. The Union of Japanese Scientists and Engineers (JUSE) was looking at ways to jump start the Japanese economy. After the war, 1950, JUSE invited Dr. W. Edwards Deming to address their leading industrialists (Mitra 1998:43).

Shortly after the War, Deming introduced statistical quality control techniques to the Japanese to aid them in their rebuilding efforts. In order to reverse the attitude of top Japanese managers delegating the responsibility of quality control to a quality specialist, a significant part of his education was focussed on top management, rather than quality specialists alone. Then, with the support of top managers, Japanese businesses integrated quality throughout their organisations and developed a culture of continuous improvement (Evans & Lindsay 2008:8). By the 1970s, primarily as a result of the higher quality levels of their products, their company's penetration into Western markets had became significant. In a few years, the Japanese business made major inroads into a market previously dominated by American companies.

#### 2.2.3.2 Developments in United States

American consumers began to notice the difference between Japanese and US made products in the 1970s and consequently began to demand high quality and reliability in goods and services at a fair price. Business now saw increased attentiveness to quality as vital to their survival. Xerox, for instance, discovered that its Japanese competitors were selling smaller and better

copiers for what it cost Xerox to make them at the time, and as a consequence, the company initiated the quality improvements focus to meet the challenge (Evans & Lindsay 2008:9).

By using TQM (known as Leadership through Quality) approach, Xerox gained market share in all key markets worldwide by building five of the six highest quality copiers in the world (Omachonu, Ross & Swift 1998:3). Xerox has since learned to apply quality beyond the manufacturing processes into all functions of the organisation. Quality excellence became recognised as a key to worldwide competitiveness and was highly promoted throughout industry. Most major American companies instituted extensive quality improvement campaigns, not only directed at improving internal operations but also towards satisfying external customers. Quality has since become an integral part of virtually all products and services. However, awareness of its importance and introduction of formal methods for quality control and improvement has been an evolutionary development (Omachonu et al. 1998:3).

#### 2.2.3.3 Total Quality Management

Quality initiatives focused initially on reducing defects and errors in products and services through the use of measurements, statistics, and other problem-solving tools. As time goes by organisations began to realise that lasting improvements could not be accomplished without significant attention to the quality of the management practices used on a daily basis. Managers began to realise that the approaches they use in listening to customers and develop long-term relationships; develop strategy; measure performance and analyse data; reward and train employees; design and deliver products and services; and act as leaders in their organisations are the true enablers of quality (Evans & Lindsay 2008:10).

In other words, managers began to recognise that the quality of management is as important as management of quality. From this logic, quality assurance gave way to quality management. Rather than a narrow engineering or product based technical discipline, TQM took on a new role that permeated every aspect of running an organisation. It demands thinking about quality in terms of all functions of the organisation at all levels. It is a systems approach that considers every interaction between the various organs of the organisation (Omachonu et al. 1998:5). For

quality to develop to this extent there are distinguished experts, such as Deming and Juran who have made tremendous contributions to this management philosophy.

## 2.3 CONTRIBUTION OF QUALITY MANAGEMENT EXPERTS TO THE DEVELOPMENT OF TOTAL QUALITY THEORY

The initial success of quality movement in Japan has been attributed to two quality gurus namely: William E. Deming and Joseph Juran. Later on, other leading thinkers in Japan such as Ishikawa and Tugushi among others, helped to make the concept of quality what is it today. In America, Crosby and Feigenbaum were closely involved in the early years of initiating TQM (Godfrey et al. 2000:37).

### 2.3.1 William Edwards Deming

#### 2.3.1.1 Background

Dr. W. E. Deming was born in 1900, and earned a Ph.D. in mathematics and physics from Yale university in 1928 (Koehler & Pankowski 1996:16). He was first introduced to the basics tenants of traditional management principles in the late 1920s, as a summer employee at Western electric Hawthorne plant in Chicago (Hunt 1993:62).

While working at the United States (US) Department of Agriculture in the 1930s, Deming met Walter A. Shewhart, a statistician working at Bell Laboratories. It was from him that Deming learned statistical quality control and realised the importance of viewing management processes statistically (Carr, Dambolena, Kopp, Martin, Schlesinger, Rafii & Rao 1996:37.)

#### 2.3.1.2 Management theory

According to Evans and Lindsay (2008:94) Deming argued that “a product or service possesses quality if it helps somebody and enjoys a good and sustainable market”. Deming’s philosophy emphasised the role of management in that, most of the opportunities for quality improvement require management action, and very few opportunities lie at the operator level (Montgomery 2005:16). This view led to his often quoted dictum that: “Over 85% of quality problems can be solved only by management” (Farnum 1994:32).

Deming firmly believed in the systematic nature of institutions, and a need to reduce variations in institutional processes. In his view, variation is a chief culprit of poor quality. To accomplish reduction in variations, he advocated a never ending circle of product/service design, manufacture/service delivery, tests, sales, followed by market survey and then redesign and improvement. Such a meticulous programme achieves the desired goals of improved quality, customer satisfaction, higher productivity, and lower total cost in the run (Mitra 1998:44.)

Deming's theory is that quality improves productivity and competitive position. He defines quality in terms of design, quality of conformance. He advocates measurement of quality by direct statistical measures of performance against specification (Dale & Plunkett 1990:8-9). His application of statistical control techniques at the American National Bureau of the Census led to a six-fold productivity improvement in some processes and his approaches were hailed by engineers after they were published in 1943 (Morgan & Murgatroyd 1994:37). This is a clear indication that improvements in quality lead to lower costs because they result in less rework, fewer mistakes, fewer delays and snags, and better use of time and materials. Lower cost in turn leads to productivity improvements.

Over the years Deming condensed his philosophy into 14 points which became action items for top management to adopt. According to Dale (2003:53), Deming maintained that his 14 points can be applied anywhere, to small institutions as well as large ones, to service industry as well as to manufacturing. He also stressed that it is a system of work that determines how work is performed and it is only managers that can create the system. The Deming 14 points (Carr et al. 1996:38; Evans & Lindsay 2008:95; Oschman 2004:51-52) which institutions should follow is summarised below:

- Create a constancy of purpose toward improvement of product and service with the aim to become competitive and to stay in business, and to provide jobs.
- Adopt the new philosophy of quality and do not tolerate commonly accepted levels of errors and defects.
- Cease dependence on inspection of the product to achieve quality. Eliminate the need for inspection on a mass basis by building quality into a product in the first place.

- Buy materials only if the supplier has a quality process. End the practice of awarding business on the basis of the price tag alone.
- Use statistical methods to find trouble spots and constantly improve the system of production and service.
- Institute modern aids to train on the job by teaching employees the best methods of achieving quality in their jobs and the use of tools such as statistical quality control.
- Adopt and institute modern methods of supervision. The aim of supervision should be to help people and machines to do a better job.
- Drive out fear and create trust. Create a climate for innovation so that everyone may work effectively for the institution.
- Break down barriers that rob people of pride of workmanship between departments. Create teams of members coming from all areas and sectors of the institution to prevent and solve problems.
- Eliminates slogans and exhortations for the workforce asking zero defects and new levels of productivity.
- Eliminates work standards (quotas) for the workforce and substitute it with leadership. Eliminate management by objectives; eliminate management by numbers, numerical goals. Substitute leadership.
- Eliminates the annual rating or merit system.
- Institute a vigorous programme of education and self-improvement for everyone.
- Create a structure in top management that will push the above 13 points every day to accomplish transformation.

According to Anderson, Rungtusanatham and Schroeder (1994:473) the theoretical essence of the Deming management method is about the "creation of an organisational system that fosters cooperation and learning for facilitating the implementation of process management practices, which, in turn, leads to continuous improvement of processes, products, services and to employee fulfilment, both of which are critical to customer satisfaction, and ultimately, to the firm's survival".

### 2.3.2 Joseph M. Juran

#### 2.3.2.1 Background

J. Juran studied Electric Engineering and Law before he went to work at the Hawthorne plant of Western Electric Company in Chigago as Chief Inspector of the control division. In 1951 he published the Quality Control handbook and later many more books on the subjects of quality planning, control, management, and improvement (Mitra 1998:68). In 1979 he founded the Juran Institute, which offers consulting and management training in quality.

Juran has also worked as a labour arbitrator, corporate director in the private sector, government administrator and as a university professor. In 1954, Juran went to Japan, four years after Deming, to lecture on quality management. He was the first management expert to deal broadly with quality management, organisational communication and coordination of functions (Koehler & Pankowski 1996:16).

#### 2.3.2.2 Management theory

Juran believed that top management must take responsibility for quality audits. In other words, he asked top management to think strategically and to take actions systematically when they tackle quality problems (Kuei & Madu 1995:133). Juran's theory of quality management can be classified, from systematic and strategic perspective, into what he calls the "quality trilogy" that is, quality planning; quality control and quality improvement (Kolarik 1995:27).

The quality trilogy starts with planning at various levels of the organisation, each of which has a distinct goal. At the top management level, planning is termed strategic quality management (Mitra 1998:68). Quality planning begins with identifying customers, both external and internal, establishing their needs, translating customer needs into specifications, developing product or service features that respond to those needs. Thereafter, a structured approach capable of producing the product or delivering the service is selected in which management chooses a plan of action and allocates resources to achieve the goals. Strategic planning for quality determines short-term and long-term goals, sets priorities, compares results with previous plans, and meshes the plans with other organisational objectives (Evans & Lindsay 2008:108).

Planning at the middle management is termed operational management. Here, the departmental goals consistent with the strategic goals are established. At the workforce level, planning involves a clear assignment to each worker. Each worker is made aware of how his or her individual goal contributes to departmental goals (Mitra 1998:69). After the planning phase, quality control takes over. The goal here is to run the process effectively such that the plans are implemented. If there are deficiencies in the planning process, quality control should identify the cause behind this abnormal variation. Upon identifying the cause, remedial action will be taken to bring the process back to control (Mitra 1998:69).

The objectives of the control phase are to eliminate the causes of deficiencies and to bring the process output within the parameters of acceptable quality. In other words, quality control involves determining what to control; establishing units of measurement to evaluate data objectively; establishing standards of performance; measuring actual performance; interpreting the difference between actual performance and standard; and taking action on the difference (Evans & Lindsay 2008:108). The next phase of quality trilogy process is quality improvement.

Quality improvement deals with the continuous improvement of the product and the process. Such improvements usually require an action on the part of top and middle management. They deal with actions such as creating a new system, and changing methods and procedures of providing a product or service. Quality improvement will usually cause a reduction in the cost of poor quality and chronic waste will drop to lower levels (Mitra 1998:69).

### 2.3.3 Armand V. Fiegenbaum

#### 2.3.3.1 Background

Feigenbaum was a manager of worldwide manufacturing and quality control at General Electric (GE) in Schenectady, New York, in 1944 (Carr et al. 1996:45). While working there on jet engines he found that statistical techniques helped him improve performance, and as a result, GE put him in charge of its quality programs. In 1968 he founded General System Company of Pittsfield, Massachusetts, and served as its president. He was elected as the founding chairman of the International Academy for Quality, which has attracted active participation from the European Organisation for Quality Control and JUSE (Evans & Lindsay 2008:111).

#### 2.3.3.2 Management theory

According to Kolarik (1995:29) Feigenbaum's theory purports that "the goal of competitive industry is to provide a product and service into which quality is designed, build, marketed, maintained at the most economical costs which allow for full customer satisfaction". Feigenbaum is best known for coining the phrase total quality control, which he defines as an effective system for integrating the quality development, quality maintenance, and quality improvements efforts of the various groups in an organisation so as to enable production and service at the most economical levels which allow full customer service (Evans & Lindsay 2008:111).

Feigenbaum viewed quality as a strategic business tool that requires involvement from everyone in the organisation, and he promoted the use of quality costs as a measurement and evaluation tool. His theory can be summarised in three simple steps of quality (Evans & Lindsay 2008:111), namely:

- *Quality Leadership*: A continuous management emphasis is grounded on sound planning rather than reaction to failures. Management must maintain a constant focus and lead the quality effort.
- *Modern Quality Technology*: The traditional quality department cannot resolve 80 to 90% of quality problems. This task requires the integration of office staff as well as engineers and shop floor workers in the process who continually evaluate and implement new techniques to satisfy customers in the future.
- *Organisational Commitment*: Continuous training and motivation of the entire workforce as well as an integration of quality in business planning indicate the importance of quality and provide the means for including it in all aspects of the organisation's activities.

### 2.3.4 Philip B. Crosby

#### 2.3.4.1 Background

Crosby was a corporative vice president for quality at International Telephone and Telegraph (ITT) for 14 years, where he was responsible for worldwide quality operations, after working his

way up from line inspector. After leaving ITT, he established his own corporate consulting firm, Philip Crosby Associates in 1979 to develop and offer training programs (Mitra 1998:65).

As an integral part of his consulting service, he and his associates run a quality college in Winter Park, Florida, for seminars on various quality topics (Smith 1991:18). He has also authored several books (Crosby 1979, 1984, 1989) notably "Quality is free", which sold about 1 million copies and was largely responsible for bringing quality to the attention of top corporate managers in the USA (Evans & Lindsay 2008:109).

#### 2.3.4.2 Management theory

The Crosby management theory begins with an evaluation of the existing quality system. His quality management grid identifies and pinpoints operations that have potential to improvement. According to Smith (1991:29) the essence of Crosby's theory is embodied in what he calls the "absolutes of quality management and the basic elements of improvement". Crosby's absolutes of quality management (Evans & Lindsay 2008:109; Fox 1993:223; Kolarik 1995:29; Mitra 1998:67; Oschman 2004:55; Smith 1991:223) include the following:

- *Quality means conformance to requirements, not elegance*: Requirements must be clearly stated so that they cannot be misunderstood. Setting requirements is the responsibility of management. Once requirements are established, then one can take measurements to determine conformance to those requirements. The non-conformance detected is the absence of quality. Quality problems become non-conformance problems, that is, variation in output. Crosby maintains that once requirements are specified, quality is judged solely on whether they have been met.
- *The system for causing quality is prevention, not appraisal*: Problems must be identified by those individuals or departments that cause them. In other words, quality originates in functional departments, not in the quality departments, and therefore the burden of responsibility for such problems falls on these functional departments. The quality department should measure conformance, report results, and lead the drive to develop a prevention attitude toward quality improvement.

- *The performance standard must be zero defects*: The zero defects principle must be a performance standard. It is a standard that hold the craftsperson to do the right thing the first time. That means concentrating on preventing defects rather than just finding and fixing them.
- *The measurement is the price of non-conformance*: Crosby calls for measuring and publishing the cost of poor quality. Quality cost data are useful to call problems to management attention, to select opportunities for correction, and to track quality improvement over time. Such data provides visible proof of improvement and recognition of achievement.

### 2.3.5 Kaoru Ishikawa

#### 2.3.5.1 Background

Dr. Ishikawa is an early pioneer in the quality revolution in Japan. He graduated from the University of Tokyo in 1939 with a degree in Applied Chemistry and later became a professor of engineering at the same University for many years (Carr et al. 1996:48). Ishikawa was the foremost figure in Japanese quality until his death in 1989. He was a member of the editorial review board for the Japanese journal "Scientist Control for Foremen" founded in 1962, and later the chief executive director of Quality Circle at Union of JUSE.

Ishikawa influenced the development of a participative, bottom-up view of quality, which became the trademark of the Japanese approach to quality management. He was very instrumental in the development of the broad outlines of Japanese quality strategy, and without his leadership, the Japanese quality movement would not enjoy the worldwide acclaim and success that it has even today (Kolarik 1995: 31.)

#### 2.3.5.2 Management theory

Ishikawa built on Feigenbaum's concept of total quality control and promoted greater involvement of all employees, from the top management to front-line staff, by reducing reliance on quality professionals and quality departments (Evans & Lindsay 2008:112). He advocated collecting and analysing factual data using visual tools, statistical techniques, and teamwork as

the foundation for implementing total quality. Ishikawa believed that quality begins with the customer, in other words, the true quality characteristics are the customer's view of product or service performance, as expressed in customer's own words. Therefore, understanding the customer's needs is the basis for improvement (Kolarik 1995:31).

Some key elements of his management theory can be summarised (Kolarik 1995:31-32; Evans & Lindsay 2008: 112) as follows:

- Participation of all members of the organisation in quality control. Quality control is the responsibility of all workers and all divisions.
- Education and training in quality control.
- The first step in quality is to know the requirements of customers.
- The ideal state of quality control occurs when inspection is no longer necessary.
- Remove the root cause, not the symptoms of non-conformance.
- Do not confuse the means with the objectives.
- Put quality first and set your sights on long-term profits
- Marketing is the entrance and exit of quality.
- Top management must not show anger when facts are presented by subordinates.
- 95% percent of problems in an organisation can be solved using Cause-effect (Ishikawa) diagram, that is, stratification; Check sheet; Histogram; Scatter diagram; Pereto chart; and Graphs and statistical control charts as tools of analysis and problem solving.
- Data without dispersion information, that is, variables, are false data.

### 2.3.6 Genichi Tagushi

#### 2.3.6.1 Background

A Japanese engineer, Genichi Taguchi was an employee of Nippon Telephone and Telegraph. He is a statistician who was involved in rebuilding the Japanese telephone system. During his work he developed methods and an approach to quality which some observers believe may have the same level of impact on manufacturing as statistical process control (Dale & Plunkett 1990:10). His primary focus was in making statistics practical. For this endeavour he was

awarded the Deming Prize in 1960. His ideas are promoted in the US through the American Supplier Institute (Carr et al. 1996:49).

### 2.3.6.2 Management theory

Tagushi emphasised an engineering approach to quality. He placed stress on producing target goals or requirements with minimal product performance variation within the customer's environment (Kolarik 1995:32). According to Farnum (1994:36) his ideas fall into two principal, related areas known as "the loss function and off-line quality control". Tagushi argues that the quality of a product is the loss imparted to the society from the time the product is shipped. Amongst the losses he includes: consumer's dissatisfaction; warranty cost; loss of reputation and ultimately loss of market share (Dale & Plunkett 1990:10).

For example, if a part is made and it meets the target dimensions appropriately, the cost is very low. However, if the dimensions of a part deviation increase from the target, then the social cost increases. In this way, the cost of deviation from the target can be evaluated. The loss due to product performance would be proportional to the square of the deviation from the target value (Carr et al. 1996:50).

Any deviation from the target will result in some loss to society. Farnum (1994:36) writes that "this directly challenges the more traditional view that conformance to specification is sufficient, since products that function and are within the specifications may still impart some loss to society". Thus, continuous improvement must always be the goal. Furthermore, the theory of zero defects is at odds with the loss function, because if zero defect level is reached, there is little incentive to improve. This leads to an important conclusion that quality is achieved most economically by minimising variance rather than by strict conformance to specification (Dale & Plunkett 1990:10).

This conclusion provides the basis for Tagushi's off-line quality control, which relate to the design of products. Off-line quality means optimising production process and product property parameters in such a way as to minimise item-to-item variation in the product and its performance. Underlying the design process is the concept that process and product performance

are defined by two different kinds of factors, control factors, which can be easily controlled, and noise factors, which are difficult, impossible or expensive to control (Carr et al. 1996:50).

Tagushi also contributed to improving engineering theories to product design. By designing a product that is insensitive to variation in manufacture, specification limits become meaningless. He advocated certain techniques of experimental design to identify the most important design variables to minimise the effects of uncontrollable factors on the product variation, thus, his theory addressed quality problems early in the design stage rather than reacting to problems that might arise later in production (Evans & Lindsay 2008:113).

### 2.3.7 Shigeo Shingo

#### 2.3.7.1 Background

Shingo was an industrial engineer who came to prominence in Japan through his achievement of Single Minute Exchange of Die (SMED) in Japanese motor industry. SMED is a modular design of press where the die and the associated parts of the press whose alignment was critical were adjusted and off-line and then replaced as a unit in 30 minutes whereas in the US auto industry it took two hours (Fox 1993:240).

#### 2.3.7.2 Management theory

Shingo's theory of management was based on zero defects quality control. He believed that a true zero defects level of quality is the ultimate level of conformance to specification (Kolarik 1995:33). Zero defects implied that every item built conforms to specification. Shingo maintains that statistical-based quality control is not conducive to zero defects. He argued that statistical quality control can lower, but not eliminate defects.

The Shingo Zero Quality Control System consists of four fundamental principles (Kolarik 1995:33) namely:

- Use source inspection, the application of control functions at the stages where defects originate.
- Always use 100% source inspections, rather than sampling inspection.

- Minimise the time to carry out corrective action when abnormalities appear.
- Set up Poka-Yoke devices, such as sensors and monitors, according to product and process requirements.

## 2.4 SUMMARY

This chapter articulates the historic development of the theory of Total Quality Management to describe and explain the effectiveness of the various management methods. The theory is grounded in existing literature and it draws upon a study of various experts on quality control. In particular, the building blocks in the TQM theory are derived from a conceptual synthesis of the work by Deming, Juran, and Crosby who are recognised as the most well known TQM experts in the US. Feigenbaum, Ishikawa, Tagushi and Shingo have also been influential in defining the scope of TQM theories.

These theories increase the understanding of the characteristics of various management approaches. This understanding should lead to more efficient and effective efforts at achieving the purpose of transforming and improving the practice of management. TQM is an approach which is essential to the survival of all organisations, not just manufacturing companies. It is an approach which involves all in searching for improved organisational performance. These theories provide the basis for conceptual and empirical work on quality management methods, and more generally, for the discipline of quality management. For purpose of this research, these theories would also provide the basis for an empirical examination to see whether or not the real world data support the advocated relationship in the theory that TQM can improve organisational performance. However before attention is paid to this, it is necessary to analyse the concepts of TQM as well as organisational performance and performance management in the following chapters.

# CHAPTER 3

# CONCEPTUAL ANALYSIS OF TOTAL QUALITY MANAGEMENT

## 3.1 INTRODUCTION

Having considered the historic development of TQM, it is useful at this stage to consider a current definition of TQM. This chapter defines TQM within a broad framework of management theory. This approach is consistent with that of Dale and Lascelles who view TQM as a broad journey of organisational development from an organisation's initial quality involvement to business excellence status.

In this chapter, the nine dimensions of TQM identified through the intensive literature research are discussed. These are discussed in such a way that describes a model of how organisations could use TQM as a management theory. A thorough analysis of the individual dimensions and unique contribution of each dimension to organisational performance is made. Furthermore, the role of top management and the consequences of their actions that contribute to TQM failure are highlighted. Finally an evaluation model for the effective implementation of TQM in the public sector institutions is scrutinised.

## 3.2 DEFINITION OF QUALITY

Quality is defined and interpreted in many ways. As a result, it can be a very confusing concept, partly because people view quality in relation to different criteria based on their individual roles in the production-service value chain. Thus, it is important to understand the various approaches from which quality is viewed to fully appreciate the role it plays in Total Quality Management.

### 3.2.1 Approaches to quality

#### 3.2.1.1 Transcendent approach

According to this approach, quality is a property that is recognisable through experience and is not analysable. In this sense, one would just know it when seeing it. It is often loosely related to a comparison of features and characteristics of products and promulgated by marketing efforts

aimed at developing quality as an image variable in the minds of consumers (Pohl 1996:11). In this regard, quality can be defined as the goodness or excellence of something.

#### 3.2.1.2 Product-based approach

The product-based approach identifies specific features or attributes that can be measured to indicate higher quality. It defines quality as a precise and measurable variable. Differences in quality relate differences in the quality of some ingredient or attribute possessed by a product. It lends a vertical or hierarchical dimension to quality, for goods can be ranked according to the amount of the desired attribute that they possess (Carr et al. 1996:27).

#### 3.2.1.3 Value-based approach

The value-based approach defines quality in terms of costs and prices. Broh in Pohl (1996:13) sums it up by saying "quality is a degree of excellence at an acceptable price and the control of variability at an acceptable cost". The value-based approach assumes that consumers purchase decisions involves trading quality against the price. From this perspective, quality product or service offers greater usefulness or satisfaction at a comparable price (Evans & Lindsay 2008:14).

#### 3.2.1.4 User-based approach

The definition of quality is based on the presumption that quality is determined by what a customer wants (Evans & Lindsay 2008:13). This approach is a personal and subjective view of quality. Individuals have different wants and needs, hence different quality standards, which leads to a user based definition. Quality is defined as a degree of fitness for the intended use, or how well the product performs its intended function.

#### 3.2.1.5 Manufacturing-based approach

Evans and Lindsay (2008:14) define manufacturing based approach of quality "as the desirable outcomes of engineering and manufacturing practice, or conformance to specifications". Specifications are the special targets and tolerances determined by designers of products and services.

#### 3.2.1.6 Integrating approach

Although product quality should be important to all individuals throughout the value chain, how quality is viewed may depend on one's position in value chain, that is, whether one is a designer, a manufacturer or service provider, distributer or a customer. The coexistence of the different approaches has important implications and must be acknowledged. It helps to clarify the often competing views of quality. This coexistence is best illustrated by the following example offered by Evans and Lindsay (2008:17) of quality in a hospital environment. Hospital care offers a good translation of how different views of quality can affect a single product in service context. A transcendental definition of quality applies to the hospital's need to promote an image of excellence by ensuring the competency of its medical staff, availability of treatments for complicated disorders and the presence of advanced medical technology. Patients make subjective judgements about quality of the service they receive. In contrast, the persons who audit hospital efficiency define quality according to a product based perspective. Patient's perceptions on health care quality are focused on product-based and user-based criteria. As demand for a flawless service increases, the medical staff must turn to a manufacturing-based definition for guaranteeing that specifications of service quality are adhered to during production.

## 3.3 MEANING OF TOTAL QUALITY MANAGEMENT

### 3.3.1 Defining Total Quality Management

TQM is a theory which emphasises the understanding of variation; the importance of measurement; the role of internal and external customers and suppliers and the involvement of employees at all levels of an organisation in pursuit of continuous improvement (Chang 2006:1094). Bowen and Dean (1994:396) underscore this stating that "TQM has evolved from having a narrow focus on statistical process control to encompass a variety of technical and behavioural methods for improving organisational performance". While TQM is widely practiced in organisations, there is little agreement on what it actually means, despite assertions that clear definitions are important (Boaden 1997:19). This view is also shared by Davis and Goetsch (1995:19) who note that "TQM is not just a single concept, but a number of related concepts which create a comprehensive and different approach to managing organisations.

This view is further reinforced by Conti's (1993:7) observation that "a glance at all programme of countless total quality conferences all over the world shows that the term covers a variety of concepts, some are similar but not identical, while others may be quite divergent". It should be noted that many researchers from a variety of backgrounds and disciplines have investigated TQM, and have couched their own definitions and perspectives. Hence, it is important to recognise that many quality experts did not actually use the term TQM in their definition, although their work has subsequently been recognised as being relevant and sometimes quoted as referring to TQM (Boaden 1997:157). Therefore, it is important to probe the various definitions from which TQM is understood in order to fully appreciate the roles it plays in organisations. Boyne et al. (2002:10) define TQM as "a unique approach to improving organisational effectiveness, and a strategy for improving performance that takes into account of how people and organisation actually operate". Whereas Boaden (1997:161) defines TQM as a "management philosophy that embracing all activities through which the needs and expectations of the customer and the community and the objectives of the organisation, are satisfied in the most efficient and cost effective way by maximising the potential of all employees in a continuing drive for improvement".

The adjective 'total' is used to indicate company wide application, thus TQM convey more successfully the basic message of a quality system embracing the entire organisation and everyone in the organisation (Conti 1993:8). The use of the word 'total', when coupled with the term quality management, provides recognition of the fact that TQM is not an activity or even philosophy that can be confined to certain organisational processes. TQM therefore, implies the mutual co-operation of everyone in the organisation and associated business processes is needed to produce product or service which meet and hopefully exceed the needs and expectations of customers. TQM is a theory that promotes a set of dimensions for managing organisation (Dale in Doran and Rees 2001:855). In agreement with this assertion, Hutchins (1992:6) also defines TQM as "embracing not only the quality of a specific product or service, but everything an organisation does, might or should do to determine the opinion not only of its immediate customer or end-users, but its reputation in the community at large".

According to Pheng and Teo (2004:8) TQM is a way of thinking about the goals, process and the people to ensure that the right things are done right the first time by improving effectiveness and flexibility in the whole organisation. Develin and Hand (1993:3) define TQM as "a system

behaviour which embraces everyone within an organisation and which determines their relationships with the customers, suppliers, competitors, society and the environment". In describing TQM as a system of behaviour Develin and Hand distinguish between the end results and the means of achieving them. The end results might be continuously improving levels of quality, delivered at reduced cost, thus increasing levels of customer satisfaction. However, one should always bear in mind that any system of behaviour has shared beliefs and values, and common purpose. Oakland in Teo and Pheng (2004:8) observed that TQM is essentially a way of planning, organising, and understanding each activity that depends on each individual at each level. However, TQM cannot be viewed as a unified concept rather it can be seen as to encompass a range of prescriptions as to the type of management process that should be put in place, and the types of techniques that should be used to improve work process and outcomes (Higgins, James & Roper 2004:251).

Anantharaman et al. (2001:344) defines TQM as "an approach for continuously improving the quality of every aspect of organisational life and, it is a never ending process of improvement for individuals, groups of people, and the whole organization". However, Costing in Dahlgaard (1999:473) further notes that "current definitions, and processes related to TQM can be interpreted as an inter play of three fields and approaches". That means efficiency concerns rooted in process analysis, related to such traditions as process engineering, operational management, operations research and statistical process control; issues which are related to human relations schools of management and the field of organizational behaviour and organizational dynamics and issues which are related to the field of strategic management.

There has been a movement away from the belief that managing quality solely means conformance to specification and requirements (Godfrey, Stephens & Wadsworth 2002:89). From the above definitions of quality, it is clear that good quality also means meeting and even exceeding the needs and expectations of customers. On the one hand, TQM allows organisations to obtain a high degree of differentiation, satisfying customer needs and strengthening brand image, and on the other, to reduce cost by preventing mistakes and time wasting and allowing improvements in the organisation processes (Claver et al. 2003:91).

According to Godfrey et al. (2002:88), in 1997 the JUSE announced a formal change from the term "total quality control" to "total quality management" in order to give themselves an opportunity to revisit the origin of quality control and rebuild the concept to meet the challenges

in business management. In JUSE's view, TQM is a management approach that strives in any business environment for the following: The generic term of "total quality management" will therefore be used to mean a vast collection of philosophies, concepts, methods and techniques that are being used throughout the world to manage quality. It means having right features, correct documentation, error-free invoices, on-time delivery and no failures.

Therefore, TQM requires a complete turnaround in organizational culture and management approach as compared to the traditional way of top management giving orders and employees obeying them. The first and probably most significant movement to promote particular managerial policies was the Scientific Management movement which spread in the USA in the first decade of this century. Fathered by F.W. Taylor, this movement promulgated the rationalisation and bureaucratisation of work processes that become a distinguishing element of the mass production techniques (Palmer & Saunders 1992:70).

TQM shares features of Scientific Management, Human Relation and Management by Objectives (Pheng & Teo 2004:8). With Scientific Management, it shares a focus on understanding the process involved in production. Taylor's examples of identifying the process of shovelling and bricklaying appear similar to Deming injunction to use profound knowledge of the system. With Human Relations, TQM shares a concern for organisational unity. Of Deming's 14 points (see section 2.3.1.2), number 8 is 'drive out and replace it with trust'. Creation of a single 'team' is an explicit aim of TQM (Palmer & Saunders 1992:71). The integration of all parts of an organisation into common unit is shared by Management by Objectives (MBO) approach. Objectives aim to integrate individual efforts into common performance (Drucker in Palmer & Saunders 1992:71).

Despite these similarities, TQM has some fundamental differences from these three approaches. First the role of management is seen differently. Taylor sees this role as defining precisely each step of the worker's job. Scientific study of each job allows precise determination of the capability of the worker and no deviation from predefined method is allowable. The Human Relations approach in contrast focus on the individual needs of the worker. MBO systems give a false atmosphere of objectivity by focusing only on the aspects of the business that are measurable. As a result they lose the reality of human interaction and teamwork that is at the centre of TQM. The TQM approach is different because it is concerned with variations in process and systems, rather than with variations in individual behaviour (Palmer & Saunders

1992:71). It also sees the major role of managers to be the continuous improvement of processes rather than the management of employees. Hammond (2000:669) sums it by stating that TQM is "the application of quantitative methods and human resources to improve materials supplied to an organisation, all the processes within an organisation, and the degree to which the needs of a customer are met, now and in the future".

TQM may be distinguished from both Quality Control (QC) and Quality Assurance (QA). QC places an emphasis on final inspection by separate QC department and so removes the responsibility for quality from the manager of the process. QA maintains the responsibility with the manager, giving QA department more training and auditing role. TQM takes the notion that quality is an aspect of general management, further arguing that QA is needed in all units of the organisation and not only in production (Palmer & Saunders 1992:67). Therefore one could conclude by defining TQM as a management approach for continuously improving the quality of every aspect or organisational activities, leadership, planning, human resources, processes, systems, culture, and communication through which the needs and expectations of the organisation, employees, customers, and the community at large are satisfied or exceeded.

### 3.3.2 Total Quality Management in the public sector

Owing to increasingly extensive global competition, a variety of community entities of many countries have put pressure on all aspects of public sector production to approximate more closely those same aspects in private industry, in terms of greater productivity and efficiency (Bigelow 2002:72). With the blossoming of the service sector, quality imperatives are no longer the sole preserve of manufacturing. Of late, the public sector is facing the same ground realities that confronted their manufacturing counterparts in the past. The literature on TQM with respect to services, that is, total quality service, seems to be bereft of an integrative framework that will include all the critical dimensions of quality service by addressing the issue of transferability of quality management dimensions to services, and by focusing on those that are unique to service organisations (Anantharaman et al. 2001:344).

In the 1970s great initiatives were taken to document public sector productivity (Bouckaert & Halachmi 1995:39). Even though TQM is a new quality management system for the public sector, this does not mean that public administration was not quality oriented in the past. Quality

has always played a role in public administration but the meanings have changed over time (Caddy & Vintar 2002:21). Betram (1993:170) distinguishes three phases in the evolution of quality in the public sector: quality in the sense of norms and procedures; quality in the sense of effectiveness; and quality in the sense of customer satisfaction. In the first case, quality means the absence of arbitrariness, or the ensuring of correctness. In this understanding, reference to users or customers is missing. This understanding of quality in the public sector corresponds to the early notion of quality as technical conformance to specification in the industry. In the second case, the meaning of quality in the public sector changed in the late 1960s when management by objectives gained popularity in public administration. Quality in the public sphere would still include the absence of procedural errors but also starts to link the concept of quality with the purpose which a service would serve. This definition has its equivalent in Juran's famous definition of quality as 'fitness for purpose' (Caddy & Vintar 2002:21).

In the late eighties, the total quality concept from the private sector was transferred to the public sector services, making customer satisfaction the point of reference for the degree of quality achieved (Marchington, Redman, Snape & Wilkinson 1998:29). TQM was seen as a vehicle to facilitate a move towards a more commercial culture. How organisations adopt TQM as a blueprint for productivity and performance reform in the public sector is not easy to assess. However, this has changed as the public sector has moved towards more competitive environment, including legislation that gives more choices to consumers, competitive bidding, and increasing pressures to contain costs to consumers and to deliver value for money (Brysland & Curry 2001:390). For example the Municipal Financial Management Act, (Act 56 of 2003) enjoins municipalities to implement a supply chain management policy which is fair; equitable; transparent; competitive and cost-effective. The White Paper on Transforming Public Service Delivery (1997:15) also emphasises the adoption of Batho Pele principles which purports that "Citizens should be consulted about the level and quality of the public services they receive and, wherever possible, should be given a choice about the services that are offered".

A further impetus to pursue TQM in the public sector is for the Government to ensure the provision of efficiency and effectiveness in public services, focusing on areas that together will contribute to quality in service. Brysland and Curry (2001:391) characterise these areas as follows:

- *Quality of communication.* Does the municipality communicate with, listen to and understand service users?
- *Quality of specification.* Is this understanding converted into clear standards for service delivery?
- *Quality of delivery.* Are the standards actually delivered and is remedial action taken whenever a service failure occurs?
- *Quality of people and systems.* Is staff motivated, trained, well managed and supported by good management processes and system?

According to Chase and Bowen in Hasan and Kerr (2003:286) public service quality can be conceptualised into attribute theory; customer satisfaction; and the interaction theory. These theories are describes as follows:

- The attribute theory assumes that service quality primarily reflects the attributes of the service delivery system, and it applies the product quality framework of services. An attribute theory perspective on service quality assumes that management has substantial control over the input defining these attributes.
- A customer satisfaction theory approach defines service quality as the difference between service quality expectation and the perceptions of reality. The customer satisfaction theory places primary importance on customer perception, while the attribute theory places more importance on the technical aspect of production.
- The interaction theory approach to service quality defines service quality as a shared 'experience of gain' by all participants in the public service encounter.

Marchington et al. (1998:26) classify the features that characterise a service into four categories, that is, intangibility; inseparability; heterogeneity and perishability. Intangibility can be defined as the inability to see or touch the 'product' of a service. The simultaneous production and consumption of a service illustrate the feature of inseparability. Heterogeneity can be viewed as an implicit lack of consistency, whilst perishability gives rise to the problem of the immediacy of a service or a lost sale. TQM has been proffered as a route to efficiency and cultural change in the service sector. However, if service quality is to be the corner stone of any organisational strategy, there must be a means of measuring it. The focus of such a strategy should be focussed

on the customer and satisfying customer requirements as well as on the process and on analysing every task/transaction interfacing with the service user to establish requirements (Curry & Herbert 1998:339).

Curry and Herbert (1998:339) suggest three categories of quality to be taken into account by public service organisations. These are client service quality which relate to what customers want from a service both individually and as a population; professional quality which relate to the correct deployment of appropriate techniques and procedures necessary to meet consumer needs; and management quality which involves the most efficient and productive use of resources to meet consumer needs. Client service quality is ensured by consumer satisfaction measures and techniques; professional quality is ensured by standard setting and the process of organisation audit; and management quality concerns the development of a holistic approach that internalises the values and competencies of quality approach in the system.

Thus, TQM claims a role throughout the organisation, calling for quality in all activities and relationships. However, implementation of TQM needs more than generalities. It needs an identifiable set of management practices and appropriate evidence of their effectiveness. There are basic assumptions about quality management. Many TQM manuals and handbooks have pointed out that it is both a philosophy of management and a set of guiding principles that an organisation can use in pursuit of continuous improvement (Hammond 2000:669). In order to distinguish the nature of management practices for effective application of TQM, the following section will examine some of the management principles promoted by TQM.

### 3.3.3 Principles of Total Quality Management

Principles of TQM owe their origin to the general system theory. Organisations are conceived as open systems which are engaged in a cycle of transactions, that is, both matter and information, with their environment of the stakeholders (Mohanty 1998:756). They are constructed of highly interdependent subsystems that engage in complex interaction to transform a variety of generic inputs from the environment by value additions into outputs of quality products or services for improving the quality of life of the stakeholders (Mohanty 1998:756). Juran (1989) and Hill and Wilkinson (1995) argue that there are three fundamental principles that underline the theory of

TQM, namely customer orientation; process orientation and continuous improvement (Boyne et al. 2002:10). A similar theoretical approach by Bowen and Dean (1994:394) and Evans and Lindsay (2008:19) reflect on TQM as a management approach based on three principles, namely customer focus; teamwork and continuous improvement. Its driving principle is continuous improvement (Develin & Hand, 1993:3).

These principles can be put into practice by varying ways. However, it will be inappropriate to try to lay down what constitutes a true TQM organisation since experts who became known as the TQM gurus such as Deming, Crosby and others focused on 'the statistical and operational characteristics of the system' and not the softer aspect of human resource (Elshnnaway 1992:39). The spread of quality principles from manufacturing to service has also led to a question of the value of the specific label TQM, which has manufacturing connotations. To signal that the ideas of total quality go beyond the specific measurement aspect of Statistical Process Control, Collins, Edwards and Rees (1998:451) suggest that quality management should be used as generic term. Each principle is implemented through a set of practices, which are simply activities such as collecting customer information or analysing processes. These practices are in turn supported by a wide array of techniques in a form of dimensions (Bowen & Dean 1994:394).

These principles are different from traditional management practices. Historically companies did little to understand external customer requirements, much less of those internal customers. Managers and specialists controlled and directed the production system, workers were told what to do and how to do it, and rarely were they asked for their input. Teamwork was virtually nonexistent (Evans & Lindsay 2008:19). A certain amount of waste and error was tolerable and was controlled by post-production inspection. Improvements in quality generally resulted from technological breakthroughs instead of relentless mindset of continuous improvements. With TQM, an organisation actively seeks to identify customer needs and expectations, to build quality into work processes by tapping the knowledge and experience of its workforce, and to continually improve every fact of the organisation (Evans & Lindsay 2008:19).

According to Bowen and Dean (1994:394) these principles can be summarised as follows: firstly, the principle of customer focus. The goal of satisfying the customer is fundamental to TQM and

is expressed by the organisational attempt to design and deliver products and services that fulfil customer needs. The rationale for this principle is the belief that customer satisfaction is the most important requirement for long-term organisational success. In other words, to realise this satisfaction, it requires that the entire organisation should focus on customer needs. Secondly, the principle of teamwork is based on collaboration between managers and ordinary officials, between functions, and between customers and suppliers. This principle assumes that ordinary officials can make important contributions to organisations when they have the power and necessary preparation. Teamwork among functions is based on the notion that organisations as systems cannot be effective if subunits emphasises their own outcomes over those of others. Teaming with customers and suppliers maximises benefits in terms of synergy and loyalty. Thirdly, the principle of continuous improvement means a commitment to constant examination of technical and administrative processes in search for better methods. Underlying this principle is the belief that organisations are systems of interlinked processes and by improving these processes, organisations can continue to meet the expectation of their customers.

These three principles relate closely to one another. Continuous improvement is undertaken to achieve customer satisfaction, and it is most effective when driven by customer needs. Since the processes targeted for continuous improvements transcend hierarchical, functional and organisational boundaries, teamwork is essential. Thus, TQM is a set of mutually reinforcing principles, each of which is supported by a set of practices and dimensions (Bowen & Dean 1994:396). While recognising that quality management is a long-term process, it should still be possible to identify those unique features or dimensions that distinguish a TQM approach as the first step in adapting TQM theory to organisational reality. The dimensions are measurements that should be present if TQM is to make changes in the basic work processes to sustain organisational improvements over time.

## 3.4 DIMENSIONS OF TOTAL QUALITY MANAGEMENT

### 3.4.1 Leadership and top management commitment

Leadership has been posited as a key in introducing TQM in the public sector. The degree of commitment and support that management takes in implementing a total quality environment is critical to the success of TQM implementation (Pheng & Teo 2004:11). Therefore, public

organisations are called upon to show greater leadership in order to maximise effectiveness of public services. The quality and impact of political leadership is critically important especially at municipal institutions because the effectiveness of managerial leadership is highly dependent on political leadership. Political leadership, through elected representatives, provides a key link between local authority and its community. Again, the role of political leadership, its degree of commitment and trust of senior management and the sensitivity of values of each authority are crucial. Kanji and Moura (2003:132) stress that the cooperation and commitment of both is essential for the implementation of TQM and organisational performance.

Top management should support TQM through the allocations of budgets, planning for change at the beginning of implementation, and providing methods of monitoring progress. If it is clear that top management was committed to implementing TQM, employees would naturally follow suit (Pheng & Teo 2004:11). Management should also reduce traditionally structured operational positions within the organisation built around the roles of leader and follower. This would be unsuitable in the context where employees are empowered and trusted to make their own decisions. Simplifying the organisation would lead to the establishment of an infrastructure of integrate business functions participating as a team and supporting the strategic vision of a company (Dale, Morgan & Murgatroyd in Kanji and Moura 2003:132).

Quality depends upon a vision of excellence and that a vision becomes reality through excellent, compelling leadership. Some principles and practices of TQM may differ among organisations, but there is unanimous agreement as to the importance of leadership by top management in implementing TQM (Omachonu et al. 1998:24). In other words, those organisations that have succeeded in making TQM work for them have been able to do so because of strong leadership. At the same time, leaders are also expected to develop new relationships with stakeholders, relationships that call for higher levels of involvement and decision sharing. As a result, new competencies and responsibilities have emerged for leaders of TQM.

#### 3.4.1.1 Competencies for leadership

The Human Development and Leadership Division of the American Society for Quality has summarised six competencies of leadership based on more than fifty authors thoughts on

leadership. The six key leadership competences can be described as navigator; communicator; mentor; learner; builder; and motivator (Evans & Lindsay 2008:216; Kanji and Moura 2003:132). These competencies are herein briefly explained below:

*Navigator*: creates shared meaning and provides direction toward a vision, mission, goal, or end-result. This competency may entail risk taking and requires constant evolution of the operating environment to ensure progress in the appropriate direction is achieved.

*Communicator*: effectively listens and articulates messages to provide shared meaning. This competency involves the creation of an environment that reduces barriers and foster open, honest, and honourable communication.

*Mentor*: provides others with a role to guide their actions. This competency requires the development of personal relationship that help others develop trust, integrity, and ethical decision making.

*Learner*: continually develops personal knowledge, skills and abilities through formal study, experience, reflection, and recreation.

*Builder*: shapes processes and structures to allow for the achievement of goals and outcomes. This competency also entails assuming responsibility for ensuring necessary resources are available and the evaluation of processes to ensure effective resource use.

*Motivator*: influences others to take action in a desirable manner. This competency also includes the evaluation of people's actions to ensure they are performing consistently with the mission, goal, or end-result.

#### 3.4.1.2 Leadership theory and practice

To understand how leadership is developed and practiced, it is important to understand its foundations in management theory. Therefore, this section will briefly describe characteristics of leadership theories within the context of TQM. The leadership theories are developed more fully in principles of management and organisational behaviour. They are: Situational

leadership; Transactional leadership theory; Transformational leadership theory; and Emotional intelligence theory (Bowen & Dean 1994:398, 399; Evans & Lindsay 2008:221-224).

- *Situational leadership theory:* Its mayor proposition is that effectiveness of task and relationship-oriented leadership behaviour depends upon the maturity of a leader's subordinates. In order words, leadership styles might vary from one person to another, depending on the readiness of subordinates, which is characterised by the skills and abilities to perform the work and their confidence, commitment and motivation to do it.
- *Transactional leadership theory:* It assumes that certain leaders may develop the ability to inspire their subordinates to exert extraordinary efforts to achieve organisational goals, through behaviour that may include contingency rewards. Contingent reward behaviour includes classification of the work required to obtain rewards to influence motivation.
- *Transformational leadership theory:* Leaders take a long-term perspective; focus on customers; promote a shared vision and values; work to stimulate their organisations; invest in training; take some risks; and treat employees as individuals. Transformational leaders are interested in continuous organisational change and improvement.
- *Emotional intelligent theory:* It has five components, that is: self-awareness; self-regulation; motivation; empathy; and social skill. The significance of emotional intelligence for effective TQM lies in translating the vision of an integrated leadership system and long-range planning process into action. Without credible self-management, represented by the first three components, it will be difficult for subordinates to buy into the vision of the leader. Without mature empathy and social skills, represented by the last two components, it will be difficult for the leader to work effectively with customers, suppliers, and others outside the organisation to built rapport needed for long-term enterprise effectiveness, which is critical for a TQM focused organisation.

#### 3.4.1.3 Leadership system

The leadership system refers to how leadership is exercised formally and informally throughout the organisation. This includes how key decisions are made, communicated, and carried out at all levels. The leadership system includes structures and mechanisms for decision making, selection and development of leaders and managers, reinforcing values, practices and behaviours,

and performance expectations (Ross 1999:43). Leadership guru Gillian Stamp proposes a use of a three-element system (Harris 2010:5). They are firstly, leader`s task: provide clear direction and guideline for performance. Employees need to know what the expected-outcome looks like. Secondly, leader`s trust: create space for employees to act within the parameters within which employees are trusted to perform to their optimal level. Thirdly, leader`s intend: leaders serve employees, ensuring that they are able to develop their optimal capacity.

Beyond the basic three-system model, Du Toit defines leadership system as consisting of a high standard of ethics; a commitment to attract, develop and retain talent; the ability to apply sound judgment and appropriate leadership styles depending on the abilities of subordinates; a passion for performance; and the ability to develop and communicate a clear strategic vision for future direction (Harris 2010:5).

### 3.4.2 Strategic planning

From a TQM point of view a strategy consists of understanding what customers want and aligning the organisation with a set of plans to deliver it to them. Perhaps the most fundamental difference between the TQM and the management theory perspective is the role of quality in strategy. TQM perspective states that customer-driven quality is a key strategic organisational issue which needs to be integral of overall organisational planning (Bowen & Dean 1994: 403). Organisations that provide quality services can charge more for products or services, with resulting high customer satisfaction. Data shows that improvement in product or service quality has a stronger relationship to increases in market share and customer satisfaction (Calingo 1996:19).

TQM concentrates on quality performance in every facet of the organisation and the primary strategy is to achieve and maintain customer satisfaction (Ross 1994:91). Strategy begins with a decision, a decision that can only be made by top management, and that decision simply put, is a decision to compete as a world class organisation (Omachonu et al. 1998:60). Total quality concentrates on quality performance in every facet of the organisation and the primary strategy to achieve and maintain a competitive advantage. It requires taking a systematic look at the organisation, looking at how each part interrelates to the whole process. In addition, it demands continuous improvement as a way of life (Ross 1999:99).

According to Main (1995:8) TQM becomes part of the organisation's strategy when "methods and goals are so widely deployed throughout the company that all its processes are pointed in the same direction". Strategy is a plan that integrates an organisation`s major goals, policies, and action sequence into a cohesive whole. A well formulated strategy helps marshal and allocate an organisation`s resources into unique and viable posture based on its internal competencies and shortcomings, anticipating changes in the environment (Evans & Lindsay 2008:232). The culture that guides members of the organisation and other stakeholders, the position that it occupy in a society, and determining the particular objectives and allocating resources to achieve them all, follow from the process determined by the strategy (Leonard & McAdam 2002:513).

Therefore, it is necessary to align quality control with organisational strategy to ensure that quality efforts reflect the long-term goals of the organisation. Rooted in systems theory, TQM invokes the inescapable inter-relationship of all units of the organisation. TQM stresses the importance of cross-functional relationships (Arnold & MacKechnie 1994:1). When the systems approach is considered it can be seen that TQM has influence in all aspects of the organisational functioning, from human resources to organisational politics (Leonard & McAdam 2002:514).

#### 3.4.2.1 Strategic Quality Management (SQM)

SQM itself is not new. The term and concept was introduced by Garvin in 1988, who stated that the beginning of strategic quality management cannot be dated precisely (Garvin 1988:21). Juran considered SQM to be a systematic approach for setting and meeting quality goals throughout the organisation, that is, the apex of the broader system of managing quality throughout the organisation. The approach to applying SQM involves scaling up from a project by project basis, establishing quality goals as part of the organisation plans, adopting cultural change, re-evaluating priorities, organisational restructuring, training for all and top management participation in managing for quality (Juran 1988:176, 177).

A theory of Strategic Total Quality Management (STQM) was later developed by Madu and Kuei as an extension of TQM, which was based on a view of quality as the driving force to survivability and competitiveness (Kuei & Madu 1993:122). Therefore, SQM is the key to an organisation being competitive, however, the philosophy needs to emphasise integrity,

environmental issues and social responsibilities as key elements. These elements are: management development; employee retention; leadership; disaster planning; and crises management training (Leonard & McAdam 2002:515). Calingo (1996:34) considered the integration of strategy formulation of TQM to follow a sequential evolutionary stage. The stages involve firstly, annual budgeting: at this stage quality emphasise conformance to specification and demand for better service. The next stage involves long range planning: here top managers use TQM to focus on service improvement. The third stage is the strategic quality planning: here the customer is considered closely so that the impact influences the society. This is followed by management by policy in which quality improvement is coordinated across the organisation and quality is seen as a strategic weapon. Finally, SQM is attained when strategic planning and quality planning have merged into one seamless process, due to a free flow of information between strategic planners and quality planners. Many organisations have learned that quality initiatives must go beyond being tied to providing proper services, and must be integrated into organisation strategy and planning processes (Voss 1994:42).

#### 3.4.2.2 Strategic planning process

Using a systematic process helps to optimise the use of resources, ensure the availability of trained employees, and ensure bridging between short-term and long-term requirements that may entail capital expenditures or supplier development. A good strategic planning process often includes active participation of top management, employees and even customers or consumers. Not only can organisations capitalise on employee knowledge of customers and processes, but also employee involvement greatly enhances the effectiveness of strategy implementation (Evans & Lindsay 2008:233). Stahl (1995:121) argues that organisations and managers that implement TQM have more stable processes and systems than do organisations that have not implemented TQM.

Organisations may use a structured six-step strategic planning process that yields both a one year tactical plan and a four year strategic plan. The process starts with an annual retreat where strategic direction is revised by the top managers, followed by a four month development period; then the leaders and managers develop preliminary strategies and support departmental requirements; followed by a cycle of developing action plans and goals for divisions; then a plan

review and resource allocation step; and the final step of developing unit action plans/goals and individual employee performance and development plans (Evans & Lindsay 2008:233). Therefore, effective strategy development requires a systematic process.

#### 3.4.2.3 Strategy development

Henry Mintzberg describes strategy development as capturing what manager learns from all the sources, both soft insight from his or her personal experiences of others throughout the organisation and the hard data from market research, and synthesising all of that learning into a vision of the direction the organisation should pursue. The organisation`s leaders first explore and agree upon mission, vision, and guiding principles of the organisation, which form the foundation for the strategic plan (Evans & Lindsay 2008:235). According to Lindsay and Petrick (1998:100); Omachonu et al. (1998:62); and Evans and Lindsay (2008:236) a mission statement of the organisation defines the reason for its existence. A mission statement might include a definition of product and services the organisation provides, technology used, customer needs and distinctive competencies or expertise that sets the organisation apart from others. An organisational mission statement guides the development of strategies by different groups within the organisation. It establishes the context within which daily operating decisions are made and sets limits on strategic options. In addition, it governs the trade-offs among the various performance measures and between short and long-term goals. Finally, it can inspire employees to focus their efforts toward the overall purpose of the organisation.

The vision articulates the basic characteristics that shape the organisation`s view of the future and its strategies. A vision must be brief, focused, clear, and inspirational to organisation`s employees. It should be linked to customer needs and convey a general strategy for achieving the mission. A vision must be consistent with the culture and value of the organisation. Values or guiding principles, guide the journey to the vision by defining attitudes and policies for all employees, and are reinforced through conscious and subconscious behaviour at all levels of the organisation. These guiding principles includes: integrity; environment, health and safety; excellence; profitability; and accountability. The mission, vision and guiding principles serve as the foundation for strategic planning. Thus, strategy development requires an environmental assessment of key factors such as: customer and market requirements, expectations, and

opportunities; technologies; organisational weaknesses and strengths; and other potential risks. Such environmental assessments are often accompanied by SWOT (Strength, Weaknesses, Opportunities and Threats) analysis and help identify critical factors on which strategy must focus. From this environmental assessment organisations develop strategies, objectives and action plans (Evans & Lindsay 2008:237). Action plans form the basis for effective deployment of a strategy.

#### 3.4.2.4 Strategy deployment

With strategy deployment, top management is responsible for developing and communicating an organisational vision, then building organisation-wide commitment to its achievement. The long-term strategic plan forms the basis of short-term planning. This vision is deployed through the development and execution of annual objectives and plans. All levels of employees actively participate in generating strategy and action plans to attain the vision. At each level, progressively more detailed and concrete means to accomplish the objectives are determined. Objectives should be challenging, but people should believe that they are attainable. To this end, middle managers negotiate with senior managers regarding the objectives that will achieve the strategies and what process changes and resources might be required to achieve those objectives.

Middle management then negotiates with the implementation teams the final short-term objectives and the performance measures that are used to indicate progress toward accomplishing the objectives. Implementing teams should be empowered to manage actions and schedule their activities. Top management should evaluate results as well as the deployment process itself through annual reviews, which serves as a basis for the next planning cycle. Management may modify objectives on the basis of these reviews. However, it needs to be noted that top management does not develop action plans; it sets overall guidelines and strategies. Departments and functional units develop specific implementation plans. Effective deployments align resources and strategies and finally organisations need performance measures or indicators for tracking progress relative to actions plans. Projections of performance measures and comparisons with other entities, benchmarks, and past performance help organisations to evaluate its performance in achieving its objectives, strategies and ultimately, its vision (Evans & Lindsay 2008:241). However, effective strategy deployment depends on people for

implementation (Dale 1994:273), meaning that prior to the development of a TQM focus organisations should not neglect the strategic importance of human resource management.

### 3.4.3 Human resource management

Most quality-conscious organisations point out that the best way to improve organisational performance is by involving and empowering employees at all levels (Omachonu et al. 1998:79). It therefore means that the effective management of human resources is at the heart of any successful quality management process. It emphasises self-control, autonomy, and creativity among employees and calls for greater active cooperation rather than just compliance (Ross 1994:81). TQM conceived without examining the critical human resource variables is inadequate. Traditionally personnel managers interviewed job applicants, negotiated contracts with the unions, and kept time cards on workers. However, recently their role has changed. HR managers may still perform the traditional task of personnel managers, but the scope and importance of their area of responsibility has expanded significantly. HR managers now take on a strategic leadership role in their organisations (Evans & Lindsay 2008: 270).

According to Haasbroek, Nel, Schultz, Sono, Werner and Van Dyk (2004:10) HR managers have three main functions: a service function; a control function; and an advisory function. The service function incorporates the everyday task of a human resource department, such as recruitment; selection; remuneration; training; and health and safety at workplace. The control function is more strategic in nature and incorporates activities such as analysis of key human resource management outputs such as labour turnover, productivity, absenteeism, and resignations; and the recommendations of appropriate corrective action by line managers, such as training and development, dismissals and transfers. The advisory function is associated with the expert advice given by the HR department in line with HR policy and procedures with regard to matters such as: Which employees are ready for promotion? How should a grievance procedure be carried out? How should service contracts, and health and safety regulations be carried out? Developing skills through training and coaching, promoting team work and participation, motivating and recognising employees, and providing meaningful communication are important HR skills that managers must do for total quality to succeed.

### 3.4.3.1 Role of personnel in TQM

Personnel are the most variable but nonetheless important component in responding to customer satisfaction. The actual service provided by an employee, such as filling out housing subsidy forms for the poor, and correctly capturing on indigent register, often determines customer satisfaction. When measured against valid customer needs, the success of nearly all service organisations begins and ends with its people. Regardless of how well a system of quality and productivity improvement is designed, it is the responsiveness of organisation's human resources in applying the technology, interpreting policies, servicing customers, and producing value-added processes that ultimately determines the level of performance. Continuously improving quality systems without the active participation and cooperation of everyone who is affected virtually guarantees failure (Miller 1995:102).

If quality is to be 'build in' rather than being inspected, quality must be the responsibility of all employees rather than specific departments. TQM proponents have ventilated the need to increase the involvement of all employees in monitoring their own work with the aim of constantly maintaining and improving quality by removing the need for retrospective checks. TQM is also said to minimise the cost of poor and uncertain quality because it is a way of getting everybody's involvement in order to improve the quality of their work. Every employee's involvement needs to have a common focus based on the customer needs, so that people with different jobs, abilities and priorities are able to communicate in pursuit of common organisational purpose (Dale 1994:277). Increased involvement means more responsibility, which in turn requires a greater level of skill. This must be achieved through training (Omachonu et al. 1998:83).

### 3.4.3.2 Employee training and empowerment

Training is one of the most critical and crucial prerequisites for institutional success when implementing TQM (Oschman 2004:189). Deming's sixth principle emphasises that in-service training is essential for promoting continuous improvement in an institution. The Baldridge Award winners were selected because they placed a great deal of emphasis on training and support it with appropriate provision of resources. For example, Motorola allocates about 2,5 %

of payroll costs to training, 40 % of which goes to quality training (Ross 1999:137). Deming's thirteenth principle also emphasises that within an institution a programme of training and self-improvement should be established. Although the type of training depends on the needs of the particular organisation and may or may not extend to technical areas, the one that should be common to all organisations' training programmes is problem solving. Problem solving should be institutionalised and internalised in many, if not most, organisations. In other words, all employees should continuously acquire new knowledge and skills that will contribute to developing continuous improvement and problem solving (Oakland & Oakland 2001:778).

Ross (1999:137) categorises training into three components, namely reinforcement of the quality measures and basic skill remediation; job skill requirements; and knowledge about principles of TQM. The latter typically covers problem-solving techniques, problem analysis, statistical process control, and quality measurements, that is, areas that go beyond typical job skills. All training should be geared to specific, clearly defined objectives, and should start with specific training for management. Once management has the skills to lead the TQM process, the rest of the institution should be provided with the appropriate level of education and training to ensure their skills and attitudes enhance continuous improvement (Oschman 2004:190).

Organisations must have training schedules and a curriculum to develop the skills of all the employees. The schedules should recognise the different training requirements of people in different functions and levels in the organisational hierarchy to enable employees to cope with increasingly complex problems. This programme should be viewed as an investment in developing the ability and knowledge of employees and helping them realise their potential (Dale 1994:12). According to Eng and Yusof (2003:65) workers' ability to contribute fruitfully in the process of continuous improvement "depends largely on education and training". In the TQM environment everyone is required to gain additional capabilities to improve services. This would be a prerequisite to widespread employee empowerment (Omachonu et al. 1998:84). Employee empowerment espouses the need to organisations to involve all employees in decision-making and problem-solving at all levels in pursuit of utilising full employee potential and harvesting a culture of intrinsic values and job satisfaction in order to improve service quality levels (Geralis & Terziovsk 2003:46).

Empowerment is a human resource management technique involving the devolution of power and control from high levels to lower levels throughout the organisation. It entails commitment to the development of employees, with recognition that they are an asset, which appreciates over time (Dale 1994:12). Without training it is difficult to solve problems and improve service delivery. The training programme must also focus on helping managers think through what improvements are achievable in their areas of responsibility. It also has to be recognised that not all employees will have received and acquired adequate levels of education. The structure of the training programme should incorporate some measure of basic educational skills numeracy and literacy, but it must promote continuous education and self-development. In this way, the potential of employees will be released (Dale 1994: 12). All available means from suggesting schemes to various forms of teamwork must be considered for achieving broad employee interest, participation and contribution in the process of quality improvement.

#### 3.4.3.3 Teamwork

One of the cornerstones of TQM is teamwork. Teamwork is increasingly being introduced in South African organisations to increase performance levels, and employee and customer satisfaction. Quality within the team must first be achieved before quality in the organisation can be achieved. This can be done through team-building exercises that focus on goal-setting, interpersonal relations, conflict management and trust building, and through continuous monitoring the performance of groups (Haasbroek et al. 2004:367).

Teamwork needs to be practiced in a number of forms. Consideration needs to be given to the operating characteristics of the teams employed, how they fit into the organisational structure and the roles of member, team leader, sponsor and facilitator. Teamwork is one of the key features of involvement. Without it, it is difficult to gain commitment and participation of people throughout the organisation (Dale 1994:12). Haasbroek et al. (2004:367) defines a team as "a small number of people with complementary skills who are committed to a common purpose, performance goals, and a work strategy for which they feel mutually accountable". In other words, teams are created for the purpose of working on specific tasks or projects. Teams form an essential part of any TQM effort as teamwork enables different parts of the institution to

work together to meet customer needs in ways that cannot be done by means of individual job performance.

Teamwork is based on the concept of synergy, where the contribution of the team is more than the contribution of any of its members. Management is responsible for creating an environment required for teams to flourish, by eliminating institutional obstacles to cooperation. Teamwork is therefore a behavioural factor that must form part of the organisational setup (Oschman 2004:152). Haasbroek et al. (2004:364) succinctly describe the characteristics of high performing, successful work teams as:

- The team has a clear vision and goal, which are internalised by each member.
- The team consists of a diverse group of individuals who, due to their unique characteristics, make a unique contribution to the team`s success.
- Disagreement is considered as constructive, and members are willing to consider all ideas with open mind.
- Interpersonal relations are relaxed, with ample open communication and mutual support.
- Team members identify strongly with the group, and feel proud of the way the team functions as well as its achievements.
- Change is not to be feared but it is initiated.
- Networking with outside individuals and groups is used to achieve excellence and build credibility.
- Even though the team might have a formal leader, leadership shifts from member to depending on the task at hand.
- Teams evaluate their own development and performance, and seek opportunities for continuous learning.

According to these characteristics, team development is a means of improving institutional effectiveness in an ever increasing competitive world, as well as a powerful way of promoting empowerment and learning. Lycke (2003:206) states that teamwork is the key to successful implementation of TQM. This being the case, teamwork is therefore, another key success factor in the total quality improvement process. Thus, the researcher concurs with Doran and Rees (2001:855) who state that “TQM is the mutual cooperation of everyone in an organisation and

associated business processes to produce services which meet, and hopefully, exceed the needs and expectations of customers". It is worth noticing that this definition, recognises the use of 'everyone and mutual cooperation', and places people and working relationships, and including teamwork, at the centre of TQM. Therefore, it is the responsibility of leadership to develop teamwork and to motivate employees in the quest to utilise their full potential so as to ensure quality products or services.

#### 3.4.3.4 Motivation and employee satisfaction

Motivation is a complex issue due to the uniqueness of people and a wide range of internal and external factors that impact on it. Albert (1998:60) states that motivation is "the willingness to exert high levels of effort toward organisational goals, conditioned by the effort`s ability to satisfy some individual need". Motivation can be described as both intentional and directional. In this context, intentional refers to personal choice and persistence of action. Motivation is directional by indicating the presence of a driving force aimed at attaining specific goal (Haasbroek et al. 2004:310). When a situation is congruent to the development of self-identity, a person will be motivated to achieve a specific goal, and continuously direct his or her efforts at achieving that goal, even in the face of adversity (Bertram 1993:172). Top management must motivate employees through innovative approaches of reward systems with a view to promote a sense of shared responsibility for continuous improvement in whatever they do (Marchington et al. 1998:44).

The development of incentives, aimed at encouraging teamwork and skills based pay, that encourages individuals to broaden their skills, is likely to be consistent with TQM and may provide a complement or even a substitute for more traditional types of incentives. Some TQM gurus have argued that the key to development of a quality culture is the focus on recognition rather than reward, and have suggested the use of award schemes as a way of recognising outstanding performance or achievement (Marchington et al. 1998:44). The other way to provide for employee motivation is to satisfy their ego and self-actualisation as propounded by Maslow's Hierarchy of Needs theory. According to this theory, self-esteem and self-respect as well as the esteem and respect of others are the function of the type of work people do rather than of working conditions, such as free interaction and good remuneration. If a person`s work

is in itself a source of need satisfaction, then that person becomes self-regulating and the roles of external incentives, such as remuneration and punishment, become less prominent as motivator (Haasbroek et al. 2004:310). Organisations cannot compete successfully without a motivated workforce. TQM implies a continuous improvement in products and services through the active learning and participation by all employees. It is therefore imperative that a culture of TQM is established within an organisation where all human potential would be realised. An organisational culture of achievement, self-actualisation and continuous learning is conducive for quality products and services.

### 3.4.4 Organisational culture

Schein (1985:4) describes organisational culture as "a pattern of basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external and internal integration that has worked well enough to be considered valid, and, therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems". Kilmann, Saxton, Serpa and associates (1985:5) articulate that culture is "the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes, and norms that knit a community together. These psychological qualities reveal group agreement, implicit or explicit, on how to approach decisions and problems, the way things are done here". They also observed that culture has an impact to the degree that provides direction, has strength, and is pervasive. Direction refers to the course of culture is causing the organisation to follow; strength refers to the level of pressure the culture exerts on its members; and pervasiveness is the degree to which the culture is shared (Garrity 1993:445).

#### 3.4.4.1 Culture and change management

What is clear from the above definitions is that culture is a social reality created iteratively over a period of time as members of an organisation set course of action, face problems and opportunities, learn from their experience, communicate that learning to others in the organisation, and reinforce the beliefs and behaviour that result. From this perspective it therefore becomes clearer that TQM differs from other management processes due to its concentration on continuous improvement. The central feature of TQM is the idea of culture

change grafted onto management theory and practices. The aim is to shift management and employees attitude towards quality control. Part of the TQM cultural change is to achieve the transformation of people's attitude to work roles and to positions within them. That is, a cultural change that sets out to supplant hierarchy with informality. Instead of bureaucratically defined roles within a hierarchy, TQM poses the customer supply chain, conceptualising a market alternative to modern organisation (Tuchman 1994:731). The introduction of TQM clearly must allow further organisational change such as the breakdown in role demarcation enhancing the development of a more flexible division of tasks. Crosby (1979:97) argues that "changing a culture is not a matter of teaching people a bunch of new techniques, or replacing their behaviour patterns with the new ones. It is a matter of exchanging values and proving new models. This is done by changing attitudes".

Accordingly, this view argues for a more business-like approach for the public sector as a move away from the traditional pyramid structure of public sector management. The defects of the old approach have been widely recognised, that is: excessive long lines of management with blurred responsibility and accountability; lack of incentives and innovation; and a culture that was more concerned with procedures than performance. As a result, public services will increasingly move to a culture where the relationships are contractual rather than bureaucratic (Tuchman 1994:731). In other words, structures, behaviour and values had to be modified and adapted in order to change the culture by orienting it towards behaviours more appropriate to TQM. This means a real change in the behaviour of the people throughout the entire organisation, introduction of new role models, telling different stories, asking different questions, and doing different work rituals is required (Garrity 1993:447).

#### 3.4.4.2 Foundation for quality culture

To establish a quality culture, a foundation must first be laid. This should begin by understanding the laws of organisational change. These laws are succinctly explained by Davis and Goetsch (1994:125) as:

- Understanding the history behind the current culture, that is, learn the history behind the existing culture before trying to change it.

- Do not tamper with systems, improve them, that is, in order to improve something, one must first understand what is wrong with it, why, and how to go about changing it for the better.
- Be prepared to listen and observe, that is, try to hear what is said and observe what is being said. Employees who are listened to are more likely to participate in changes than those who are not.
- Involve everyone affected by change in making it, that is, the most effective way to ensure that employees will go along with changes is to involve them in planning and implementing the changes. Give them the opportunities to express their concerns and fears.

Organisations hoping to instil a quality culture should develop various strategy formulation models. All of them, though, include either explicitly or implicitly the following seven steps (Claver, Gasco, Gonzalez & Llopis 2001:470):

- Identification of the organisations current strategy.
- Analysis of the environment. It consists of potential opportunities and threats for the organisation.
- Internal analysis. Focus on the evaluation of the main resources and capacities available for the implementation of the strategy.
- Analysis of the gap. Compare the organisation's resources, objectives and strategies with those necessary in order to face the opportunities and threats existing in the environment, and thus be able to determine the changes needed.
- Strategic alternatives; a stage which is more commonly known as strategic formulation. During this stage, identify the different strategic options the organisation has at its disposal.
- Strategic evaluation. It consists of the analysis of strategic options in term of aims, resources and management, thus identifying options which best meet all the organisation's requirements.
- Strategic choice. That is to say, the selection of one or several of the previous alternatives for their later implementation and control.

This approach means that, in order to guarantee TQM success, the implementation had to be done through a careful planning that makes possible progressive advances, with two determining factors (Claver et al. 2001:470). First, the speed should be slow enough to overcome

progressively the opposition to change on part of the staff to change, so that they could understand the strategy and get involved themselves, instead of it being imposed on them. Secondly the speed should be fast enough to make sure that they never put in danger either everyday management or specifically the result that, in fact, they tried to improve through the new strategy.

#### 3.4.4.3 Strategic process of a cultural change

Establishing a quality culture involves specific planning and activities for every organisation or departments. Once the strategy has been determined, the next step is implementing and monitoring it. In this sense, implementation means changing the strategic plan into a set of more specific actions, influenced by the organisation's situation, that will later be transformed into results. In this way, each manager is responsible for the implementation of the strategy in their activity area, although it is top management that leads the main initiative. With the aim of implementing and later controlling these specific actions, organisations need to develop (Claver et al. 2001:470):

- An organisation that is appropriate for carrying out the strategy. In this respect, quality management must create a parallel structure, so that TQM is later extended to the whole organisation.
- A corporate culture that is compatible with the strategy adopted, which is called a TQM culture in this case.
- A strategic leadership that guides the whole process.
- A set of plans, programmes and budgets that supports the long-term planning.
- An information system that helps a strategy execution and control. Communication will play a very relevant role in that system.
- A model of reward and incentives that helps to increase employees' satisfaction.

Cultural transformation from a set of bureaucratic postulates towards a TQM culture must be carried out through a long-term strategy. This needs to be clearly formulated and implemented, in such a way that change is achieved within an evolutionary process. From this perspective, the importance of thinking of TQM as a cultural phenomenon can be seen. To reengineer an

organisation's culture to a higher level of service delivery should be coupled with an attempt at refocusing employee common values and behaviour. To the degree that the principles of TQM become part of the core beliefs and operating style of an organisation, a shared sense of the corporate whole is engrained into each person. In turn, this strengthens the ability of an organisation to maintain its focus and achieve coherence in its day-to-day operations (Garrity 1993:448). It is important to note that the specific TQM principle and practices are not "the culture" but are more accurately described as integrated activities carried out within the organisational culture.

### 3.4.5 Process management

Deming and Juran observed that the overwhelming majority of quality problems are associated with processes and few are caused by workers themselves (Evans & Lindsay 2008:330). Such problems can be mitigated by good management of process quality. Management of process establishes systematic processes organisations use to pursue high levels of quality and operational performance (Omachonu et al. 1998:93). Nearly every activity that is intended to achieve some result within an organisation involves a process. Therefore, management is responsible for restructuring and continuously improving the processes with which individuals work.

Process management involves planning and administering the activities necessary to achieve a high level of performance in key organisational processes and identifying opportunities for improving quality and operational performance, and ultimately, customer satisfaction (Evans & Lindsay 2008:330). Common organisations processes include acquiring customer needs; strategic planning; conducting research and development; purchasing; developing new product or service; fulfilling customer expectations; managing information; measuring and analysing performance and training employees. In order to improve quality, many organisations have created quality teams that are required to develop specific plans and set goals that will have a measurable impact on an organisation's key area of customer satisfaction.

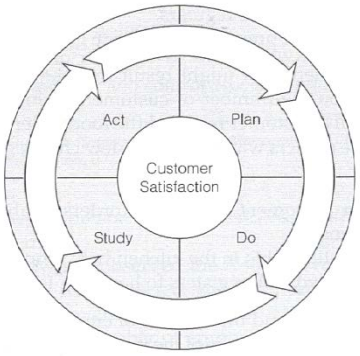
### 3.4.5.1 Process management methodologies

Over the years numerous methodologies for process improvement have been proposed. In this section a review of some would provide an insight into problem solving for process improvement.

#### 3.4.5.1.1 Deming cycle

The use of Deming cycle is to guide and motivate improvement activities. The Deming cycle is composed of four stages: *plan; do; study and act* (Evans & Lindsay 2008: 657) illustrated in figure 3.1.

Figure 3.1: Deming circle




Source: Evans & Lindsay (2008:657)

The plan stage consists of studying the current situation and describing the process: its inputs, outputs, customers, and suppliers; understanding customer expectations; gathering data; identifying problems; testing theories of causes; and developing solutions and action plans. In the do stage, the plan is implemented on a trial basis, for example, in a laboratory, pilot production process, or with a small group of customers, to evaluate a proposed solution and provide objective data. Data from the experiment are collected and documented.

The study stage determines whether the trial plan is working correctly by evaluating the results, recording the learning, and determining whether any issues or opportunities need to be addressed. Often, the first solution must be modified or scrapped. New solutions are proposed and evaluated by returning to the do stage. In the last stage, act, the improvement become standardised and the final plan is implemented as a 'current best practice' and is communicated

throughout the organisation. This process then leads to the plan stage for identification of other improvement opportunities.

#### 3.4.5.1.2 Juran breakthrough sequence

According to Juran (1988:109) all breakthroughs follow a commonsense sequence of discovery, organisation, diagnosis, corrective action, and control, which he formalised as the breakthrough sequence and which can be summarised as follows:

- *Proof of need:* Top managers need to be convinced that quality improvements are necessary so that they can justify a request for resources to implement quality improvement programme.
- *Project identification:* All breakthroughs are achieved project by project. Participation in a project increases the likelihood that the participant will act on the results.
- *Organisation for breakthrough:* Organisation for improvements requires a clear responsibility for guiding the project. Employees or teams should agree on specific aims of the project, the authority to conduct experiments, and implementation strategies. The path to solutions lies with a diagnostic journey and remedial journey, which must be performed by different individuals with the appropriate skills.
- *Diagnostic journey:* Diagnosticians skilled in data collection, statistics, and other problem solving tools are needed at this stage. Management controllable and operator controllable problems require different methods of diagnosis and remedy.
- *Remedial journey:* It consists of several phases: choosing an alternative that optimises total cost, implementing remedial action, and dealing with resistance to change.
- *Holding the gains:* The final step involves holding the new standards and procedures, training the workforce, and instituting controls to make sure that the breakthrough does not diminish over time.

### 3.4.5.2 Tools for process improvement

Among the many tools for process improvement, this section will look into charts and diagrams; Poka-yoke; and process simulation (Evans & Lindsay 2008:663-682).

#### 3.4.5.2.1 Charts and diagrams

- *Flow charts:* Flow charts identify the sequence of activities or the flow of materials and information in a process. These help employees involved in the process to understand it much better and more effectively by providing a picture of the steps needed to accomplish a task. Flow charts help all employees understand how they fit into a process and who their customers are. This realisation leads to improved communication among all parties.
- *Run charts and control charts:* Run charts show the performance and the variation of a process over time in a graphical fashion that is easy to understand and interpret. These charts also identify process changes and trends over time and show the effects of corrective actions. A run chart is a line graph in which data is plotted over time. These can be used to track such things as production volume, cost, and customer satisfaction indexes. If evaluation and correction are done in time, then the chance of producing nonconforming products is minimised. Thus, as a problem-solving tool, control charts allow operators to identify quality problems as they occur.
- *Check sheets:* Check sheets are special types of data collection forms in which the results may be interpreted on the form directly without additional processing.
- *Histograms:* Histograms provide clues about the characteristics of the parent population from which a sample is taken. Patterns that would be difficult to see in an ordinary table of numbers become apparent. A histogram is a basic statistical tool that graphically shows the frequency or numbers of observations of a particular value or within a specified group. The data should be representative of typical process conditions.
- *Pareto Diagram:* Pareto is often used to analyse data collected in check sheets. This diagram helps analysts to progressively focus in on specific problems. It stratifies the data to more details level, eventually isolating the most significant issues.
- *Cause-and-effect diagrams:* Variation in process output and other quality problems can occur for a variety of reasons, such as methods, people and measurements. The goal of problem solving is to identify the cause of problems in order to correct them. The cause-and-effect diagram is an important tool in this task; it assists the generation of ideas for problem solving, and in turn, serves a basis for solution finding.

#### 3.4.5.2.2 Poka-Yoke

The Poka-Yoke concept was developed and refined by in the early 1960s by the late Shigeo Shingo as a mistake-proofing process using automatic devices or methods to avoid simple human errors (Evans & Lindasy 2008:679). It is focused on two aspects: prediction or recognising that a defect is about to occur and providing a warning; and detection, or recognising that a defect has occurred and stopping the process. To mistake-proof a service process requires identifying when and where failures generally occur. Once a failure is identified, the source must be found. The final step is to prevent the mistake from occurring through source inspection, self-inspection, or sequential checks. The following list summarises the typical types of service errors and related Poka-Yoke (Evans & Lindasy 2008:679,680).

- *Task errors* include doing work incorrectly, work not requested, work in the wrong order, or working too slowly. For example computer prompts.
- *Treatment errors* arise in the contact between the server and the customer, such as a lack of courteous behaviour, and failure to acknowledge, listen, or react appropriately to the customer. For example a secretary smiling and observing whether a customer smile back.
- *Tangible errors* are in physical elements of the service, such as unclean facilities, dirty uniform, or documents errors. Spell checkers in word processing software help reduce documents misspelling.
- *Customer errors in preparation* include failure to bring necessary materials to the encounter, to understand their role in service transaction, and to engage the correct service. A manufacturer provides a flow chart to specify how to place a service call. By guiding the customer through yes or no questions, the flow chart prompts them to have the necessary information before calling.
- *Customer errors during encounter* can be due to inattention, misunderstanding, or simple memory lapse, and failure to remember steps in the process or to follow instructions. For example: Beeps that signal the customer to remove a card from an ATM machine.
- *Customer errors at the resolution stage* of a service encounter include failure to signal service inadequacies, to learn from experience, to adjust expectations, and to execute appropriate post-counter actions. For example, a simple questioner to encourage customers to provide feedback.

#### 3.4.5.2.3 Process simulation

Process simulation has been used routinely in organisations to address complex operational problems. It is a useful tool, especially those involving customer service improvement, cycle time reduction, and reduction variability. Process simulation is an approach to building a logical model of a real process and experimenting with the model to obtain insight about the behaviour of the process or to evaluate the impact of changes in assumption or potential improvement to it. Building a process simulation model involves firstly, describing how the process operates, normally using a process map. The process map includes all process steps, including logical decisions that route materials or information to different locations.

Secondly, all key inputs, such as how long it takes to perform each step of the process, and resources needed must be identified. Typically the activity times in a process are uncertain and described by probability distributions, which normally makes it difficult to evaluate process performance and identify bottle necks without simulation. The intention is for the model to replicate the real process so that 'what if' questions can be easily evaluated without having to make time-consuming or costly changes to the real process. Once the model is developed the simulation process repeatedly samples from the probability distributions of the input variables to create a distribution of potential outputs. Most simulation models provide operational output data for all the process steps, resource utilisation data, and additional variables tracked throughout the process. When data is collected, it becomes a straightforward task to analyse it statistically, identify bottlenecks, develop proposed solutions, and rerun the simulation to confirm the results. Organisations seeking better service delivery on their technology investment can focus on ways to create entire services based on new or improved organisational processes that integrates information from multiple functional areas (Laudon & Laudon 2006:401). Process management is also a methodology to for dealing with the organisation's needs to change its processes continually to remain effective.

### 3.4.6 Management information systems

TQM typically focuses on making a series of continuous improvements rather than a dramatic burst of change. Sometimes, however, processes may have to be fully reengineered to achieve a

specified level of quality. Information systems can help organisations achieve their quality goals by helping them specify products and processes, making improvements based on demand, reduce cycle time, and improve the quality and precision of design. Building a new information system is one kind of planned organisational change. The introduction of a new information system involves much more than new hardware and software. To develop an effective information system plan, the organisation must have a clear understanding of both its long and short term information requirements (Laudon & Laudon 2006: 506,496).

#### 3.4.6.1 Organisational information requirements

Two principal methodologies for establishing the essential information requirements of the organisation as a whole, stated by Laudon and Laudon (2006: 496) are: enterprise analysis and critical success factors. These methodologies are discussed below.

*Enterprise analysis or business system planning:* This approach argues that the organisation information requirements can be understood only by examining the entire organisation in terms of organisational units, functions, processes, and data elements. The most common method used in this approach is to take a large sample of managers and ask them how they use information, where they get their information from, what their objectives are, how they make decisions, and what their data needs are. The results of this survey are then aggregated into subunits, functions, processes, and data matrices. The weakness of enterprise analysis is that it produces an enormous amount of data that is expensive to collect and difficult to analyse.

*Critical success factors:* This approach argues that an organisation`s information requirements are determine by a small number of critical success factors (CSFs) of managers. If these goals can be attained, success of the organisation is assured. CSFs are shaped by the industry, the organisation, the manager, and the broader environment. New information systems should focus on providing information that helps the organisation to meet these goals.

The strength of the CSF method is that it produces less data to analyse than does full-scale enterprise analysis. In CSFs, only top managers are interviewed, and the questions focus on a small number of CSFs rather than requiring a broad inquiry into what information is used in the organisation. However, its primary weakness is that the aggregation process and the analysis of

the data are largely subjective forms of analysis. There is no particularly rigorous way in which individual CSFs can be aggregated into a clear organisation pattern. Interviewees often become confused when distinguishing between individual and organisation CSFs.

#### 3.4.6.2 Linking systems to business plan

Deciding which new system to build should be an essential part of the organisational planning process. Organisations need to develop an information system plan that supports their overall business plan and in which strategic systems are incorporated into top level planning. The plan should contain a statement of corporate goals and specify how information technology will support the attainment of those goals. The plan should indicate the key management decisions concerning hardware acquisition; telecommunication; centralisation and or decentralisation of authority, data, and hardware; and required organisational change (Laudon & Laudon 2006:496).

#### 3.4.6.3 Systems development

The activities that go into producing an information system solution to an organisational problem or opportunities are called systems development. Systems development is a structured kind of problem solving with distinct activities. These activities consist of systems analysis, system design, programming, testing, conversion, and production and maintenance (Laudon & Laudon 2006:506).

- *Systems analysis* is the analysis of the problem that the organisation would try to solve with the information system. It consists of defining the problem, identifying its causes, specifying the solution, and identifying information requirements that must be met by a system solution.
- *Systems design* shows how the system will fulfil the objectives of systems analysis which describes what a system should do to meet information requirements. The system designer details the system specifications that will deliver the functions identified during systems analysis. These specifications should address all of the managerial, organisational, and technological components of the system.
- *Programming* is a stage whereby system specifications that are prepared during the design stage are translated into software programme code.

- *Testing* must be conducted to ascertain whether the system produces the right results. It tests the functioning of the information system as a whole. It tries to determine whether discrete modules will function together as planned and whether discrepancies exist between the way the system actually works and the way it was conceived.
- *Conversion* is the process of changing from the old system to the new system. Moving from the old system requires that the end users be trained to use the new system.
- After the new system is installed and conversion is complete, the system is said to be in *production.* During this stage, the system will be reviewed by both user and technical specialist to determine how well it has met its original objectives and to decide whether any revision or modifications are in order. After the system has been fine tuned, it must be maintained while it is in the processes to correct errors, meet requirements, or improve processing efficiency. Communication is inextricably linked in the quality process (Ross 1999:48).

### 3.4.7 Communication

Communication is an integral part of all management functions. In order to lead, plan, organise, and control, managers have to communicate with their subordinates (Cronje & Smit 2002:367). The term communication has a wide range of meanings. Bell and Marais (1998:6) define communication as "a two-way process by which certain information is conveyed or transmitted from a communication source to a receiver". Lowe (1995:6) defines it as "a purposeful process, which involves sources, messages, channels, and receivers". Davis and Goetsch (1994:266) state that "communication is the transfer of a message, information, idea, emotion, intent, feeling that is both received and understood". However, it is easier to recognise the importance of communication than it is to define the term (Adler & Elmhorst 1996:6).

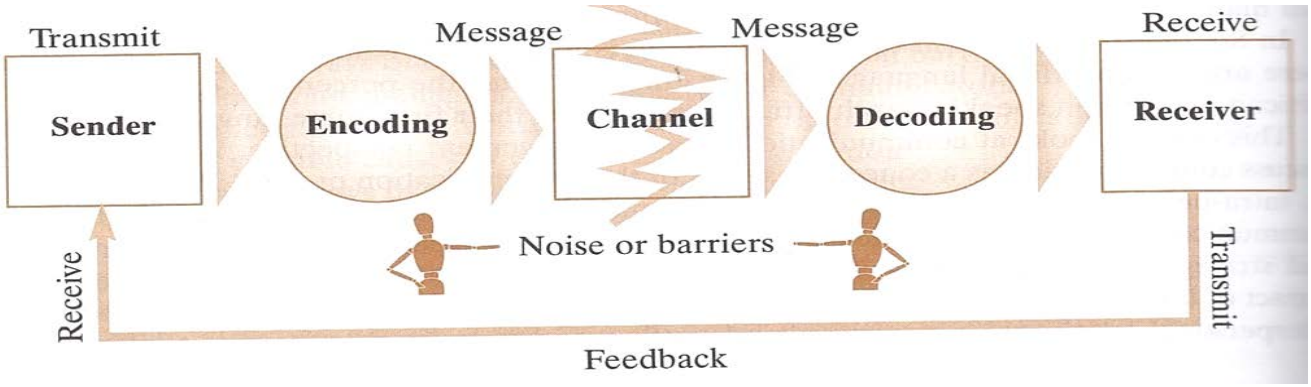
#### 3.4.7.1 Communication and TQM

When a message is understood, there effective is communication. However, by itself, communication is not necessarily effective communication. Effective communication means the message is received, understood, and acted on in a desired manner (Davis & Goetsch 1994:266).

This means that effective communication in a TQM environment may require persuasion, motivation, monitoring, and leadership on the part of managers.

### 3.4.7.2 Communication process

Figure 3.2: Steps in the communication process




Source: Cronje & Smith (2002:368)

Effective communication can be described as the process of transmitting information and meaning. This process is used when there is something that the sender wants the receiver to know, understand, or act upon. Implied in this description is the ability to listen, as no meaningful message can be conveyed without a willing listener. No matter what the setting or the number of people involved, all communication consists of several elements. These elements are the message, the sender, the channel, encoding, receiver, decoding, and feedback (Adler & Elmhorst 1996:6, 7; Cronjé & Smit 2002:368-369; Lowe 1995:7).

- *Message* is the information, idea, feeling, or intent that is to be conveyed, understood, accepted, and acted upon.
- *Sender* is a person with information, needs or desires, and a reason for communicating them to one or more people. The sender initiates the communication. In an organisation top management initiate this process by explaining to subordinates the goals of the entire organisation.
- *Channel*, the sender has to select a channel for transmitting the message. The manager explaining the goals of the organisation can choose one of the following channels: oral, non-verbal, or written.

- *Encoding*, the sender must choose certain words or non-verbal methods to send a message. The words and channels that a communicator chooses to deliver a message can make a tremendous difference in how that message is received.
- *Receiver* is any person who notices and attaches some meaning to a message.
- *Decoding* is the process in which the receiver interprets the message and translates it into meaningful information. It is a two step process. The receiver must first perceive the message, and then interpret it.
- *Feedback* tells the communicator that the message has been received and the nature of the feedback will disclose whether the message has been understood as that communicator intended and will also indicate the recipient`s response. The receiver has to decide whether feedback to the sender is needed. If the subordinate decide to give feedback to the manager, at this moment the role of a sender and receiver changes, as the subordinate now becomes the sender, and the manager the receiver. These elements are illustrated in a diagram as in figure 3.2.

#### 3.4.7.3 Organisational communication

Managerial communication occurs in three forms, namely intra-personal, interpersonal, and organisational communication. In intra-personal communication, managers receive, process, and transmit information between themselves. In interpersonal communication, messages are transmitted directly between two or more people, usually on a person-to-person basis, that is, personal e-mails or at meetings. In organisational communication, information is transferred between organisations or between different units or departments in the same organisation. In the public sector, for instance, national government has to communicate with different provinces to direct policy implementation. Provinces also have to communicate with municipalities to evaluate the impact. The shop-floor personnel at municipal departments have to communicate with each other to assess the impact and give feedback. Effective communication can give an organisation a competitive or service delivery edge. Organisations in which communication systems are effective are likely to be more successful than those in which they are not (Cronje & Smit 2002:370).

Other key concepts of TQM such as customer satisfaction, leadership, strategic planning, employee involvement and empowerment, teamwork, problem prevention, problem solving, and conflict resolution, all depend on effective communication. Customer focus means basing decisions and actions on the needs of customers. Determining the needs of customers involves listening, asking, observing, and probing while simultaneously being mindful of not just what is said but how it is said as well as what is not said. Leadership by definition requires effective communication to all employees. Employee involvement and empowerment require the establishment of a workplace environment that promotes open, frank communication. Teamwork, by its very nature, depends on communication. In order for TQM to continue to improve organisational performance, a team must comprise of employees who are informed concerning team goals, how they are to be accomplished, who is responsible for what, and how it all fits together. This means that team members must continually communicate among themselves, with managers, and with other teams and their communication must be effective (Davis & Goetsch 1994:269).

### 3.4.8 Continuous improvement

Many theoretical works have emphasised the importance of a strategic management of the organisational function and the management of quality in order to gain a competitive advantage. While alignment of the organisational function with the strategic priorities is central to competitiveness, the continuous improvement of the organisational function plays a very important role. Continuous improvement is defined as company-wide process of focus and continuous incremental innovation (Carpinetti & Martins 2001: 281). Based on the principle of continuous improvement of product and services, the TQM approach guides the user through logical processes of identifying service objectives, measuring current organisational performance, determining the effect of current organisational practices and identifying where change is required.

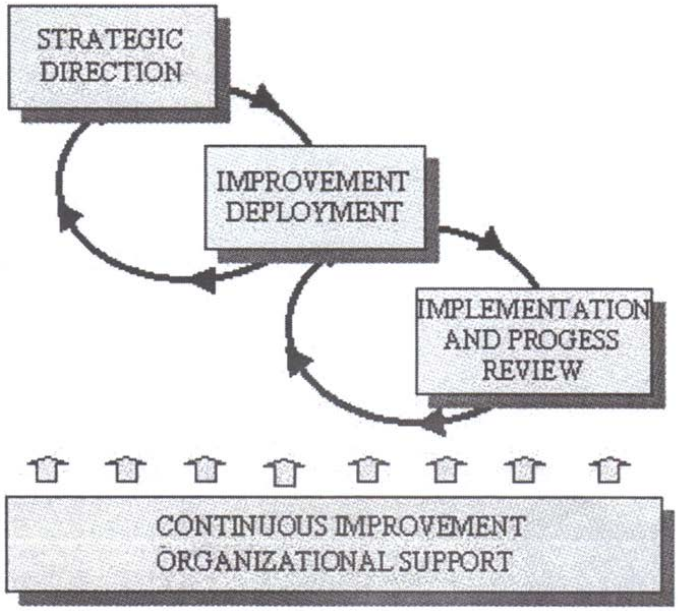
#### 3.4.8.1 Identification of improvements needs

One way to identify improvement needs is to carefully select the area of improvement to which time, energy, and other resources will be devoted. For example, if there are five processes that might be improved, consider the ones which will yield the most benefit if improved. Firstly, brainstorming sessions should assist in developing a list of potential improvement projects in their order of priority. Secondly, identify pressing customer needs and use them as projects for improvements. Thirdly, study how employees spend their time. This would determine whether the time devoted to a given problem yield solutions. Lastly, pinpoint specifically where the problem happens, when it happens, and how often (Davies & Goetsch 1994:440). After projects have been selected, the project management team should begin by developing an improvement plan.

#### 3.4.8.2 Development of improvement plans

A model, developed by Carpinetti and Martins (2001:283) provides a conceptual framework on how to develop improvement plans. Figure 3.3 portrays this framework in three broad iterative steps: strategic direction definition; improvement deployment; and implementation and progress review.

Figure 3.3: A conceptual framework for strategy-related continuous improvement deployment and implementation




Source: Carpinetti & Martins (2001:283)

In the first step, strategic direction, top managers are concerned with taking decisions so as to align the organisation's direction and related functions with the organisation's strategy envisaged to obtain long-term objectives. The outputs of this step are competitive priorities, policies and broad areas for improvements. Improvement planning, the second step of this model, is a process of identifying and prioritising improvement actions in projects that will most contribute to the strategic objectives. The third step is concerned with implementing and reviewing progress of improvement actions. It basically involves planning, allocation of resources, monitoring progress and feedback. Systematic progress review and feedback are a fundamental importance for evaluating whether improvement efforts are producing the desired results as well as to validate the improvement strategy in the light of the organisational strategies. Feedback depends on organisation`s customers, in fact customers are the livelihood of an organisation (De Wet, De Wet & Pothas 2001:83). It is therefore, important to any organisation to assess customer satisfaction.

### 3.4.9 Customer satisfaction

Customer satisfaction is dependent upon a defined set of intrinsic and extrinsic product or service related attributes and on what competitors can offer (Garvin 1995:79). The foremost goal of TQM is to satisfy customers by meeting and exceeding their expectations and as a result enhance customer perceptions of an organisational quality (Chen, Chou & Hsieh 2002:900).

#### 3.4.9.1 Understanding customer needs

At its core, the TQM approach serves to specify the standard operating procedures of every aspect of work that every individual in the organisation follows in order to continuously improve quality at every stage of the value chain. These standard procedures as propounded by Chen et al. (2002:901) include: how to communicate closely with customers to identify and understand what they want and how they define quality; how to work with suppliers to ensure correct suppliers for the work process; and how to analyse the work process continuously to reduce process variation.

#### 3.4.9.2 Gathering and analysing customer information

The best way to determine what makes customers satisfied is to ask them either before or concurrently with a customer survey. Thereafter an audit of the organisation's TQM infrastructure needs to be made. Despite the need for customer input in determining new product or service offering and improve the existing ones, the wide spread tendency is to determine perceived quality and perceived customer satisfaction based almost solely on in-house surveys (Ross 1990:231). Many organisations consider investment in handling of complains as a means of increasing customer commitment and building customer loyalty. Failure to identify the root cause of complaints means that reduction of variation in the causative process is more difficult. A customer who is unable to get through to a sales representative is evidence of a malfunction in the sales and marketing function.

Thus, it becomes necessary to tie the customer into the process. It has been established that part of the cause of this failure to close the customer-process loop is inadequate support from top management for the TQM infrastructure and a continued focus on the techniques of TQM,

particularly statistical process (Omachonu etal. 1998:118). However, the customer is not really interested in the sophistication of an organisation's process, its training programme, or its culture. For the customers, the bottom line is whether they obtain the desired products or services that satisfy them. Therefore, it is important to assess customer satisfaction in both the manufacturing and service industries. There are various measuring instruments that have been developed for the assessment of customer satisfaction such as service quality model (SERVQUAL).

#### 3.4.9.3 Measuring customer satisfaction

A well known and established measuring instrument for service quality, as referred above, is called SERVQUAL, developed by Berry, Parasuraman, and Zeithaml for service industries. SERVQUAL entails measuring the gaps between the perceptions of customers, the level of service provided and the potential for improvement (Carman 1990:33). Unlike goods quality, which can be measured objectively by such indicators as durability and number of defects, service quality is an abstract and elusive construct because of three features unique to services namely; intangibilty, heterogeneity, and inseparability of production and consumption (Berry, Parasuraman, and Zeithaml 1988:13). In the absence of objective measures, an appropriate approach for assessing the quality of an organisation's service is to measure customer`s perceptions of quality. The authors proposed that the instrument has been designed to be applicable across a broad spectrum of services.

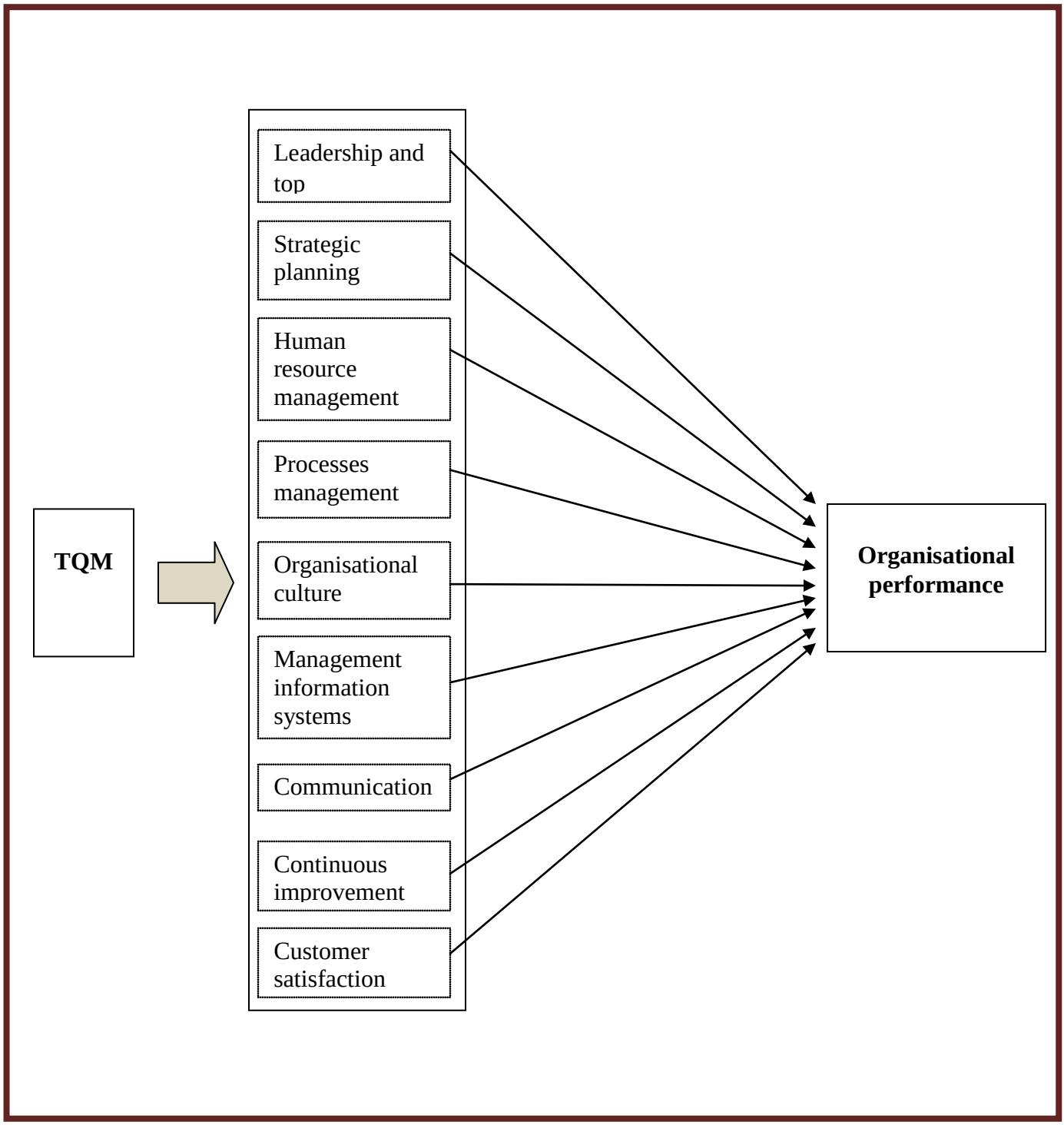
Organisations that commit to the concept of TQM apply quality improvement techniques in almost every area of administration and customer service. Nowhere is the concept of "customer is King" more relevant than in TQM. The paradigm shift of TQM applies to all enterprises, both manufacturing and service, and many service organisations have reaped the benefits of applying TQM (Ross 1994:13).

## 3.5 IMPLEMENTING TOTAL QUALITY MANAGEMENT

To manage the organisational change surrounding the introduction of a new management approach effectively, one must examine the process of implementation. Implementation refers to all organisational activities working towards the adoption, management, and routinisation of an innovation such as TQM (Laudon & Laudon 2006:551).

### 3.5.1 TQM implementation model

Figure 3.4: TQM implementation model



The top management is the catalyst for the entire change process and is responsible for ensuring that all parties involved accept the changes created by a new approach. The following model divides the TQM implementation process into nine areas that seek to integrate several organisational functions for the total improvement of services. According to this TQM implementation model (see figure 3.4), all managers, ideally starting with top management officials, must provide leadership to drive organisation`s quality objectives. Their task is to create clear values and high expectations for performance excellence and to build these into the organisation's processes. Strategic planning should be the driver of quality excellence throughout the organisation and needs to anticipate many changes, such as customer expectations, new business opportunities, the global and technological developments, societal expectations, evolving regulatory requirements, and strategic changes by competitors. Plans, strategies, and resource allocations need to reflect these influences.

Meeting the organisations quality and performance goals requires a fully committed, well trained, and involved workforce. Front-line workers need skills to listen to customers, workers need specific skills in developing technology, and all employees need to understand how to use data information to drive continuous improvement. These can only be achieved through the design and management of appropriate work systems; reward and recognition approaches; education and training approaches; and a healthy, safe, and motivating work environment. Major challenges in this area include the integration of human resources practices and alignment of human resource management with the organisation's direction and strategic change process.

Process management involves the design of processes to develop and deliver products and services that meet the needs of customers, and daily control so that they perform as required. Process management activities place a strong emphasis on prevention and organisational learning because the cost of correcting problems at the design stage are much lower than cost of correcting problems that occur downstream. Central to TQM is the insistence on the creation of management processes that promote cultural change. The aim is to shift management and employee's attitude to quality assurance by focusing on norms, values, believes and the rituals of the organisation, as well as leadership styles which are considered to create a strong cultural climate (Tuckman 1994:728). Modern organisations depend on data and information to support performance measurements, management, and improvement. Such measurements should derive from an organisational strategy and provide critical information about key processes, output, and

results. This data must be supported by effective analysis capabilities to extract useful information to support decision making and operational improvement.

Communication between individuals, between individuals and teams and between employees within the institutional context, is inextricably linked to the quality process. It means analysing one's own communication patterns, as well as designing communication programmes that fit into quality objectives in the strategic plans. The more communication is managed toward specific goals, the greater the likelihood that employees will continuously achieve quality improvement goals. Continuous improvement refers to both incremental changes, which are small and gradual. These improvements may take any one of several forms, that is: enhancing value to the customer through new and improved products and services; reducing errors, defects, waste, and related cost; increasing productivity and effectiveness in the use of all resources; and improving responsiveness and cycle time performance for such processes as resolving customer complaints. Finally, quality as the totality of features and characteristics of a product or service that bears on its ability to satisfy the given needs, must meet the expectation of customers. The job of an employee is not simply to please his or her supervisor but also to satisfy the needs of customers. Understanding customer needs, both current and future, and keeping pace with changing markets require effective strategies for listening to and learning from customers, measuring their satisfaction relative to competitors (Evans & Lindsay 2008:24).

### 3.5.2 Role of managers to implement TQM

Top management commitment is a prerequisite for effective and successful TQM implementation (Anantharaman et al. 2001:352). Not all aspects of the implementation process can be easily controlled and planned. However, anticipating potential implementation problems and applying corrective strategies can increase the chances for organisational performance (Laudon & Laudon 2006:557). Schon's in Garrity (1993:452) argues that managers think while they work, do not know where they are going beforehand, but when they start to work act intelligently. He calls this behaviour reflection in action and suggests that it is a central art which makes situations of uncertainty, instability, uniqueness, and value conflict manageable.

Top management needs to appreciate the iterative process of setting objective, taking action, learning from results, making incremental corrections in course, and then doing it over again. Visionary leadership is the art of leading and espousing a mental, strategic and spiritual change

in the organisation by formulating a long-range vision for the development of the organisation (Anantharaman et al. 2001:352). In other words, managers must provide guidance in terms of a vision of the future; priorities according to which to work; parameters within which to work; articulation of customer needs; and the quality of product or service required (Garrity 1993:452). Senge in Garrity (1993:452) makes a point that managers should create a learning environment in which the lessons of experience can be instilled and transmitted far more efficiently than in the traditional authoritarian organisation.

Managers must be able to recognise leverage points. Leverage points are the relatively small number of policy changes that can radiate desirable influence throughout a system (Garrity 1993:452). A TQM policy can be a leverage point for the organisation's top management to launch the organisation into the future. Assuming that TQM principles and practices are integral to developing individuals and organisation thereby contributing to improving organisational performance, why not coax leaders to learn the talk and walk the talk. Managers must finally stimulate the entire organisation towards the accomplishment of the vision. Assuming that top management commitment is forthcoming, the next step is for managers to identify the key points contained within the agreed part of the vision for the resulting TQM approach. Thereafter, they must communicate, develop or introduce, and train (Addey 2001:852).

The involvement of managers in the design and application of TQM give them more opportunities to mould the systems according to their priorities and organisational requirements, and more opportunities to control the outcome. Managers should also involve the employees in the design and operations of TQM because they are more likely to react positively to the completed system if they have been active participants in the change process. Incorporating employee's knowledge and expertise leads to better solutions (Laudon & Laudon 2006:551). During the planning phase, key stakeholders should be identified and their involvement in the development planned. In many cases these individuals already would have been involved in the development of a TQM vision. However, at this stage the process should allow this involvement to be reviewed and expanded to involve all who will be directly affected or/and involved in the resulting implementation. For the TQM implementation, theoretically, this should include the whole organisation. Consequently, managers will be requested from each section or department to focus the views and involvement of their part of function. This involvement is essential, not only to ensure that all the views and potential problems are aired and addressed before the

change is made, but also to achieve a degree and depth of ownership needed for change success (Addey 2001:852).

Even at this early planning stage alternative training options should be considered so that training can be designed in parallel with the development of the TQM approach. This planning will also investigate the options and resources available for providing intensive support once the TQM has been launched. The implementation phase is primarily involved with developing the change in line with the change plan to satisfy the change objectives and implement the chance policy. As described above, the stakeholders and trainers will be involved throughout this phase to support, review and test the implementation of TQM. After a suitable period of usage it will be appropriate to seek user feedback and to hold a lesson learned review so that development process improvements can be identified, agreed and addressed. In this way TQM improvement opportunities could be established. User feedback can be used to direct the success of the change, to provide a forum to discuss further development opportunities and cross-fertilise good practise implementation experience (Addey 2001:853).

From the TQM implementation model, the implementation of TQM in an institution requires of management to become leaders. Against this background, the role of managers to implement TQM is (Moura & Kanji 2003: 132; Oschman 2004:133):

- to inspire and motivate the workforce and encourage involvement, learning, innovation, and creativity;
- to develop clear and effective business or service strategies, including supportive plans for achieving the mission and objectives;
- to identify the critical success factors that need to be accomplished for the mission of the institution to be achieved;
- to define the corporate objectives and strategies and processes that might make it necessary to review the institutional structure;
- to get very close to the employees to empower, energise, encourage and trust them to ensure employee participation;
- to develop effective communication strategies that encourage good communication between all suppliers and customers; and
- to show appreciation through utilising rewards and recognition for employees` achievements and contributions.

Finally, TQM implementation requires organisational-wide education and training in problem solving skills, group dynamics, employee development, and manager coaching. TQM implementation as a strategy must penetrate and becomes systematised within the organisational culture. Attempts at mutual growth and development, improving trust and communication, and focusing on the common goal are believed to be a winning strategy with a chance to succeed (Garrity 1993:453).

### 3.5.3 Factors contributing to TQM failures

The common factor contributing to TQM failure is a lack of backing and commitment of top management. This in turn, demotivates other management levels and employees to support the process (Soltani, Van der Meer & Williams 2005:219). Furthermore, to be enforced effectively, all the changes in work habits and procedures and any organisational realignment associated with the new approach depend on management backing (Laudon & Laudon 2006:553). Lack of enough knowledge of TQM practices also lead to employee resistance caused by inability to engage employees to recognise why introducing quality management is important and what its benefits are to both organisation and customers at large. Lack of training could make employees incapable of effecting the required changes, would contribute to employees resistance to any change program, thus resulting in TQM failure (Soltani et al. 2005:220).

Furthermore, limited resources and lack of continuous monitoring of the TQM process through an appropriate performance management system are other barriers to TQM success. If the budget is strained, there will likely be insufficient funds for training and documentation (Bikson in Laudon & Laudon 2006:555). Ineffective internal communication between management and employees may result in employees not being aware of their role in pending changes. Employees need to communicate across organisational levels, functions and locations to work out current problems, eschew new ones and implement change (Anantharaman et al. 2001:352). Poor management systems could also compromise service design which echoes an organisation's strategic quality planning abilities and enables the organisation to surmount customer's needs, expectations and desires, consequently resulting in improved organisational performance (Anantharaman et al. 2001:352). Other factors include avoiding taking risks and radical changes, thus organisations remain being more committed to the *status quo* (Dalgleish in Soltani et al. 2005:220). The first step in managing risk involves identifying the nature and level of risk

confronting implementation. Top management can then handle all processes and risk management approaches geared to its level of risk.

TQM approaches are not a panacea that can be used in an uncritical manner, but it must be implemented with a clear sense of the degree to which the context is characterised by uncertainty, none routine, and or instability (Schroedern, Sitkin & Sutcliffe 1994:538). The success or failure of quality management initiatives may have more to do with organisation specific factors as mentioned above, particularly the extent to which initiatives are implemented in a strategic manner with continuing management commitment, than with sector factors (Marchington et al. 1998:183). The following factors are commonly associated with TQM failures (Soltani et al. 2005:219).

- Lack of drive by senior management and middle management commitment and lack of skills by chief executives.
- Skills shortage/lack of qualified personnel.
- Limited resources.
- Low engagement of employees.
- Lack of strong leadership.
- Convincing staff to take ownership of quality.
- Employee resistance.
- Low commitment of top management.
- Lack of integrated performance measurement.
- Lack of enough knowledge of the TQM practices.
- Lack of continuous monitoring of the TQM process.

Given the challenges of innovation and implementation, it is not surprising to find a very high failure rate among organisations' application of TQM process reengineering, which typically require extensive organisational change and which may require replacing old technology and systems that are deeply rooted in many interrelated organisational processes. A number of studies have indicated that 70 percent of all organisation process reengineering initiatives fail to deliver promised benefits (Laudon & Laudon 2006:556). Likewise, a high percentage of organisations fail to fully implement or to meet the goals of their desired mission.

In many organisations restructuring have been undermined by poor implementation and change management practices that failed to address employee's concerns about change. Dealing with fear and anxiety throughout the organisation; overcoming resistance by key managers; changing job functions, career paths, and recruitment practices; and managing training have posed greater threats to restructuring than the difficulties organisations faced visualising and designing breakthrough changes to organisation processes (Laudon & Laudon 2006:556).

### 3.5.4 Evaluation model for service quality

In order for service organisations to evaluate the quality of service rendered to their customers, this dissertation proposes SERVQUAL methodology. According to Brysland and Curry (2001:394) the SERVQUAL methodology evaluates and helps to determine the following: different customer's perceptions and expectations of service quality in order to highlight current performance levels; resultant service quality gaps; how important each of the service quality dimensions is to the customer, which assists in resource allocations and definition of action-planning priorities; an understanding of customer perceptions and expectations over time, allowing further analysis as part of the monitoring process; how to manage customer expectations with regard to service planning, design and delivery; the impact of service improvement activities carried out as a result of customer expectations and priorities; and most importantly, the evaluation results that provide a starting point to assist with the prioritisation of service improvement activities.

This methodology identifies five criteria by which the quality of service can be evaluated (Curry & Herbert 1998:340). These criteria are clustered under the following headings:

- *Tangible:* the appearance of physical facilities, equipment, personnel and communication material.
- *Reliability:* the ability to perform the promised service dependably and accurately.
- *Responsiveness:* willingness to help customers and provide prompt service.
- *Assurance:* possession of required skills and knowledge to perform the service; politeness; respect; consideration and friendliness of contact staff; trustworthiness; believability and honesty of staff; and security from danger, risk and doubt.

- *Empathy:* access, that is, approachability and ease of contact; communication, that is, keeping customers informed in a language they understand and listening to them; and understanding customers by making an effort to know them and their needs.

## 3.6 SUMMARY

This chapter has defined quality and the meaning of Total Quality Management within both the manufacturing and public sector arena. The nine dimensions of TQM were also discussed limited to the sphere of influence and application of TQM. The TQM model was presented and it was articulated how the quality dimensions will enhance organisational performance. The chapter has reflected on the relationship between TQM dimensions with a belief that, if TQM principles and practices can become integrated in the culture, then improved organisational performance is a reasonable expectation. It draws on many of the concepts and expectations developed in contemporary literature in an attempt to project how organisations would be with the aid of TQM.

The role of managers to implement TQM were discussed as well as the factors contributing to TQM failure as a check list of what managers must avoid in order to implement TQM effectively. Criteria upon which TQM in public institutions could be evaluated were also discussed as the corner stone of a performance measurement system.

# CHAPTER 4

# CONCEPTUAL ANALYSIS OF PREFORMANCE MANAGEMENT

## 4.1 INTRODUCTION

Improving performance in municipalities depends upon local government restructuring in South Africa. Local government introduced municipal performance management systems as part of the new public management paradigm shift, adopted in an attempt to find more effective and efficient methods of delivering municipal services. This chapter will examine the concept of performance management and the impact of Total Quality Management (TQM) on municipal performance.

The meaning of quality and performance management is defined and evaluated in terms of components of performance management. In this way the fundamental value and impact TQM may have on performance management can be determined. The balanced scorecard as a strategic framework linking strategy with operational performance will be elucidated in order to illustrate the centrality of aligning organisational activities to the vision. This chapter further analyse the concept of benchmarking as a comparative tool enabling organisations to compare their performance with the best in the world. Finally the international assessment models are discussed to illustrate the value of TQM in performance improvement.

## 4.2 QUALITY AND PERFORMANCE MANAGEMENT

Quality in an organisational context is a characteristic that results in the production of goods or services that are appropriate to customer needs (Conti 1993:8). For example, products must be reliable, useable, and repairable. Similarly, service should be courteous, efficient, and effective. In the public sector, quality is orientated differently to the private sector in that it puts more emphasis on people's dimension (Conti 1993:8). Performance in this context refers to how organisations conduct their operations and its management processes in order to satisfy customers by providing high quality products and services (Wilford 2007:335). Therefore organisations are encouraged to operate within a particular framework that will optimise the organisational performance in order to achieve a degree of excellence.

Quality related activities have a huge impact on the success of any organisation. With the need to sustain performance, organisations are striving to define, implement and sustain TQM practices. TQM integrates strategy, management practice and organisational outcomes to create a quality organisation that continuously improves and sustain performance (Samson & Terziovski 1999:226). Pearson and Wilson (1995:9) believe that quality and performance serve as a catalyst for improvement and the application of quality dimensions would have an even bigger impact on organisational effectiveness, competitiveness, and ultimately its existence. It is often said that organisations compete on three things, quality, delivery and price (Joyce 1995:135). However, an organisation's ability to improve and widen a range of activities it delivers is dependent on the achievement of the desired level of performance.

## 4.3 PERFORMANCE MANAGEMENT IN MUNICIPALITIES

According to Putnam (1993:9) performance denotes "a progress towards goal achievement and performance management is intended to build on organisation's capabilities to be more responsive, effective and sensitive to the demands of their customers, also being efficient in utilising the limited available resources to address those demands". Understanding performance management systems of municipalities also requires recognising the contextual factors that condition the delivery of municipal services. These factors include the locality-specific environment, national government policy directives in the context of cooperative spheres of government, and even the global environment that impacts on local government's ability to perform (Asmah-andoh 2009: 201, 202). In any given local municipality, both political functions of providing services and the mediation of conflict through public administrative institutions are judged by how effectively, efficiently and how cheaply these services are performed.

The Department of Provincial and Local Government (undated:3) broadly defines performance management "as a strategic approach to management, which equip leaders and managers, workers and stakeholders at different levels, with a set of tools and techniques to regularly plan, continuously monitor, periodically measure and review the performance of the organisation in terms of indicators and targets for efficiency, effectiveness and impact". As a conceptual framework, performance management provides an understanding of the processes and

complexities of policy and policy implementation, especially the crucial linkages between organisational aspects such as human resources and financial management (Spangenberg 1994:xiii). Such conceptualisation means that the municipal performance cannot be isolated to specific tasks being carried out by municipalities. Van der Waldt (2004:45) notes that the concept of performance in the public sector is inherently political and that care should be taken to avoid a view that is too simplistic. Spangenberg (1994:15) further argues that performance management forms part of some larger system, driven by key political figures whose buy-in to the system is critical for its success. Performance management systems could thus be utilised to monitor effective implementation of TQM in organisations.

Easton (1965:273) writes that "as part of the evaluation of municipal institutions, most citizens, instead of bestowing support, fall back on performance-based judgements of what municipalities do for them". Evaluating outcomes of public programmes are customer satisfaction, socio-economic contribution of programmes, and the link between policies, strategic plans and goal achievement. Unlike in the private sector where the measurements and targets to measure successfully are often generally accepted, what constitutes performance in municipalities is more complex and therefore difficult to define. However, one can use a range of indicators and measures of performance, such as output effectiveness related to policy and services, responsiveness defined as the degree of congruence between policies, outputs and popular preferences, and processes which refer to transparency and fairness of local officials to describe performance (Asmah-andoh 2009:202). Added to this definitional difficulty, the centrality of government performance in the public sector introduces the notion of public productivity, albeit in the broadest sense. The productive public sector organisation is regarded as having the capability to perform and convert this capability into results, output and outcomes (Dubnick 2005:393).

According to the Local Government Municipal System Act, 2000 (Act 32 of 2000), municipalities must establish performance management systems as part of the Integrated Development Plans (IDPs) to achieve service delivery objectives. Statutory requirements to establish performance management systems may be necessary but not sufficient to improve performance and to assure the public of what it is they are receiving for money from public programmes. The issue is to integrate measurement for all factors that influence service delivery, and utilise measurement information in conjunction with strategic planning, budgeting,

and policy and programme evaluation to better manage public service delivery obligations (Thomas 2008:28).

### 4.3.1 Components of performance management

The primary focus of performance management hinges on developing measurable indicators to track programme performance, and ultimately outcomes. A general understanding of performance management would necessitate a discussion of performance measurements, performance indicators, performance reporting, performance monitoring and evaluation, performance auditing and performance appraisal.

#### 4.3.1.1 Performance measurement

TQM emphasises the understanding of variation, the importance of measurement, the role of internal and external customers and suppliers, and the involvement of employees at all levels of an organisation in pursuit of continuous improvement (Chang 2006:1094). A key concern regarding successful TQM is that of measurement (Bannister & McAdam 2001:89). In other words, the impact of TQM cannot be recognisable without utilising quality management measures. Many different tools and methods have been developed to support TQM implementation, amongst which performance measurement is critical to the success of organisational change programmes. To be effective a performance measurement system should provide timely, accurate feedback on the efficiency and effectiveness of operations. The feedback will then be used to monitor the effectiveness of quality improvement actions and forms the basis for corrective management action (Chang 2006:1094).

Poor quality can also be recognised in a service organisation more easily if one looks for errors, wrong entries, missing information, and slack time-response (Fox 1995:9). The implementation of TQM generally mandates a review and updating of an organisation's performance measures. According to Claver in Chang (2006:1095) key organisational results "are in the areas of customer satisfaction and social impact, while the implementation of a measurement system will depend on leadership, quality planning, training, process management, and continuous improvement and learning". The idealised objective is to determine how a performance

measurement system that is comprehensive, valid, and reliable can be used to drive success by focusing the organisation's efforts on the real sources of excellence.

Bannister and McAdam (2001:91) propose that an effective performance measurement system should include the following attributes.

- Activities must be streamlined.
- Processes must be well understood and simplified.
- Everything is important; everyone adds value to the end customer.
- Measurements should reflect progress visibly and problem elimination.
- Measurement is relative, not absolute and is everyone's responsibility.

Therefore, the main thrust of performance measurement is the development of performance indicators to provide an empirical foundation to create a better understanding of the impact of TQM on organisational performance.

#### 4.3.1.2 Performance indicators

Performance indicators describe what and how to measure, for example the number of households that have access to running water. Performance targets are used to identify the results to be achieved within the given timeframe, for example 2000 connections of electric supply by 2011. Reporting on performance targets plays a critical role in daily management practice as it connects institutions with its community (Ingraham, Joyce & Donahue 2003:28).

#### 4.3.1.3 Performance reporting

Christensen and Laergreid (2001:85) define performance reporting as "records of performance on financial management, human resources management, capital management and information technology management, public private partnership, privatisation and controlling of agencies, and has an impact on the political oversight role of national and provincial spheres of government". Reporting is also important for the leadership to be able to make informed decisions, to provide guidance and direction, to develop the institution's vision and values, to

communicate these to the members and to coordinate organisational remedies where errors were committed (Asmah-andoh 2009:205).

For example, the municipal manager of a municipality is required by law to report by 25 January of each year on the municipality's service delivery performance during the first half of the financial year, and the service delivery targets and performance indicators set in the service delivery and budget implementation plan Municipal Finance Management Act (Act 56 of 2003). Reporting forms the basis for understanding the extent to which a municipality has accomplished its mission, goals, and objectives in the context of establishing service goals. The function of reporting is indeed intended to bring about accountability, transparency and responsiveness of organisations to service quality requirements of its citizenry. Performance data is therefore the basis for monitoring and evaluation.

#### 4.3.1.4 Performance monitoring and evaluation

Monitoring and evaluation are interlinked activities with monitoring providing the information used for evaluation (Department of Constitutional Development (DCD) *information series 2* 1999:15). The inherent complexity of measuring social outcome and attributing it to a particular service delivery intervention, create challenges both for measuring municipal performance and operationalising monitoring and evaluation. A municipal performance management system is required to cover and span all activities under control of the municipality, including the municipality as an organisation and all its employees, and all entities reporting to the municipality, as well as all service providers contracted to the municipality (Municipal System Act, Act 32 of 2000). Some measure of objectivity could be achieved by integrating performance measurement and evaluation into annual planning, budgeting, auditing and reporting processes of a municipal performance management system, and the information gathered used for TQM of the municipality (Asmah-andoh 2009:205). A key element of monitoring and evaluation is performance auditing.

#### 4.3.1.5 Performance auditing

According to DCD *information series 2* (1999:16) performance auditing involves verifying that the measurement mechanisms are accurate and that proper procedures are followed to evaluate and improve performance. In many western countries, performance issues became a legitimate audit concern in the 19th century as a result of moves to programme budgeting and new legislation which expanded the mandate of an audit institution and the new public management paradigm, allowing for a variety of review mechanisms for evaluating and monitoring of public service delivery (Anand & Shand 1996:58). Performance auditing is a measure of outcomes as functions of programmes, organisations and systems spanning boundaries among sectors and reports on findings (Barzelay 1996:18).

In South Africa, municipalities are required to submit annually their performance results for auditing to the Auditor-General. This requirement for constant and ongoing review of the performance management system in municipalities contributes to minimisation of errors (Asmah-andoh 2009:205). Moreover, Roberts (2005:3) argues, that a government-wide audit plan can ensure the improvement of municipal services delivery targets. In other words, performance audits may be useful in assessing the impact of TQM interventions on work processes. That being the case, it is also important to evaluate and audit the employee's effectiveness and efficiency in improving performance. However, the effectiveness and efficiency of employee's performance could be attributed to the way that employee's performance is appraised.

#### 4.3.1.6 Performance appraisal

Moon (1993:8) defines performance appraisal "as a formal system for the periodic review of an individual's performance". It therefore means that performance appraisal is a process by which data is collected and reviewed about individual employee's past and current work behaviour and performance (Bratton 1999:214). It is a cyclical process that includes determining performance expectations, supporting performance, reviewing and appraising performance and managing performance standards (Solatani et al. 2005:213). While appraisal systems are similar across organisations, their implementation is unique to individual organisations and is often designed around the function or administrative uses that they are expected to serve in the organisation.

Some of the administrative uses of performance appraisal systems are improvement in training, counselling, promotion, employee recognition, terminating or transfers, salary decisions and compensations, and feedback (Aldakhilallah & Parente 2002:41).

TQM proponents believe that appraisal that enhances the effectiveness of work teams in their efforts to improve performance of the organisation by focusing on individual performance distracts the organisation's effort to improve systematically (Lam & Schaubroeck 1999:445). By emphasising on measuring individual results, efforts to improve performance often tend to focus on individual performance rather than the constraints imposed by the overall system. Such constraints include the leadership context, work process flow, and the organisation design. A focus on faults of employees instead of systems is also seen to discourage them to avoid challenges which may reveal personal performance weaknesses (Lam & Schaubroeck 1999:446).

There are appraisal systems that support TQM principles such as internal and external customers, team members, co-workers, supervisor and self-evaluation of employees. In order to implement TQM throughout an organisation, the performance appraisal process has to be modified to match the values and philosophies espoused by TQM (Aldakhilallah & Parente 2002:45). Since organisational processes are rarely operated by single individuals, the evaluation of performance should be based on team rather than individual efforts and concentrate on the process of producing the results rather than the results themselves (Lam & Schaubroeck 1999:448).

Feedback is a vital component of a performance appraisal system and it allows an individual to adjust effort in response to comments about job performance. Customer satisfaction (internal and external) is a cornerstone of TQM (Aldakhilallah & Parente 2002:45). Therefore, feedback is a must to determine how well customers are satisfied with an employee. Receiving and acting on customer feedback is a sign that the organisation has a desire to respond to change. Customer feedback usually evokes quick response from an organisation, signifying the adoption of the tenets of TQM (Aldakhilallah & Parente 2002:46). Customers also have outcomes they hope to achieve by doing business with various institutions. A balanced scorecard aligns strategic objectives with customer priorities (Ellis 2000:33).

### 4.3.2 Balanced scorecard

Lawton (2002:66) states that a balanced scorecard is a "management decision tool intended to be a framework for linking strategy with operational performance measures". In reality, it is an integrated report usually showing diverse areas of performance an institution value most (Oschman 2004:162). According to Balance scorecard basics (2010:1) a balanced scorecard is a strategic and management system that is used in business and industry, government, and non-profit organisations to align an organisation's activities to the vision and strategy of the organisation to improve internal and external communication, and monitor organisational performance against strategic goals. The balanced scorecard evaluates the organisation's efforts for future improvement using process, customer, and learning and growth metrics.

The term "scorecard" signifies performance measures and "balanced" signifies that the system is balanced between: short-term objectives and long-term objectives; financial measures and non-financial measures; lagging indicators and leading indicators; and internal performance and external performance perspectives (Balanced scorecard basics 2010). A balanced scorecard is a system that maps an organisation's strategic objectives into performance metrics into the following four perspectives (Kaplan & Norton in Balanced scorecard basics 2010:1): financial performance; internal processes; customers; and learning and growth.

*Financial perspective*: It addresses the question of how the society or the shareholders view the organisation and which financial goals are desired, such as, revenue growth.

*Internal process*: It identifies processes which are most critical for satisfying customers. It allows managers to know how well their organisation is running, and whether its product and services conform to customer requirements. These are the processes on which the organisation must concentrate its efforts to excel.

*Customers*: This perspective relates to how the organisation is viewed by its customers and how well the organisation is serving its targeted customers in order to meet the financial targets or service deliverables. Generally, customers view the organisation in terms of time, quality, performance, and cost.

*Learning and growth*: It includes employee training and corporate cultural attitudes related to both individual and organisation self-improvement. It also includes mentors and tutors within

the organisation, as well as ease of communication among workers that allows them to readily get help on the problem when is needed.

When an organisation initially introduces the balanced scorecard, an information system is then developed to link the top metrics to lower-level operational measures, and thus a scorecard is integrated into the management system to drive and configure the TQM thinking around institutional performance (The balanced scorecard 2010). This is done in order to change operations in an institution in a structured fashion to achieve superior performance. The sure way to achieving superior performance should be measured by how other organisations perform. Benchmarking provides a systematic way to achieve superior performance to identify superior products, services, systems and processes that can be integrated and adapted into an institution's current operations (Carpinetti & Martins 2001:284).

### 4.3.3 Benchmarking

According to Ross (1994:141) benchmarking "is the continuous process of comparing a company's strategy, products, and processes with those of world leaders and best- in-class organisations in order to learn how they achieved excellence and then setting out to match and even surpass it". Benchmarking is a key component of TQM programmes. Its objective is to equal or surpass the best in the sector or industry. Benchmarking is a process whereby target quality standards are established based on the best example in the sector. In its simplest term, benchmarking is the process of learning from the best in order to become the best and stay the best (Joyce 1995:216). The premise of benchmarking is that if an organisation replicates the best quality examples, it will become one of the best in the sector (Ayeni & Badiru 1993:52).

The major objective of benchmarking is to identify negative gaps, where other organisations surpass an organisation and an attempt is then made to close the gap by improving quality (Bannister & MacAdam 2001:93). In other words, benchmarking allows organisations to define specific gaps in performance and select the processes for improvement. It provides a suitable vehicle whereby products and services are redesigned to achieve outcomes that meet or exceed customer expectations. The gap in performance that is discovered can provide objectives and action plans for improvement at all levels of the organisation and promote improved performance for individuals and group participants. Leonard and Zairi (1994:28) believe that

benchmarking allows organisations to set realistic, rigorous new performance standards. In other words, benchmarking is used at the strategic level to determine the standards for performance against four corporate priorities, that is, customer satisfaction; employee motivation and satisfaction; market share; and return on assets.

Over the years many organisations have established useful self-assessment models to benchmark their current performance standards against other international organisations using a set of guidelines for total quality.

## 4.4 TOTAL QUALITY MANAGENT AND PERFORMANCE IMPROVEMENT

### 4.4.1 International self-assessment models

The purpose of self-assessment models is to award organisations some prize believing that this will help improve quality and productivity or service (Godfrey et al. 2002:102). Such winners must have shown a tremendous performance improvement in quality if compared to the best in the industry. Accordingly the awards help stimulate organisations to improve quality and productivity for the pride of recognition while obtaining a competitive edge through increased customer satisfaction; recognising the achievement of those organisations which improve their quality of goods and services and providing an example to others; establishing guidelines and criteria that can be used by business, industrial, governmental and other organisations in evaluating their own quality improvement efforts; and providing specific guidance for organisations that wish to learn how to manage for high quality by making available information on how winning organisations were able to change their cultures and achieve eminence. The awards serve as the performance measurement framework of TQM (Soltani et al. 2005:211).

#### 4.4.1.1 Deming Prize

The best known prize, with the longest history, is the Deming awards awarded by the Japanese Union of Scientist and Engineers (JUSE) to companies with outstanding TQM (Ho 1999:226). This price is given for the overall performance of the organisation. There are two types of Deming awards: the Deming Prize for individuals and the Deming Application for companies and divisions (Godfrey et al. 2002:104-113). The content of the Deming Prize is best understood

by application of the Deming Prize checklist. This checklist is centred around ten core points, (Ho 2009: 226-228) namely: policy; organisation and operations; education and training; collecting and using information; analysis; standardisation; control; quality assurance; effect; and planning for the future.

The Deming Prize checklist reveals the important TQM areas. The process ensures that organisations will focus on all TQM areas for continuous improvement, from strategies to tactics and operations. One particular area worth emphasising is standardisation. In Japan, standardisation does not just confine to conformance to national or international standards. The Japanese promote heavily the use of 'company standardisation'. In other words, if the process is proven to be effective, it should be standardised and used throughout the organisation (Ho 1999:228). Thus, quality can be guaranteed despite the actual operations being in other parts of the world.

#### 4.4.1.2 Malcolm Baldrige National Quality Award (MBNQA)

The MBNQA was established by the United States Congress in 1987 to recognise quality achievements of American companies (Avery & Zabel 1997:294). The Award is designed to promote an awareness of quality; understanding of the requirements of quality; and sharing information on successful strategies and the benefits derived from implementation (Ho 1999:229). There are ten core values and concepts embodied in the award criteria (Godfrey et al. 2002:104-106). These core values and concepts are:

*Leadership:* This concept stresses the personal involvement required of leaders in terms of creating a customer orientation, clear and visible quality values, and high expectations.

*Continuous improvement and learning:* This includes both incremental and breakthrough improvement activities in every operation, function, and work process in the organisation. It stresses that improvement may be made through enhancing value to customers, reducing waste, and improving cycle time performance.

*Valuing employees:* Organisations should invest in the development of the workforce through education, training, and opportunities for continuous growth. Overall organisational performance depends entirely on workforce quality and involvement.

*Fast response:* The value of shortening time cycle is very important. Improvement in these areas often require redesigning work processes, eliminating unnecessary work steps, and making better use of technology.

*Design quality and prevention:* The importance of prevention based quality systems is emphasised. It means that changes should be made as far upstream as possible for the greatest savings.

*Long-range view of the future:* This concept stresses long-term development of employees and suppliers and on fulfilling public responsibilities. Planning must consider new technologies, the changing needs of customers mix, and new regulatory requirements.

*Management by facts:* This concept emphasises the need to make decisions based on reliable data, information, and analyses. These data need to reflect the needs, expectations, and perceptions of the customers.

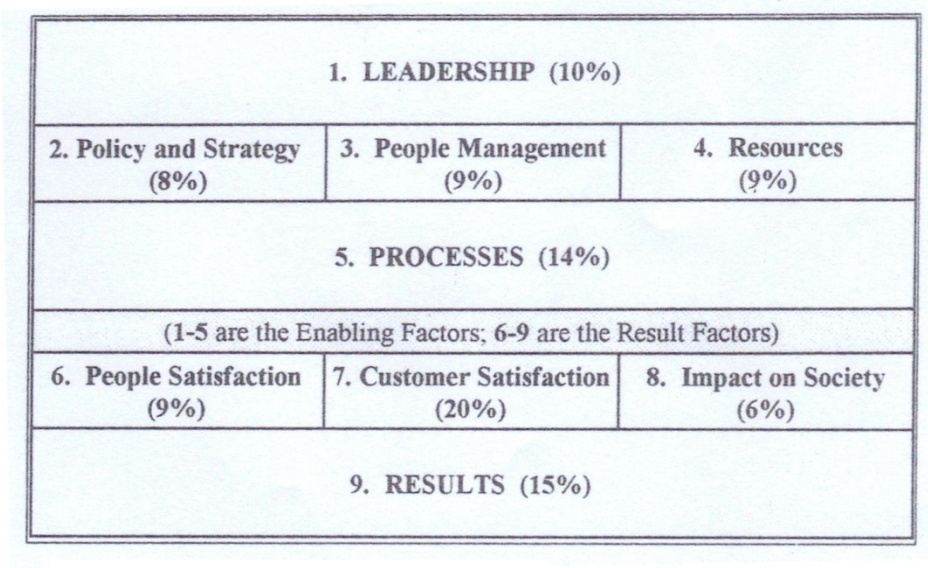
*Partnership development:* The need to develop both internal and external partnership to accomplish overall goals is also emphasised. These partnerships may include labour management relationships; working relationship with key suppliers; agreement with institutions of higher learning; and communities.

*Result focus:* Performance measurement need to focus on key results. Results should be guided and balanced by the interest of all stakeholders. The use of composite performance measurement system offers an effective means to communicate short and long-term priorities and actual performance and to marshal support for improving results.

#### 4.4.1.3 European Foundation for Quality Management (EFQM)

The aim of the EFQM award is to recognise the potential of European companies for competitive advantage through the application of TQM (Leonard & Zairi 1994:230). The award is geared to encourage the development of TQM by enhancing the position of European businesses to global markets. The awards specifically recognises organisations which are paying exceptional attention to total quality, and to encourage other to follow their example (H0 1999:232). The EFQM in 1988 developed a model and weightings as a framework for evaluation. Figure 4.1 depicts a distinctly European 9-point framework of the EFQM model.

Figure 4.1: European 9-point framework of the EFQM model




Source: HO (1999: 232)

The emphasis of the award is whether organisations are having an impact on the society, resource utilisation and results. In developing this model the EFQM wanted to ensure that it not only reflected current thinking on best practice measures but also included some ideas of what a world class organisation would be measuring and achieving in the future (H0 1999:232). The aim is to encourage organisations to learn from the achievement by the Award winners.

### 4.4.2 International Organisation for Standardisation: ISO 9000 series

ISO certification refers to certain minimum quality standards that organisations should meet, and is said to ensure a consistent quality of products, services and processes. An important difference compared with other quality standards lies in the fact that ISO is focused on quality control systems in general, that is, from the processes through to service after sale (Cheng, Kumar & Motwani 1996:77). Moreover, ISO is based on the notion that specific minimum characteristics of quality systems can be standardised, which can give mutual benefits for organisations and their suppliers because each of them knows that they both meet the requirements concerning quality systems (Jeroen, Ruël & van de Water 2000:62). The standards only recommend the essential elements of a proper quality assurance system, without recommending the ways to apply them (Gotzamani & Tsiotras 1996:66). Meaning that each

organisation can design its own system that fits its specific needs and that fits the general requirements of the ISO standards.

Therefore, ISO standards help to ensure that organisations follow specific procedures in the making and provision of their products or services. These procedures describe how operations in an organisation must be conducted. When employees work according to the procedures that are described in the ISO series, and anything should go wrong then it is possible to find efficiently where the problem arose in the production process. By doing so, these procedures are meant to guarantee that products or services of an organisation are in accordance to customer specification (Jeroen et al. 2000:63). As such, one could say that ISO certification is a necessary condition for good product or service quality.

### 4.4.3 Six Sigma methodology

The Six Sigma methodology is a systematic application of business and statistical concepts and techniques for the purpose of reducing process variations and preventing deficiencies in a product or service (Ross & Omachonu 2004:443). Bruce (2002:1) defines Six Sigma as an approach that helps organisations to identify deviations, variations, defects and waste, and taking action to reduce the errors by reworking the product or service to meet required specifications. In other words, it is both a technique and a philosophy based on the desire to eliminate waste and improve performance as much as is organisationally possible. According to Morfaw (2009:44) the primary goal of Six Sigma methodology is improving customer satisfaction, profitability and elimination of defects and all based on the following statistical thinking paradigm: everything is a process; all processes have inherent variability; and data is used to understand the variability and drives in process improvement decisions. The pillar of this methodology rests upon a five elements acronym DMAIC (Morfaw 2009:44, 45; Brue 2002:91), which are: Define; Measure; Analyse; Improve; and Control.

*Define*: To define the process improvement goals that are consistent with customer demands and organisation strategy.

*Measure*: This is a measurement of the current process and collection of relevant data for future comparison.

Analyse: This is verification of relationships and casualty of factors.

*Improve*: This is to optimise the process based upon the analysis using techniques like design and experiments.

*Control*: This is to ensure that any variances are corrected before they result in defects.

Therefore, the focus of Six Sigma should be directed at a process driven by the requirements and needs of the customers. The Six Sigma process translates customer needs into separate tasks and defines the optimal specification for each task depending on how each task interacts with others. Once the processes and tasks are defined, depending on the analysis and improvement interventions, the processes of Six Sigma can be used to drive the performance of products, services, and processes to breakthrough levels (Ross & Omachonu 2004:443).

## 4.5 SUMMARY

In this chapter, the link between quality and performance management was discussed within the context of how organisations conduct their operations and its management processes in order to satisfy customers by providing quality products and services. In order to sustain organisational performance, it is necessary to develop performance indicators to track performance and eventually outcomes. Therefore, the primary focus in this chapter was to explain performance indicators, performance measurements, performance reporting, performance monitoring and evaluation, performance auditing and appraisal as the main trust of performance management.
Furthermore, the balanced scorecard as a management decision tool intended for linking strategy with operational performance measures was discussed, highlighting the significance of balancing the organisational systems into short-term and long-term objectives. Noting that organisations need to define specific gaps in performance and select the processes for improvement, it was necessary to introduce the concept of benchmarking. This concept was thoroughly discussed as a component of TQM, believing that benchmarking allows organisations to set realistic performance standards. Finally, international self-assessment models were discussed with a clear understanding that by awarding organisations some prize may help improve quality and service.

# CHAPTER 5

# RESEARCH METHODOLOGY AND DATA ANALYSIS

## 5.1 INTRODUCTION

The aim of the study is to determine the extent to which the application of TQM can improve organisational performance in Maluti-A- Phofung Municipality. Accordingly, this chapter deals with the research method of collecting data for empirical research to validate the latter statement. Data to be collected and the instruments to be used for this purpose are described. The data required for the study was collected by means of a descriptive survey method which is also elaborated upon. The research process is also discussed in this chapter.

The piloting of a questionnaire is discussed to elucidate the importance of pre-testing the questionnaire before distributing it to the targeted sample. This chapter reflects on the reliability and validity of information in a empirical research setup as well as the primacy on the confidentiality of respondents.

## 5.2 DATA TO BE COLLECTED

Data are the facts and figures collected for records or any statistical investigation (Adam, Khan, Raeside & White 2007:85). There are primarily two sources of information normally used for research purposes, that is, primary and secondary sources of data. Primary sources are those in which a new survey for gathering information is conducted at different levels with regard to the inquiry. That is, information obtained from the original source being investigated. Secondary sources are those which are made available or have been available in published literature (Bak 2004:135), for example, data used in chapter two, three and four of this dissertation. The secondary data for this dissertation has been obtained by studying journals, internet articles, manuals, acts, dissertations, theses, and relevant books. It therefore means, that this study used a literature study and data collecting tool in the form of a questionnaire for empirical research.

Data to be collected should have a bearing on the objectives of the study. Such data should lead to information on how the application of TQM can improve organisational performance in MAP municipality in the Free State Province. Thereafter, data were collected on, amongst other, the following:

- Awareness of TQM – to establish the extent of awareness and current application of TQM principles.
- Availability of TQM organisational systems – to establish the extent to which such systems are available.
- Obstacles – identify key obstacles to the application of TQM.
- Personnel attitude – to establish the views of personnel with regards to the benefits that could be realised from the use of TQM.

Once the nature of data to be collected were determined, the process of collecting data from respondents begun.

## 5.3 RESEARCH METHOD

This study followed a descriptive survey research method to measure the personnel beliefs and opinions regarding the application of TQM in MAP municipality. According to Neuman (2006:180) social measures provide data about social reality. In addition, measurements allow researchers to observe things that were once unknown but were predicted by theory. Data are empirical representation of concepts, and measurements links data to concepts. Surveys are mainly used in studies that have individual people as unit of analysis (Babbie 2005:252). Neuman (2006:273) also emphasises that surveys are appropriate for research questions about self-reported beliefs.

A descriptive survey method is regarded as a type of quantitative research which incorporates careful description of a phenomenon in question beginning with a theoretical or applied research problem and ends with empirical measurements and data analysis (Neuman 2006:276). Its main purpose is to collect original data for describing or measuring the attitudes and orientation in a large population (Babbie 2005: 252). This method is relevant for this study in order to establish the extent of awareness and current application of TQM principles in MAP municipality to

enhance organisational performance. The method is used because it allows a researcher to ask many questions at one time, measure many variables, and test hypotheses in a single survey. A survey research method can also facilitate the collection of detailed factual and accurate primary data describing the situation in MAP municipality.

## 5.4 PRIMARY DATA COLLECTING INSTRUMENT

The ability to achieve the research aims and answer the research questions depends on the effectiveness of data collection. There are various methods to gather original data, namely, observation; experimentation; interviews; diaries and questionnaires (Adam et al. 2007:106).

### 5.4.1 Observation

Observation entails watching people in action in the appropriate environment. Thus, the researcher must be alert and observe and note and document all the observations. In the field, for instance perhaps while conducting interviews in an organisation, a researcher might want to make observations about the physical infrastructure, symbolic images of the organisation and how the personnel in the organisation look and behave. In conducting observations there is a need to be unobtrusive so that people do not change their behaviour because they are being watched (Adam et al. 2007:106).

### 5.4.2 Experimentation

Experimentation is a mode of scientific observation in social research. At the most basic level, experiments involve taking action and observing the consequences of that action (Neuman 2006: 228). Social researchers typically select a group of subjects, do something to them, and observe the effect of what was done. The idea is to determine the effects of various factors on a response variable by varying these factors in a controlled way, and often in controlled conditions.

### 5.4.3 Interviews

The interview is an alternative method of collecting survey data. Rather than asking respondents to read questionnaires and choose their own answers, researchers sent interviewers to ask questions orally and record respondents' answers. Interviewing is typically done in face to face encounter or telephonically (Babbie 2005:274).

### 5.4.4 Diaries

Diaries can be either qualitative or quantitative depending on the kind of information that is recorded. At one level they may be simple records of events from which activity sampling may provide a statistical treatment, while at another level they may take a form of personal journal research process (Adam et al. 2007:111).

### 5.4.5 Surveys

Surveys research is probably the best method available to the social researcher who is interested in collecting original data for describing a population too large to observe directly (Babbie 2005:252). Careful probability sampling provides a group of respondents whose characteristics may be taken to reflect those of a larger population, and carefully constructed standardised questionnaires provide data in the same form from all respondents. All these methods can be used in the same study to facilitate triangulation. Triangulation is a method of collecting data by different means and the hope is that there would be a convergence on the truth (Adam et al. 2007:111). The idea is to search for accuracy of the data and alternative explanations. The use of a structured questionnaire is, nevertheless, preferred as the main measuring instrument for data collection in this study. The reasons why questionnaires have been used as the data collecting method in this study will now be discussed in more detail.

## 5.5 APPLYING THE QUESTIONNAIRE METHOD

A questionnaire is a set of written questions and/or statements to which the research subjects are to respond in order to provide data which are relevant to the research topic (Sedisa 1998:62). Babbie (2010:255) defines a questionnaire as "an instrument specifically designed to elicit information that will be used for analysis". Although the term questionnaire suggests a collection of questions, an examination of a typical questionnaire will probably reveal as many statements as questions. Often, the researcher is interested in determining the extent to which respondents hold a particular attitude or perspective. In other words, if one summarises the attitude in a fairly brief statement, one can present that statement and ask respondents whether they agree or disagree with it. Rensis Likert greatly formalised this procedure through the creation of the Likert scale, a format in which respondents are asked to strongly agree, agree, disagree, or strongly disagree, or perhaps strongly approve, disapprove, and so forth (Babbie 2010:256).

The questionnaire method was selected because it makes measuring attitudes and orientation in a large population possible. The reason for using a questionnaire is to elicit information from the respondents that will be useful for analysis in a structured manner. In this case, the researcher is interested in determining the extent to which respondents hold a particular attitude or perspective. Therefore, using a questionnaire gives a researcher more flexibility in the design of items and can make the questionnaire more interesting as well. Although constructing a questionnaire may seem simple, it is a complex and taxing process. Items and questions must be formulated and selected carefully and the aim of the research must continuously be borne in mind (Oschman 2004:293). By using the theoretical dimensions of TQM, together with empirically based information, a sound basis is provided for describing organisational performance, unique to the problem being investigated, and the development of a questionnaire with applicable questions that are based on the variables contained in the TQM dimensions.

For the purpose of this study structured questions were used as these simplify the statistic process. Structured questions force respondents to choose from a list of alternatives. The advantages of structured questions are, amongst others, relatively time and cost-effective, that is,

it facilitates wide geographic coverage and respondents can complete it at their own pace (Oschman 2004:294). It therefore simplifies the collection of relatively more information on a condensed basis. Furthermore, most respondents are familiar with questionnaires and all are confronted with the same questionnaire items. In addition, questionnaires can also ensure anonymity and as a result respondents are more inclined to be honest, which usually assists in obtaining more accurate and valid research information. The chances of the researcher creating biasness are also lessen as a result of the impersonal nature of questionnaires. Answers obtained in this manner are easily quantified, which makes statistic analysis by means of a computer possible. It is also probable that respondents will be willing to complete this type of questionnaire rather than open questions, owing to the time and mental exhaustion of the latter (Oschman 2004: 295).

## 5.6 DEVELOPING THE QUESTIONNAIRE

Questionnaires must be developed in such a way that they directly support the specific research problem. As no specific questionnaire exist for the investigation, a questionnaire had to be compiled that could be used for the purpose of the study. Once the research questions conform to the empirical criterion, it becomes clear what data are needed in a survey. Thus a starting point for the questionnaire is the research question. It gives a list of the variables which will need to be measured in a questionnaire, and any other information required. The data collection questions for each variable will then represent the operational definition of that variable (Punch 2003:31,32). In social research, variables are often operationalised when researchers ask people questions as a means of getting data for analysis and interpretation (Babbie 2010:255).

In chapter one, it was already indicated that the study is relevant to practice. Therefore, the indicators contained in the questionnaire are relevant to the objectives of the study, as the contents thereof have been deduced from those requirements in respect of which uniformity exist in theory and practice. A researcher first conceptualises a variable, giving it a clear conceptual definition. Next he or she operationalise it by developing an operational definition or set of indicators for it. Lastly he or she applies the indicators to collect data and test empirical hypotheses. Those tests are logically linked back to a conceptual hypothesis and causal relations

in the world of theory (Neuman 2006:186). Only those indicators relevant to TQM that were discovered whilst studying literature were included in the questionnaire.

The aim of the questionnaire used in this study was to determine the extent to which individuals are aware of TQM and its application at the time of the survey. This was done to measure the extent to which TQM principles are applied in MAP Municipality. The researcher designed and compiled the questionnaire himself, based on the theoretical study. One copy of the questionnaire was submitted to the researcher's supervisors to check for appropriateness and clarity. The target sample who were to be asked to complete the questionnaire would consist of a representative part of MAP councillors, directors, middle managers, supervisors and operational workers employed at all levels in the organisational structure of the institution, including the municipal manager, the executive mayor, members of the mayoral committee and the council speaker of MAP Municipality.

Table 5.1: Representation of the scale code

| Do not know | Not true at all | Slightly true | True in most cases | Absolutely true |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

The scale codes are explained below.

Table 5.2: Scale codes description

| Scale code | Scale description |
|---|---|
| 1<br>Negative | Do not know. Indicates that the respondent has no knowledge of the element that is evaluated. |
| 2<br>Negative | Not true at all. Indicates that the element of the dimension plays no role within the institution. |
| 3<br>Neutral | Slightly true. Indicates that the element of the dimension does play a role in the institution. |
| 4<br>Positive | True in most cases. Indicates that the element is applicable in the institution. |
| 5<br>Positive | Absolutely true. Indicates that the element is highly applicable and plays an important role in the institution. |

Answering the questionnaire is based on a five-point scale, as illustrated in table 5.1. A scale may be defined as a measuring tool for appropriate quantification of variables (Adam et al. 2007:86). They allow a researcher to summarise several indicators in a single numerical score, while sometimes nearly maintaining the specific details of all the individual indicators (Babbie 2010:161). A scale is constructed to assign scores to patterns of responses, recognising that some items reflect a relatively weak degree of the variable while others reflect something stronger. Five response categories were created, assigning scores of 1 to 5, that is, do not know; not true at all; slightly true; true in most cases; and absolutely true. For example, a score of 5 is assigned to absolutely true for positive items and 2 to not true at all for negative items.

## 5.7 RESEARCH PROCESS

This section focuses on how the research proceed from the point the questionnaire was prepared up to the point when it was received from the respondents.

### 5.7.1 Scope

As indicated in chapter one, there were only nine departments in Maluti-A-Phofung (MAP) Municipality at the time of the study. Accordingly the Municipality is governed and managed by both political and administrative personnel. Thus, the research population was made up of political and administrative personnel. According to the MAP Municipal pay roll (2011) the political management structures were composed of political office bearers, that is, the executive mayor, the speaker, the council whip, and ten mayoral committee councillors. Whereas, the administrative structures were composed of top management, that is, the municipal manager and eight directors; middle managers and supervisors, that is thirty one middle managers/supervisors; and nine hundred and fifty operational workers.

Therefore, the study population would be limited to 1003 employees in the MAP municipal pay roll that are permanently appointed including the political managers whose term of office is five years. The term population means the group of people the researcher is interested in generalising about (Babbie 2010:199). However, a researcher cannot observe or interview every employee in

the population. Hence the researcher has decided to use a stratified sampling method. Instead of gathering data from 1003 people the researcher has drawn a sample of 139. In terms of percentages the sample would be 13.86%. This is an acceptable sample considering that increasing the sample size improves estimations (Babbie 2010:201). In other words, rather than selecting the sample from the total population at large, the researcher ensures that appropriate numbers of elements are drawn from subsets of that population. An element is that unit about which information is collected and that provides the basis of analysis (Babbie 2010: 199). In this case elements are employees. To get a stratified sample of MAP employees, the population is organised into subsets of thirteen political administrators; eight directors plus the municipal manager representing all nine departments; three managers/supervisors from each department; and ten operational workers from each department (13+1+8+27+90=139). The ultimate function of stratification, then, is to organise the population into subsets and to select the appropriate number of elements from each. Stratified sampling is a method for obtaining a greater degree of representativeness by decreasing the probable sampling error (Babbie 2010:114).

The primary aim is to get a representative sample, such that the researcher can study the smaller groups and produce accurate generalisation about the larger group. The sampling is based on the theory of probability sampling. The fundamental idea behind probability sampling is to provide a useful description of the total population; a sample of individuals must contain essentially the same variations that exist in the population (Babbie 2010:196). A sample is representative of the population from which it is selected if the aggregate characteristics of the sample closely approximate those same aggregate characteristics of the population. The ultimate purpose of sampling is to select a set of elements from a population in such a way that descriptions of those elements accurately portray the total population from which elements are selected. Probability sampling enhances the likelihood of accomplishing this aim and also provides methods for estimating the degree of probable success (Babbie 2010: 199).

### 5.7.2 Piloting the questionnaire

No matter how carefully researchers design a data collecting instrument such as a questionnaire, there is always the possibility of some mistakes, an ambiguous question, one that people cannot

answer. The surest protection against such mistakes is to pilot the questionnaire (Babbie 2010:267). It is best to pilot-test survey interviews and questionnaires prior to implementation (Neuman 2006:312). The purpose is to apply a cognitive interviewing, in which the researcher examine how respondents answer questions. This technique includes gathering respondents comments about the questionnaire itself, so that the researcher can see which questions are communicating effectively and collecting information sought (Babbie 2010:267). This information is then used to refine the questionnaire or interviewing process.

Before piloting the questionnaire, it was sent to the researcher's supervisors for evaluation. They made some recommendations for improvement to ensure relevance, objectivity and effectiveness and that was done. As a pre-test measure the questionnaire was distributed to five colleagues who are managers in Dihalabeng Local Municipality to determine whether the questionnaire would be able to measure those indictors that it is suppose to measure. It is not usually essential that the pilot subjects comprise of a representative sample; one could use people to whom the questionnaire is at least relevant (Babbie 2010:267). The results of the pilot study were analysed and the necessary changes effected before the questionnaire were distributed to the main subjects of the study.

### 5.7.3 Distribution of the questionnaire

Firstly, the distribution of copies of the questionnaire occurred centrally in the conference rooms of different departments during working hours. That is, Department of: Corporate Services; Safety and Transport; Finance; Land and Housing; Community Services; Sports and Recreation; Infrastructure; Local Economic Development; and Municipal Manager. It means that nine separate meetings were organised in each department whereby copies of the questionnaire were distributed. The study elements in all subsets were randomly selected by Departmental Directors according to their availability and ensured that they could all understand, read and write English.

Of the 126 copies distributed under the administrative staff 106 copies were returned. That is, 14 copies from the Department of Corporate Services; 14 copies from the Department of Safety and Transport; 14 copies from the Department of Finance, 14 copies from the department of Land

and Housing; 14 copies from the Department of Community Services; 14 copies from the Department of Sports and Recreation; 12 copies from the Department of Infrastructure; 5 copies from the Department of Local Economic Development; and 5 copies from the Department of the Municipal Manager. Therefore, the rate of return in this regard is 84,13%.

Secondly, the Executive Mayor organised a meeting in her committee chamber whereby thirteen copies were distributed. That is, three copies for Council office bearers: the Mayor, Speaker, and Chief whip; and ten copies for departmental political office bearers. Of the 13 copies distributed 11 were returned. Therefore, the rate of return in this regard in terms of percentage is 84.62%.

The researcher was personally responsible for the distribution of and briefing on the questionnaire. Each questionnaire contained the covering letter (Appendix B). The covering letter emphasised the respondent's anonymity and confidentiality of the process. The approach of central distribution of the questionnaire and the presence of the researcher was an advantage because it ensured a high number of copies of the questionnaire were returned directly on completion. In this way a total response return rate of 84.17 % of the total sample of 139 was obtained. In other words, out of the sample of 139 questionnaires, a total of 117 questionnaires were returned.

### 5.7.4 Data processing and interpretation

Once the researcher had collected all the completed questionnaires, they were prepared for processing by a private data capturing computer Services Company. The data was captured in a Statistical Analysis System (SAS) for statistical processing and analysis. All data was coded from the completed questionnaire on standard capturing forms thereafter it was captured. The information required was also discussed with the consultant from the company to clear uncertainties in order to ensure correct interpretation of exactly what the researcher wanted.

Once the questionnaire had been processed a data set was obtained. The results of the answers to all the questions were integrated with one another and analysed. The SAS statistical packet

includes the frequency analysis, correlation matrices and multiple regression analysis. The results from the empirical survey are discussed in chapter six.

## 5.8 RELIABILITY AND VALIDITY

### 5.8.1 Reliability

Reliability estimates the consistency of the measurement or more simply, a degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects (Adams et al. 2007: 135). It is a matter of whether a particular instrument applied repeatedly to the same object yield the same result each time. In other words, a reliable questionnaire item is an item that will constantly convey the same meaning. That is, if an item is measured many times and the result is always the same, it can be said that the measuring instrument is reliable. Reliability is essentially about dependability and consistency (Neuman 2006:188).

The most practical and extensive approach to reliability is the approach that defines reliability in terms of the relative absence of measuring errors in a measuring instrument. Reliability is therefore the relation of error variation to the total variation as obtained by the measuring instrument deducted from 1.00. The index 1.00 indicates perfect reliability (Smit 1991in Oschman 2004:307). In other words, when the outcome of the measuring process is reproducible, the measuring instrument is reliable. This does not mean that it is valid.

### 5.8.2 Validity

Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie 2010:153). Validity is the strength of the conclusions, inferences or propositions. It involves the degree to which one is measuring what is supposes to, more simply, the accuracy of a measurement. In other words, a measure of Total Quality Management should measure Total Quality Management, not political orientation. Validity means that one is actually measuring what he or she says is being measured.

The validity of a questionnaire is concerned with whether or not the item actually elicits the intended information. Therefore, questionnaire items are valid if they are successful in eliciting true responses relevant to the information desired. In other words, it is important that respondents attach the same meaning to the set questions than the compilers thereof. Accordingly the content validity criterion has been used in this study to measure the attitude of certain individuals in respect of TQM. Content validity refers to the degree to which items are an unbiased version of a characteristic that is measured. That is how much a measure covers a range of meaning included within a concept (Babbie 2010:155).

## 5.9 QUESTIONNAIRE CONFIDENTIALITY

It is important to ensure respondents enjoy a measure of confidentiality to ascertain that answers would be confidential as any interference in this regard could affect the reliability of results. This understanding therefore got a high priority during the briefing sessions. The presence of the researcher during the completion of the questionnaire further enhances the confidentiality.

## 5.10 SUMMARY

The objective of the discussion in this chapter was to provide clarity about the methodology that was used in the empirical section of this study. The application of questionnaires as a data collection method was examined in detail before providing an exposition of the actual design of the questionnaire. Indications were also provided of the precautions taken to ensure reliability and valid information.

# CHAPTER 6

# ANALYSIS AND INTERPRETATION OF RESULTS

## 6.1 INTRODUCTION

Having provided a discussion in the previous chapter of the development of the research tools used in the empirical part of this study, the results of the processed data are analysed and interpreted in this chapter. Questionnaire one deals with the biographical particulars of the respondents (see appendix B). Questionnaire two consists of 48 items, 26 of which are related to an evaluation of the application of the 9 dimensions of TQM, 12 of which deal with the opinions of personnel regarding the benefits that may be realised from the application of TQM, whist the last 10 items deal with the obstacles to TQM application in the MAP municipality. The items are analysed with the emphasis mainly on average scores awarded for each section and per item. In order to present information in an orderly and systematic fashion tables are used.

## 6.2 OVERVIEW OF THE MALUTI-A-PHOFUNG MUNICIPALITY (MAP)

Legally speaking a municipality is an organ of state within the local sphere of government exercising legislative and executive authority within an area determined in terms of the Local Government, Municipal Demarcation Act (Act 27 of 1998). It consists of the political structures and the administration of the municipality, and the community of the municipality Systems Act (Act 32 of 2000). Maluti-A-Phofung Local Municipality is an administrative area in the Thabo Mofutsanyana District Municipality in the Eastern Free State in the Republic of South Africa. The Municipality is named after the Drakensburg Mountains, known as “Maluti” in Sesotho language. The peak in the Mountains is known as sentinel, which is called Phofung in Sesotho language.

It has a population of 360 790 (2001 census) spread across racial groups, that is, Black Africans 98.09%, Whites 1.68%, Coloureds 0.09% and Indians 0.13% . It also has a relatively young population with 50% of the population below the age of 20. In terms of gender, 54% of the

population is female. Owing to a large number of migrant workers most households are female headed (MAP IDP 2011:3).

MAP Municipality has high levels of unemployed and poverty. The 2001 census indicates that 31% of the total workforce is unemployed while 46% is not economical active, implying that only 23% of the total workforce is employed. Between (1994-1997) the Gross Domestic Product (GDP) contribution per capita for MAP was R3 082 which was the lowest compared to all other local municipalities within the District. This figure confirms the highest levels of poverty experienced. Although MAP is rated the highest poverty stricken area in the Eastern Free State, it is responsible for 76% of the total contribution made by the construction industry to the Gross Domestic Product (GDP) of Thabo Mofutsanyana District Municipality (MAP IDP 2011:6). The number of households in this municipality is 92 102, the percentage of informal dwelling is 34.4%. Access to electricity in respect of the number of households that have below basic levels of electricity supply is 42.5%. In 2000, 77.5% of all households used alternative sources of energy to electricity. 61% of households did not have access to running water during the same period. However, access to sanitation has improved to 84% in 2003 from 36.7 in 1994 (MAP IDP 2011:8).

MAP Municipality functions in accordance with the political, statutory and other relationships between its political structures, office bearers and administration and its community, and has a separate legal personality which excludes liability on part of its community for the actions of the Municipality. It is a type B municipality, that is, a municipality with a mayoral executive system combined with a ward participatory system. The Executive Mayor is assisted by a Mayoral Committee consisting of ten councillors who serves on his behest and on advisory capacity. These Mayoral Committee Members become political heads of various departments and report directly to the Executive mayor. In discharging their duties the Mayoral Committee Members operate under a system called Portfolio Committee which its sole responsibility is to consider reports from heads of department before those reports serve in the Mayoral Committee for final decision. The Executive Mayor reports his decision to council for noting and also recommend to council on its reserved powers for finalisation Municipal Structures Act (Act 117 of 1998).

In respect of the organisation of the administration the Municipality must within its administrative and financial capacity establish and organise its administration in a manner that would enable it to be responsive to the needs of the local community and perform its functions through operationally effective and appropriate administrative units and mechanisms, including departments and other functional units Municipal System Act (Act 32 of 2000). MAP Municipality has established nine administrative departments and assigned clear responsibilities for the management and coordination of municipal services. The Department of the Municipal Manager is responsible for general administration of the Municipality and coordination of planning activities within and amongst the Departments; the Department of Finance is responsible for financial, revenue, budget and supply chain and expenditure management; the Department of Community Services is responsible for waste management, libraries, and social development; the Department of Corporate Services is responsible for administrative, legal, auxiliary and human resource services; the Department of Infrastructure is responsible for electrical, civil, mechanical and project management; the Department of Public Safety and Transport is responsible traffic, fire and emergency, transport, security and disaster management; the Department of Sports and Recreation is responsible for parks, cemeteries, sports and arts and culture; the Department of Spatial Development Planning and Housing is responsible for town planning, building control and land and housing; and the Department of Local Economic development is responsible for small medium micro enterprises (SMMEs), promotion and support and community economic development.

## 6.3 ANALYSIS AND INTERPRETATION OF RESULTS

The purpose of questionnaire one (see Appendix B) was to obtain the particulars of the respondents of the research sample. When a questionnaire is used as a method of data collection, it is important to pay attention to the biographical details of the respondents who complete the forms (Oschman 2004:311). The reason being that biographic details, such as administrative management level and number of years of service, must be taken into account because they tell a story of individual observation and experience of a situation over a number of years. This is important when analysing and interpreting data. Therefore, the results that come out from the

empirical study conducted with the aid of questionnaire two (see Appendix B) should not be viewed separately from the biographical details.

### 6.3.1 Questionnaire one: biographical details

Various biographical particulars concerning the respondents were obtained from the survey (see questionnaire section A of the survey in Appendix B) in order to place answers to questions in the remainder of the survey in proper perspective. Table 6.1 to 6.6 provide information in this regard.

#### 6.3.1.1 Management levels

It is crucial that the management levels are scrutinised separately as this will enable the ready to understand the respective role each component play in terms of enhancing the effective management of the MAP municipality.

##### 6.3.1.1.1 Political management

Table 6.1: Political management level

| Management level | Frequency | Percentage | Cumulative frequency | Cumulative percentage |
|---|---|---|---|---|
| **Office bearers** | 1 | 7.69 | 1 | 7.69 |
| **Mayoral committee** | 9 | 69.23 | 10 | 76.92 |
| **Portfolio members** | 3 | 23.08 | 13 | 100.0 |

The levels of the positions of respondents, as reflected in chapter 5, paragraph 5.7.1 are tabulated in table 6.1. On studying the table it becomes clear that the majority of the respondents (69.23%) are mayoral committee members. Of the respondents, 23.08% stated that they are portfolio

members, while 7.69% stated that they serve at office bearer level. In view of the political management position the respondents occupy and political decisions they are required to make on municipal activities, it could be deducted that they are also involved in the political decision making on TQM application. This fact made it possible to ensure that further related responses would be obtained.

#### 6.3.1.1.2 Administrative management

The levels of the positions of respondents, as reflected in chapter 5, paragraph 5.7.1 are tabulated in table 6.2. On studying the table it becomes clear that the majority of the respondents (71.03%) are employed as operational workers. Of the respondents, 18.69% serve at middle management level, while 10.28% serve at top management level. All together 28.97% of the respondents occupy top and middle management positions at the MAP municipality and, due to these management positions would be involved in important management decisions on TQM application. This fact made it possible to ensure that further related responses would be obtained.

Table 6.2: Administrative management level

| **Management level** | **Frequency** | **Percentage** | **Cumulative frequency** | **Cumulative percentage** |
|---|---|---|---|---|
| **Top management** | 11 | 10.28 | 11 | 10.28 |
| **Middle management** | 20 | 18.69 | 31 | 28.97 |
| **Operational workers** | 76 | 71.03 | 107 | 100.0 |

### 6.3.1.2 Qualifications

The educational levels of the respondents are captured in table 6.3. From this table, one notices that the majority of respondents (55.17%) possess a qualification of at least grade 12 plus diploma and/ or a degree. Most of the respondents, per category (33.62%) have a grade 10, 11, or 12 qualification, whereas 29.31% of respondents are in possession of grade 12 up to a three-year diploma and 11.21% are in possession of a grade 7 up to a grade 9 qualification. It should be noted that 25.86% of the respondents are in possession of a qualification equivalent to at least a bachelor's degree.

Thus, the respondents are generally well qualified, which means that they were able to participate effectively in the study. It should also be appreciated that the respondents are employed in work categories ranging from lowly qualified to highly qualified and as a result, a more representative view of TQM application could be obtained.

Table 6.3: Qualifications

| **Qualifications** | **Frequency** | **Percentage** | **Cumulative frequency** | **Cumulative percentage** |
|---|---|---|---|---|
| **Grade 7- 9** | 13 | 11.21 | 13 | 11.21 |
| **Grade 10 – 12** | 39 | 33.62 | 52 | 44.83 |
| **Grade 12 + diploma** | 34 | 29.31 | 86 | 74.14 |
| **Degree** | 30 | 25.86 | 116 | 100.00 |

### 6.3.1.3 Positions

Table 6.4 shows the positions distribution of all the respondents. The largest number of respondents is employed as operational workers (66.34%). This category is followed by the managers at 15.84%. Supervisors constitute 10.89%, whereas, directors and municipal manager constitute 4.95% and 1.98% respectively. As mentioned in the previous section, a more

representative view of TQM application at the institution would also be made possible by the fact that the respondents represent various positions in the municipality.

Table 6.4: Positions

| **Positions** | **Frequency** | **Percentage** | **Cumulative frequency** | **Cumulative percentage** |
|---|---|---|---|---|
| **Municipal manager** | 2 | 1.98 | 2 | 1.98 |
| **Directors** | 5 | 4.95 | 7 | 6.93 |
| **Managers** | 16 | 15.84 | 23 | 22.77 |
| **Supervisors** | 11 | 10.89 | 34 | 33.66 |
| **Operational Workers** | 67 | 66.34 | 101 | 100.00 |

### 6.2.1.5 Name of departments

Table 6.5 indicates the various departments where the respondents are employed. The largest concentration of respondents (13,79%) are employed at the Department of Corporate Service and the Department of Safety and Transport respectively. The Department of Land and Housing; Community Service; and Sports and Recreation follow at 12.93% respectively. In the Department of Finance about 12.07% respondents participated, whereas in the Department of Infrastructure 11.21% participated. The smallest concentration of respondents (5.17%) came from the Department of Local Economic Development and the Municipal Manager respectively.

### 6.3.1.5 Number of years in service

Table 6.6 indicates the distribution of the number of years of service in the MAP Municipality. The aim of the question was to draw attention to different categories of experience in the municipality. In this regard the largest concentration of respondents (28.95 %) appeared in the interval of more than 10 years of service. This is followed by respondents (28.07%) who fall into the interval of 2 to 5 years of service. Another group of respondents (22.81%) has less than

two years of service. Lastly, 20.18% of the respondents have 6 to 10 years of service in the MAP Municipality. The statistics indicates that a small proportion of respondents (49.13%) have been employed for 6 or more years.

Table 6.5: Name of departments

| Departments | Frequency | Percentage | Cumulative frequency | Cumulative percentage |
|---|---|---|---|---|
| **Finance** | 14 | 12.07 | 14 | 12.07 |
| **Corporate Service** | 16 | 13.79 | 30 | 25.86 |
| **Land and Housing** | 15 | 12.93 | 45 | 38.79 |
| **Infrastructure** | 13 | 11.21 | 58 | 50.00 |
| **Community Service** | 15 | 12.93 | 73 | 62.93 |
| **Safety and Transport** | 16 | 13.79 | 89 | 76.72 |
| **Sports and Recreation** | 15 | 12.93 | 104 | 89.66 |
| **Local Economic Development** | 6 | 5.17 | 110 | 94.83 |
| **Municipal manager** | 6 | 5.17 | 116 | 100.00 |

The majority (50.88) have less than 6 years of experience, whereas, 22.81% of the respondents have less than two years of service in the MAP Municipality. However, 77.2% of the respondents have been appointed for more than two years, therefore, may be regarded as having reasonable experience to take an informed view on various questions asked. Thus, all the items in the questionnaire could be meaningfully employed for the research project.

Table 6.6: Number of years of service

| Years of service | Frequency | Percentage | Cumulative frequency | Cumulative percentage |
|---|---|---|---|---|
| **<2 yrs** | 26 | 22.81 | 26 | 22.81 |
| **2-5 yrs** | 32 | 28.07 | 58 | 50.88 |
| **6-10 yrs** | 23 | 20.18 | 81 | 71.05 |
| **>10 yrs** | 33 | 28.95 | 114 | 100.00 |

#### 6.2.1.7 Gender

Table 6.7 shows the gender distribution of all the respondents. Of the respondents 52.14% are male and 47.86% are female, in other words, more or less an equal distribution of questionnaires had been achieved.

Table 6.7: Gender

| Gender | Frequency | Percentage | Cumulative frequency | Cumulative percentage |
|---|---|---|---|---|
| **Male** | 61 | 52.14 | 61 | 52.14 |
| **Female** | 56 | 47.86 | 117 | 100.00 |

### 6.3.2 Questionnaire two: current application of TQM principles

In chapter 1 it is indicated that this research aims to provide a conceptual analysis of TQM within the context of organisational theory and to identify TQM dimensions that can be applied to improve organisational performance and thereafter, to determine empirically the attitude of personnel at the MAP Municipality regarding theoretical findings towards TQM improving performance and to identify benefits and obstacles to the application of TQM in the Municipality. In questionnaire two the nine dimensions were analysed by means of average scores emanating from questions set in section B of the questionnaire (see appendix B). Based on the methodology used in Oschman (2004) all average scores should have a value equal to or

greater than 2.5 for a dimension to be regarded as satisfying the theoretical and practical requirements in terms of its application.

Specific emphasis was placed on average scores that emerged per section (each section discusses a specific TQM dimension). An average score of at least 2.5 is regarded as the minimum numerical value a dimension should have for it to meet the theoretical and practical requirements of a dimension in question. Average scores with a numerical value of less than 2.5 were regarded as negative. Average scores equal to or greater than 2.5 but less than 3.5 were regarded as scores that, although positive, did not represent the ideal situation because deficiencies exists, whereas an average scores equal to or greater than 3.5 were regarded as very positive, and represent the ideal situation (Oschman 2004:332).

Average scores equal to or greater than 2.5 are regarded as positive amongst the respondents, and therefore, will support the hypothesis formulated in chapter 1, namely "*Application of TQM dimensions in Maluti-A-Phofung Municipality can contribute to the improvement in organisational performance"*. From the onset it could be clarified that no average scores of less than 2.5 were obtained in this study. In other words, there were no negative attitudes amongst respondents.

#### 6.2.2.1 Leadership and top management commitment

This section includes items B1 to B4 of the dimension leadership and top management commitment to TQM application as well as the results obtained in respect of these items. In chapter 3 it emerged that the degree of commitment and support that management takes is critical to the successes of TQM application. Moreover, quality depends on a vision of excellence and that vision becomes a reality through excellent, compelling leadership.

Table 6.8 shows that the overall average score awarded by the three categories of respondents for this dimension is 3.49, that is, top management, with an average score 3.82, middle management, with average score of 3.46, while the operational workers, with an average score of 3.20 has awarded the lowest score. This being the case, an average score which is equal to or greater than 2.5 but lower than 3.5 level shows that the situation is not ideal but respondents have a slightly

positive attitude although there are some deficiencies. However, due to the proximity of overall average score of 3.49 to 3.50 one can conclude that respondents are to a larger extent more positive than negative. As a result, this dimension meets the theoretical and practical requirements of TQM. Meaning that, the respondents held the view that this dimension of TQM can contribute to the improvement in organisational performance.

Table 6.8: Average scores awarded by top management, middle management and operational workers per item in respect of leadership and top management B1-B4

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B1. The municipality has a clear vision for its future and provides guidance on performance.** | 4.27 | 3.85 | 3.08 | 3.73 |
| **B2. Total Quality Management is a manner according to which the Municipality is managed and directed on daily basis.** | 3.40 | 3.37 | 3.30 | 3.36 |
| **B3. Top /middle management encourages operational workers to accept ownership of problems or opportunities in their workplace.** | 4.00 | 3.25 | 3.11 | 3.45 |
| **B4. Top/middle management has developed a clear vision, mission and values to provide quality service.** | 3.60 | 3.35 | 3.32 | 3.42 |
| **Average per category of respondents.** | 3.82 | 3.46 | 3.20 | 3.49 |

The data in table 6.8 indicates that all four items but one rendered an average score in respect of the three categories of equal to or greater than 2.5 but lower than 3.5. These items are B1 (3.73); B2 (3.36); B3 (3.45); and B4 (3.42). With reference to the average score for item B1, namely 3.73 in table 6.8, it indicates that top management 4.27 and middle management 3.85 are quite strongly of the opinion that the Municipality indeed has a clear vision and provides guidance on performance, while the operational workers 3.08 feel less strongly about this. This shows that management, according to the operational workers, was not that effective in articulating the vision of the Municipality at all levels of the organisation. This is a fundamental starting point of TQM application. In the processes of identifying both theoretical and practical requirements for TQM leadership, it emerged that management must develop the ability to effectively communicate at all levels, which does not always seem to be the case here.

Regarding item B2, top management awarded an average score of 3.40, middle management 3.37 and operational workers 3.30. The three categories of respondents respectively have registered average scores greater than 2.5 but lower than 3.5. This indicates that all three categories are unanimous in not being that positive on the fact that TQM is a manner in which the municipality is managed and directed on a daily basis. Regarding item B3, top management has awarded an average score of 4.00, which is above the 3.5 level. This indicates that top management is very positive about its role to encourage organisational workers to accept ownership of problems or opportunities in their workplace. This is an ideal situation, however other categories disagree with top management, with middle management awarding an average score of 3.25 and operational workers 3.11. These scores are greater than 2.5 but lower than 3.5 indicating not so ideal a situation as top management, according to them does not effectively encourage middle managers and operational workers to own up the problems and opportunities in their workplace.

In B4, top management has awarded and average score of 3.60, which is above the 3.5 level. This indicates that top management is very positive and has developed a clear and effective strategy, supported by a clear vision, mission and values to provide quality service. However, both the middle managers and operational workers have awarded scores greater than 2.5 but lower than 3.5, with an average score of 3.35 and 3.32 respectively, meaning that they hold a

different opinion on this that indicates a not so ideal situation. In other words, they say they are not quite certain as to whether top/middle management has developed a clear vision, mission and values for the Municipality in order to provide quality service.

#### 6.3.2.2 Strategic planning

In this section items (B5 to B9) the application of the TQM dimension of strategic planning is discussed. The TQM approach states that quality is a key strategic organisational issue which needs to be integral of overall organisational planning. Table 6.9 shows that, according to the views of middle management (average score of 3.47) and operational workers (average score of 3.30), deficiencies exist, although regarded as slightly positive. Top management (average score of 3.91) is above a 3.5 level, which is regarded as very positive. However, in final analysis the overall average score depicts a positive attitude from respondents signifying an ideal situation.

Table 6.9: Average scores awarded by top management, middle management and operational workers per item in respect of strategic planning B5-B9

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B5. Operational personnel understand the interface between their task and strategic plans and objectives of the Municipality.** | 3.70 | 3.05 | 2.86 | 3.20 |
| **B6. A hierarchy of committees have been established that are responsible for quality service improvement.** | 4.20 | 3.30 | 3.01 | 3.50 |
| **B7. Municipal personnel have been empowered to reach their full potential.** | 3.36 | 3.05 | 3.24 | 3.22 |
| **B8. Top management delegates decision making to lower levels.** | 3.64 | 3.10 | 2.96 | 3.23 |
| **B9. I feel fully responsible for the work I do and believe that my work.** | 4.64 | 4.85 | 4.44 | 4.64 |
| **Average per category of respondents.** | 3.91 | 3.47 | 3.30 | 3.56 |

In B5, top management's average score is 3.70. According to this result top management is quite strongly of the opinion that operational personnel understand the interface between their task and the strategic plans and objectives of the Municipality. On the other hand, this is contrasted by the views of middle management (3.05) and operational workers (2.86) with the average score equal to or greater than 2.5 but less than 3.5 respectively, meaning that they are not quite convinced that operational personnel do understand the interface between their task and the strategic plans and objectives of the Municipality.

In B6, top management with average score of 4.20 is very positive that a hierarchy of committees has been established that is responsible for quality service improvements. The views of middle management (average score of 3.30) and operational workers (average score of 3.01) differ sharply with that of top management. In other words, middle managers and operational workers are not as aware as top management is of any hierarchy of committees for service delivery improvement. This could be true because if those committees existed they are the ones who would be actively involved in their operations.

In B7, on whether municipal personnel have been empowered to reach their full potential, all categories of respondents have registered an average score equal to or greater that 2.5 but less than 3.5 level. Top management awarded an average score of 3.36, middle management 3.05 and operational workers 3.24. In other words, the situation is not ideal and deficiencies exist, although the situation being regarded as positive.

In B8, top management (average score of 3.64) is very positive about delegating decision making to lower levels. However, middle management with an average score of 3.10 and operational workers 2.96 are sceptical about the situation. However, this is positive but not an ideal situation. TQM encourages delegation of powers to allow employees at all levels to actively participate in generating strategies and action plans to attain the vision.

In B9, on employees feeling fully responsible for the work they do and believe that their work is important to the success of the Municipality, all categories of respondents have registered average scores equal to or greater 3.5, which is an indication of a very positive and ideal

situation. Top management awarded an average score of 4.64, middle management 4.85 and operational workers 4.44. In the overall, with an average score of 4.64 to this dimension it is indicative of an ideal situation as the average score is greater than 3.5 as required for the situation to be very positive an ideal. Therefore, the theoretical and practical requirements for strategic planning as a dimension are met.

#### 6.3.2.3 Human resource management

Table 6.10: Average scores awarded by top management, middle management and operational workers per item in respect of human resource management B10-B14

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B10. Employees in my department/section work closely together as a team in order to coordinate work and improve quality.** | 4.27 | 4.05 | 4.11 | 4.14 |
| **B11. Apart from my specific job, I participate in other activities through teams to help achieve quality service.** | 4.00 | 4.35 | 3.81 | 4.05 |
| **B12. The Municipality has training facilitators to assess training needs.** | 3.91 | 3.10 | 3.15 | 3.39 |
| **B13. The Municipality provides the appropriate level of education and training to ensure that your skills and attitudes enhance continuous improvement.** | 3.73 | 3.00 | 2.93 | 3.22 |
| **B14. Availability of resources for training is sufficient.** | 3.36 | 2.60 | 2.86 | 2.94 |
| **Average per category of respondents.** | 3.86 | 3.42 | 3.37 | 3.55 |

In this section (items B10 to B14) the role of human resource management in the application of TQM is discussed. As such, this section of the questionnaire represents an important facet of the TQM approach, the results of which contain important implications. The reason for this statement is that (as already discussed in chapter 3) most quality-conscious organisations believe that the best way to improve organisational performance is by involving and empowering employees at all levels. It therefore means that effective human resource management is at the heart of any successful quality management process.

According to the results reflected in table 6.10, all categories of respondents think that employees in their department/section work closely together as teams in order to coordinate work and improve quality (B10). Top management recorded an average score of 4.27, middle management 4.05 and operational workers 4.12. The average score achieved by the three categories of respondents is above 3.5 with an overall average of 4.14. Therefore, on the whole, team work has been awarded a very positive rating. Teams form an essential part of any TQM effort as teamwork enables different parts of the institution to work together to meet customer needs in ways that cannot be done by means of individual job performance.

In B11, on employees participate in other activities through teams to help achieve quality service top management recorded an average score of 4.00, middle management 4.35 and operational workers 3.81. The average score achieved by the three categories of respondents is above 3.5 at 4.05. In other words, a very positive result is registered which indicates an ideal situation that places people and relationships at the centre of TQM. In B12, on whether the Municipality has training facilitators to assess the training needs of all employees all categories of respondents but top management have registered an average score equal to or greater than 2.5 but less than 3.5. Top management has registered an average score greater than 3.5. Top management scored 3.91, middle management 3.10 and operational workers 3.15 on this item, meaning that middle managers and operational workers opinions' reflect not so an ideal situation, although positive. Here certain deficiencies seem to exist because organisations need training schedules and curricula to develop the skills of all employees. The schedules should recognise the different training requirements of employees in different functions and levels.

In B13, on whether the Municipality provides the appropriate level of education and training to ensure that an employee's skills and attitudes enhance continuous improvement the average score achieved by the three categories of respondents is equal to or greater than 2.5 but less 3.5, that is, an average score of 3.22. This means the situation is not ideal, although positive and has deficiencies. Top management has registered a score above the 3.5 level at 3.93 which is contradicted by both middle management and operational workers at 3.00 and 2.93 respectively. What is concerning is that top management, which has the responsibility to provide training, says they do, but the other levels which must receive that training doubt whether this is always the case.

In B14, on whether the availability of resources for training is sufficient all categories of respondents have awarded average scores equal to or greater than 2.5 but less than 3.5. Top management's average score is 3.36, middle management 2.60 and operational workers 2.86. In other words, the situation is not ideal, although positive with deficiencies. This explains why in B13 both middle managers and operational workers were saying there is no training taking place. Top management might have plans for training but without sufficient resources in terms of training facilities and budget there would be no investment in developing the ability and skills of employees to cope with their daily functions. However, on the whole with the overall average score of 3.55 the situation is ideal for this dimension. Therefore, the theoretical and practical requirements for human resource management as a dimension of TQM are met.

#### 6.3.2.4 Organisational culture

In this section the effect of organisational culture at the Maluti-A-Phofung Municipality is discussed. The management of people to achieve total quality within an institution ultimately has to do with creating a specific culture. With reference to table 6.11, top management awarded an average score of 3.32, middle management 2.93 and the operational workers 3.06. If one looks at scores per item (B15-B16), the results indicate an average score of less than 3.5 namely B15 (average score of 3.02) and B16 (average score of 3.18).

The purpose of item B15 was to determine whether all employees understand that quality forms part of the Municipality's culture. According to discussions in chapter 3 an organisation's culture articulates the shared philosophies, values and beliefs on how things are done in the organisation. With an average score of 3.27 (top management), 2.60 (middle management) and 3.19 (operational workers), it is clear that all three categories of respondents do not entirely understand that quality forms part of organisational culture. With the average scores equal to or greater than 2.5 but lower than 3.5, the situation is not ideal. Although respondents are slightly positive, they acknowledge that there are some deficiencies with regard to an understanding of the fact that quality forms part of the Municipality's culture.

Item B16 attempted to establish whether the Municipality has a culture of continuous improvement. With the average score of 3.36 (top management), 3.25 (middle management) and 2.93 (operational workers) it is clear that this does not represent an ideal situation. The question that now arises is whether top management really knows what their responsibility should be and how to go about to apply that which the organisation must do to create a culture of continuous improvement. This further explains why the views of middle managers and operational workers were not so supportive on leadership and management commitment to quality service provision (B4).

Table 6.11: Average scores awarded by top management, middle management and operational workers per item in respect of organisational culture B15-B16

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B15. Quality forms part of Municipality's culture.** | 3.27 | 2.60 | 3.19 | 3.02 |
| **B16. The municipality has a culture of continuous improvement.** | 3.36 | 3.25 | 2.93 | 3.18 |
| **Average per category of respondents.** | 3.32 | 2.93 | 3.06 | 3.10 |

The three categories of respondents' average scores are equal to or greater than 2.5 but less than 3.5 with an average score of 3.10. Therefore on the whole, the fact that organisational culture has been awarded a not so positive rating compared with the previous dimensions, indicates that deficiencies exist that should receive attention. However, the theoretical and practical requirements of this dimension is met due to its average rating of 3.10 which is between the 2.5 and 3,5 required to represent a positive view on its application.

#### 6.3.2.5 Process management

In this section (B17 to B18) the effect of process management is discussed, in particular in view of the fact that an overwhelming majority of quality problems are associated with processes and few are caused by workers themselves as outlined in chapter 3. This section also represents an important facet of the TQM approach because quality problems can be mitigated by good management of processes.

Table 6.12: Average scores awarded by top management, middle management and operational workers per item in respect of process management B17-B18

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B17. The organisation processes are adequately defined so that all employees understand how they work.** | 3.55 | 2.95 | 3.15 | 3.22 |
| **B18. All processes are designed to meet quality standards.** | 3.64 | 3.00 | 3.14 | 3.26 |
| **Averages per category of respondents.** | 3.59 | 2.98 | 3.15 | 3.24 |

Table 6.12 indicates that top management has awarded an average score of 3.59, whereas, middle management and operational workers have awarded an average score of 2.98 and 3.15 respectively. The average score awarded by the three categories of respondents to this

dimension is equal to or greater than 2.5 but less than 3.5, with an average of 3.24. It therefore means that the situation is not ideal as deficiencies exist. In respect of item B17 (average score of 3.22), an attempt was made to determine whether organisational processes are adequately defined and workers understand how they work. This results show that the situation is not ideal, although positive. It is clear that top management did not adequately define organisational processes to both middle management and operational workers. In chapter 3, section 3.4.5, it was indicated that every activity that is intended to achieve some results within the organisation involves a process. With B18 (average score of 3.26) an attempt was made to establish whether all processes are designed to meet quality standards. The results show that top management (average score of 3.64) is more enthusiastic about its role to define quality processes than middle management and operational worker with an average score of 3.00 and 3.14 respectively, meaning that they hold a different view on this that indicates a not so ideal situation. In other words, they say they are not quite convinced as to whether all processes are designed to meet quality standards. On the whole, with an average score of 3.26 for this item, the indication is that the situation is not ideal as the average score is lower than 3.5 required for the situation to be very positive/ideal. However, in the final analysis, this dimension with an average score of 3.24, satisfy the minimum value a dimension should have to meet the theoretical and practical requirements.

#### 6.3.2.6 Continuous improvement

In this section (B19-B20) an evaluation is made of the Municipality's ability to improve the quality of service it offers its citizenry. Based on the principle of continuous improvement, the TQM approach guides the user through logical processes of identifying service objectives, measuring current organisational performance, determining the effect of current organisational practices and identifying where change is required.

Table 6.13: Average scores awarded by top management, middle management and operational workers per item in respect of continuous improvement B19-B20

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B19. Measurements of performance are based on defined standards.** | 4.00 | 3.20 | 2.96 | 3.39 |
| **B20. The Municipality is managed as a system for continuously improving the quality of service delivery.** | 3.82 | 3.60 | 3.43 | 3.62 |
| **Average per category of respondents.** | 3.91 | 3.40 | 3.20 | 3.51 |

Table 6.13 indicates that top management awarded an average score of 3.91 which is the highest score, in comparison to middle management (3.40) and operational workers (3.20). Only top management's average is above the required level of 3.5. When the results of the three categories of respondents are analysed individually (B19), it is noticeable that middle management (average score of 3.20) and operational workers (average score of 2.96) are sceptical about performance measurements being based on defined standards, whereas top management (average score of 4.00) is more optimistic and very positive.

Regarding B20, top management (average score of 3.82) and middle management (average score of 3.60) have a more positive and unanimous view that the Municipality is managed as a system for continuously improving the quality of service delivery than operational workers (average score of 3.43) which is slightly below the cut-off level of 3.5. This indicates that operational workers probably do not ideally understand the interface between their task and the Municipality's strategic plans and objectives to improve the quality of service delivery. However, continuous improvement with an average score of 3.51 does meet the theoretical and practical requirements and represent the ideal situation.

#### 6.2.2.7 Communication

In this section (B21 and B24) an evaluation is made of the Municipality's ability to communicate its aims to the relevant stakeholders. In order for TQM to continue to improve organisational performance, employees must be informed about their goals, how they are to be accomplished, who is responsible for what, and how it all fits together.

Table 6.14 indicates that top management (3.76) has awarded the highest score in comparison to middle management (3.35) and operational workers (3.04). Only top management's average is above the required ideal average level of 3.5. When the results of the three categories of respondents are analysed individually (B21), it is noticeable that middle management (average score of 3.35) and operational workers (average score of 3.04) are sceptical about the Municipality communicating regularly with its stakeholders and customers, whereas top management (average score of 3.70) is more optimistic and very positive about its role in communicating the same.

Regarding B24, top management with an average score of 3.82 is very positive about the fact that the Municipality does communicate clearly what it wants to achieve. On the other hand, middle management with an average score of 3.35 and operational workers with an average score of 3.03 are less positive and unanimous that management does not clearly communicate what it aims to achieve. On the whole, with an average score of 3.38 for this dimension, the indication is that the situation is not ideal as the average score is lower than 3.5 required for the situation to be very positive/ideal. However, in the final analysis, this dimension with an average score of 3.38, satisfy the minimum value a dimension should have to meet the theoretical and practical requirements.

Table 6.14: Average scores awarded by top management, middle management and operational workers per item in respect of communication B21; B24

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B21. The Municipality communicates regularly to its stakeholders.** | 3.70 | 3.35 | 3.04 | 3.36 |
| **B24. What the Municipality management aims to achieve is clearly communicated.** | 3.82 | 3.35 | 3.03 | 3.40 |
| **Average per category of respondents.** | 3.76 | 3.35 | 3.04 | 3.38 |

### 6.3.2.8 Management of information system

This section (B22 and B23) discusses the application of management of information systems in Maluti-A-Phofung Municipality. Accordingly, as noted in chapter 3, an information system should focus on providing information that helps the organisation to meet its objectives.

Table 6.15 indicates that all categories of respondents have allocated an average score above the required ideal average score of 3.5, with top management awarding an average score of 4.50, middle management an average score of 4.38 and operational workers an average score of 3.84. This represents a very positive attitude from all categories of respondents signalling the existence of an ideal situation that meet the theoretical and practical requirements of the dimension of management of information system.

Table 6.15: Average scores awarded by top management, middle management and operational workers per item in respect of management information systems B22-B23

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B22. The effective use of information systems in your Municipality can be an advantage to improve organisational performance.** | 4.36 | 4.30 | 3.72 | 4.13 |
| **B23. The use of information technology can improve quality of decision making and planning at your Municipality.** | 4.64 | 4.45 | 3.96 | 4.35 |
| **Average per category of respondents.** | 4.50 | 4.38 | 3.84 | 4.24 |

When the results of the three categories of respondents are analysed individually (B22), one realises that top management has registered an average score of 4.36, middle management 4.30 and operational workers 3.72. These results indicate that all categories are in agreement that the effective use of information management systems can be an advantage to improving organisational performance in the Municipality. With regard to B23, top management has allocated an average score of 4.64, middle management 4.45 and operational workers 3.96. All the scores are above the required average score of 3.5 depicting an ideal situation, thus indicating that all categories are unanimous about information technology improving the quality of decision making and planning in the Municipality. Therefore, it is concluded that the dimension management of information systems meet the theoretical and practical requirements of TQM.

#### 6.2.2.9 Customer satisfaction

This section (B25 and B26) discusses the application of the TQM dimension of customer satisfaction. This is an important dimension because the foremost goal of TQM is to satisfy customers by meeting and exceeding their expectations. Chapter 3 discussed the fact that

customer satisfaction is a fundamental principle of TQM. Therefore, TQM specifies the standard operating procedure of every aspect of work that every individual in the organisation must follow in order to enhance customer satisfaction.

Table 6.16: Average scores awarded by top management, middle management and operational workers per item in respect of customer satisfaction B25-B26

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **B25. Your Municipality often communicates closely with the community to identify and understand what they want and how they define quality.** | 4.00 | 3.45 | 3.04 | 3.50 |
| **B26. Performance is verified against expectations from the Municipality's management.** | 3.45 | 3.25 | 3.00 | 3.23 |
| **Average per category of respondents.** | 3.73 | 3.35 | 3.02 | 3.37 |

Table 6.16, indicates that top management has awarded an average score of 3.73 which is the highest score in comparison to middle management (3.35) and operational workers (3.02). Top management's average is above the required ideal level of 3.5 depicting an ideal situation.

When the results of the three categories of respondents are analysed individually (B25), top management with an average score of 4.00 is more optimistic and very positive about its role in communicating the same. This indicates its positive view on the way the Municipality communicates with customers to identify and understands their wants and expectations. However, middle management with an average score of 3.45 and operational workers with an average score of 3.04 have registered a score equal to or greater than 2.5 but less than 3.5 indicating a not so positive attitude. Meaning that they are somewhat sceptical about the

Municipality communicating closely with communities to identify and understand their wants and expectations.

The results in B26 indicate unanimity in all categories regarding the Municipality's failure to properly verify performance against expectations from management. What is intriguing is the fact that even top management with an average score of 3.45 is gloomy about the situation even though they are the ones who should be leading in this regard. Middle management and operational workers have allocated an average score of 3.25 and 3.00 respectively indicating that performance is not verified against the expectations from the Municipality's management. Be that as it may, the dimension customer satisfaction meets the theoretical and practical requirements of TQM due to its average rating of 3.37 which is between the 2.5 and 3.5 required to represent a positive view, although not very positive, on its application.

### 6.3.3 Questionnaire two: TQM benefits

This section (C1 to C12) evaluates the opinion of personnel regarding the benefits that may be realised from the usage of TQM at the Maluti-A-Phofung Municipality. In chapter 3, all dimensions where conceptualised and it became clear that TQM as a management approach could benefit public organisations if it is properly applied. Following on the same methodology as in the above sections, an average score with a numerical value of less than 2.5 were regarded as negative, average scores equal to or greater than 2.5 but less than 3.5 were regarded as a score that, although positive, did not represent the ideal situation, whereas, an average score equal to or greater than 3.5 was regarded as very positive, and represent the ideal situation. The results on this section are tabulated in table 6.17.

Table 6.17: Average scores awarded by top management, middle management and operational workers per item in respect of TQM benefits C1-C12

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **C1. Quality related activities have a huge impact on the success of any organisation.** | 4.64 | 4.25 | 3.51 | 4.13 |
| **C2. Quality and performance serve as a catalyst for improvement.** | 4.73 | 4.35 | 3.63 | 4.24 |
| **C3. The implementation of TQM generally mandates a review of and updating of all organisational measures.** | 4.36 | 4.20 | 3.43 | 4.00 |
| **C4. TQM management ensures that standards are set and remedial action taken whenever a service failure occurs.** | 4.45 | 4.15 | 3.69 | 4.10 |
| **C5. TQM focuses on the measurement of work performance.** | 4.36 | 4.05 | 3.62 | 4.01 |
| **C6. People are consulted about the level and quality of service they receive and, wherever possible, are given a choice about services that they are offered.** | 3.82 | 3.20 | 3.24 | 3.42 |
| **C7. TQM management focuses on the getting employees well motivated and trained.** | 3.82 | 3.85 | 3.64 | 3.77 |
| **C8. The TQM strategy focuses on satisfying customer/community requirements.** | 4.27 | 4.20 | 3.60 | 4.02 |
| **C9. The TQM strategy focuses on** | 4.00 | 3.85 | 3.30 | 3.72 |

| | | | | |
|---|---|---|---|---|
| **work processes and on analysing every task interfacing with the service user.** | | | | |
| **C10. TQM deploys appropriate techniques and procedures necessary to meet customer/community needs and improve management quality.** | 4.09 | 3.85 | 3.36 | 3.77 |
| **C11. TQM focuses on the most efficient and productive use of resources to meet customer/community needs.** | 4.27 | 4.15 | 3.41 | 3.94 |
| **C12. Employees can make important contribution to organisational performance when they have the power and necessary expertise.** | 4.36 | 4.40 | 3.71 | 4.16 |
| **Average per category of respondents.** | 4.26 | 4.04 | 3.51 | 3.94 |

Table 6.17 indicates that all categories of respondents have allocated an average score above the required average score of 3.5, with top management awarding an average score of 4.26, middle management an average score of 4.04 and operational workers an average score of 3.51 with the total average score being 3.94. This represents a very positive attitude from all categories signalling that TQM as a management approach could indeed benefit Maluit-A-Phofung Municipality if applied. In other words, one can conclude that the personnel in Maluti-A-Phofung firmly confirm the hypothesis that *"Application of TQM dimensions in Maluti-A-Phofung Municipality can contribute to the improvement in organisational performance"*.

When the results of the three categories of respondents are analysed individually, it is noted that, in C1 all categories of respondents have awarded an average scores above the 3.5. Top

management with an average score of 4.64, middle management 4.25 and operational workers 3.51 with a total average of 4.13 shows that quality related activities have a huge impact on the success of any organisation. In C2, top management has awarded an average score of 4.73, middle management 4.25 and operational workers 3.63 totalling an average score of 4.24. These results indicate a very positive situation, thus all categories of respondents concur that quality and performance serve as a catalyst for improvement.

Regarding C3, top management scored an average of 4.36, middle management 4.20 signalling their enthusiasm about the situation while operational workers scored 3.43 which is slightly below 3.5 indicating that operational workers believe that the situation is not ideal, although positive. However, on the whole with the total average score of 4.00 the attitude of all categories of respondents indicate a very positive/ideal situation which meets the theoretical and practical benefits of TQM application. Therefore, all categories believe that the implementation of TQM generally mandates a review of and updating of all organisational measures. In C4, top management has scored 4.45, middle management 4.15 and operational workers 3.69 with a total average score of 4.10. This means that there is a consensus amongst all categories of respondents that indeed TQM ensures that standards are set and remedial action taken whenever a service failure occurs.

In C5, top management has scored 4.36, middle management 4.05 and operational workers 3.62 totalling an average score of 4.01. These results indicate that all categories of respondents are very positive that TQM focuses on the measurements of work performance. In C6, results show that top management has awarded an average score of 3.82 which is greater than 3.50 , whereas both middle management (3.20) and operational workers (3.24) are less than 3.50 but greater 2.5. This indicates that top management is more positive, whereas middle managers and operational workers are somewhat less positive. However, with a total average score of 3.42, which is less than 3.50 but greater than 2.5, the results show that the situation is not ideal, although positive and some deficiencies do exist that need to be fixed.

In C7, top management rewarded an average score of 3.82, middle management 3.85 and operational workers 3.64 totalling an average score of 3.77. The fact that all categories of respondents have scored above the 3.50 mark reveal an ideal situation which is very positive.

Therefore, it means that all categories are satisfied that TQM focuses on getting employees well motivated and trained. C8 registers the average score of top management as 4.25, middle management 4.20 and operational workers 3.60 with a total average score of 4.02. With an average score greater than 3.50, the results mean that the attitude of respondents is very positive and the situation is ideal. Therefore, there is a consensus that TQM strategy focuses on satisfying customer/community requirements.

Regarding the results of C9, top management has awarded an average score of 4.00, middle management 3.85 and operational workers 3.30. It means that both top and middle management with a score above 3.50 are content that TQM strategy focuses on work processes and on analysing every task interfacing with the service user. Whereas, operational workers with an average score of 3.30 believe that there are some deficiencies that need to be attended hence their attitude is slightly positive depicting not so ideal a situation. With the total average score of 3.72 it means the situation very positive/ideal. Thus, all categories believe that TQM does focuses on work processes and on analysing every task interfacing with the service user. In C10, top management awarded an average score of 4.09, middle management 3.85 and operational workers 3.36. In other words, both top and middle management registered a score above 3.50 thus, are very positive that TQM deploys appropriate techniques and procedures necessary to meet customer/community needs and improve management quality. Whereas, operational workers with an average score of 3.36 believe that there are some deficiencies that need to be attended hence their attitude is slightly positive depicting not so ideal a situation. However, with the total average score of 3.77 the situation is positive and ideal. Therefore, it means that TQM deploys appropriate techniques and procedures necessary to meet customer/community needs and improve management quality.

With regard to C11, top management has registered an average score of 4.27, middle management 4.15 which is above 3.50 indicating a very positive attitude. Whereas, operational workers with an average score of 3.41 which is less than 3.50 but greater than 2.5 indicate that the situation is not so ideal, although positive with deficiencies. However, with the total average score of 3.94 it means the overall attitude of all categories of respondents is very positive and the situation is ideal. Thus, TQM focuses on the most efficient and productive use of resources to meet customer/community needs. In C12, top management awarded an average score of 4.36,

middle management 4.40 and operational workers 3.71 with the total average score of 4.16. With all categories of respondents scoring above 3.50 these results show that the situation is ideal and very positive. Thus, all categories of respondents believe that employees can make an important contribution to organisational performance when they have the power and necessary expertise.

### 6.3.4 Questionnaire: TQM obstacles

This section (D1 to D10) determines the obstacles which can hamper or prevent the effective application of TQM at the Maluti-A-Phofung Municipality. Following on the same methodology as in the above sections, average scores with a numerical value of less than 2.5 were regarded as negative, average scores equal to or greater than 2.5 but less than 3.5 were regarded as scores that, although positive, did not represent the ideal situation, whereas, an average score equal to or greater than 3.5 was regarded as very positive, and represent the ideal situation. The results on this section are tabulated in table 6.18.

In chapter 3 it was established that a common factor contributing to TQM failure is a lack of backing and commitment of top management. Regarding this statement table 6.18 in D1 indicates that top management awarded an average score of 3.55, middle management 4.05 and operational workers 3.73. The fact that all categories of respondents have scored above the 3.50 threshold with an average total of 3.78 confirms that a lack of backing and commitment of top management is an obstacle to TQM application. Regarding D2, top management scored an average score of 4.18, middle management 3.95 and operational workers 3.67 with a total average score of 3.93. These results show that the attitude of all categories of respondents is positive. Therefore, a lack of enough knowledge of TQM practices is an obstacle to TQM application.

In D3, top management awarded an average score of 3.64, middle management 4.45 and operational workers 3.81 with a total average score of 3.97. Therefore, it means that all categories of respondents view limited resources as an obstacle to the effective application of TQM in Maluti-A-Phofung Municipality. In D4, top management has awarded an average score of 4.50, middle management 3.70 and operational workers 3.63 with a total average score of 3.94

which is above 3.50. These results show that all categories of respondents agree that where performance is not measured it becomes an obstacle to the effective application of TQM.

Table 6.18: Average scores awarded by top management, middle management and operational workers per item in respect of TQM obstacles D1-D10

| Item | Top management | Middle management | Operational workers | Average per item |
|---|---|---|---|---|
| **D1. Lack of backing and commitment from top management.** | 3.55 | 4.05 | 3.73 | 3.78 |
| **D2. Lack of enough knowledge of TQM practice.** | 4.18 | 3.95 | 3.67 | 3.93 |
| **D3. Limited resources.** | 3.64 | 4.45 | 3.81 | 3.97 |
| **D4. Performance is not measured.** | 4.50 | 3.70 | 3.63 | 3.94 |
| **D5. Ineffective performance measures.** | 4.00 | 3.50 | 3.27 | 3.59 |
| **D6. Ineffective internal communication between management and operational workers.** | 4.18 | 4.15 | 3.73 | 4.02 |
| **D7. Poor management systems and procedures.** | 4.00 | 4.20 | 3.92 | 4.04 |
| **D8. Lack of continuous education and training.** | 4.18 | 3.95 | 3.96 | 4.03 |
| **D9. Avoiding taking risks and radical changes, thus remaining being more committed to the status quo.** | 3.82 | 3.70 | 3.35 | 3.62 |
| **D10. Poor management control.** | 4.45 | 4.10 | 3.85 | 4.13 |
| **Average per category of respondents.** | 4.05 | 3.98 | 3.69 | 3.91 |

Regarding D5, top management awarded an average score of 4.00, middle management 3.50 and operational workers 3.27, with a total average score of 3.59. These results indicate that both top management and middle management are very positive and believe ineffective performance

measures hamstring proper application of TQM. Contrary to this, the operational workers are somewhat not very positive indicating that there are some deficiencies. The overall outcome of this item with an average score of 3.59 which is greater than 3.50 indicates that the situation is positive and ideal. Therefore, ineffective performance measures are obstacles to TQM application. In D6, top management registered an average score of 4.18, middle management 4.15 and operational workers 3.73 with a total average score of 4.02. These results indicate that all categories of respondents are contend that ineffective internal communication between management and operational workers is an obstacle to TQM application.

In D7, top management has awarded an average score of 4.00, middle management 4.20 and operational workers 3.92 with a total average score of 4.04. These results show that all categories of respondents are in consensus about poor management systems and procedures being an obstacle to TQM application. With regard to D8, top management has registered an average score of 4.18, middle management 3.95 and operational workers 3.96 with a total average score of 4.03. These results show that all categories of respondents are in consensus about lack of continuous education and training as an obstacle to TQM application.

With regard to D9, top management has registered an average score of 3.82, middle management 3.70 and operational workers 3.35 with a total average score of 3.62. These results indicate that operational workers with a score lower than 3.50 but greater than 2.5 are somewhat pessimistic about the situation and believe there are some deficiencies. However, in the final analysis with a total average score of 3.62 all categories of respondents accept that avoiding taking risks and radical changes, thus remaining being more commitment to the status quo, is an obstacle to TQM application. In D10, top management has registered an average score of 4.45, middle management 4.10 and operational workers 3.85 with a total average score of 4.13. These results show that all categories of respondents are in consensus about poor management control as an obstacle to TQM application.

## 6.3 SUMMARY

In this chapter the results of the questionnaire that were obtained from the 117 respondents were discussed in detail. Statistical analyses, based on the information obtained from questionnaire one, were provided on specific biographical variables of participating respondents.

Questionnaire two, dealing with the attitude of personnel at MAP Municipality regarding theoretical findings towards TQM improving performance and the opinion of personnel regarding the benefits that may be realised from the use of TQM, were processed statistically to make inferences that could contribute to improved organisational performance if TQM is applied. In concluding this chapter, the obstacles which may hamper TQM application were discussed and are related to the suggested theoretical findings in chapter 3. More specific and representative recommendations and conclusions are made in the following chapter.

# CHAPTER 7

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 7. 1 INTRODUCTION

The intention of this dissertation was mainly to determine how the application of Total Quality Management (TQM) can improve organisational performance in Maluti-A-Phofung Municipality. This was achieved through discussions of the historical evolution of TQM, analysis of the dimensions of TQM and organisational performance and performance management and lastly, the exposition of research methodology employed in the empirical part of the study and the analysis of the results obtained.

This chapter summarises important aspects of the research and table recommendations and conclusions, based on the theoretical input (chapter 1 to 4) and the findings in the research results as discussed in chapter 6. To pursue this research, the aim of this study was subdivided into the following objectives (see chapter 1), namely:

- To provide a historic evolution of TQM and experts' contribution to the management theory of TQM;
- To provide a conceptual analysis of TQM within the context of organisational theory and to identify TQM dimensions that can be applied to improve organisational performance;
- To describe a TQM implementation model and evaluation methodology that can be used by the MAP Municipality to improve performance;
- To provide a conceptual analysis of organisational performance within the context of performance management theory;
- To determine empirically the extent of awareness and current application of TQM principles in MAP municipality;
- To determine empirically the attitude of personnel at MAP municipality regarding theoretical findings towards TQM improving performance; and
- To identify key obstacles to the application of TQM in the MAP Municipality.

The findings made in the preceding chapters on the various objectives are summarised in this chapter in order to make recommendations and draw a conclusion in terms of the value of TQM to improve performance in the Maluti-A-Phofung Municipality.

## 7.2 SUMMARY

The aim of this summary is to provide a bird's view on how this dissertation endeavoured to deliver its mandate in terms of realising all its objectives.

### 7.2.1 Objective one: to provide a historical evolution of TQM and experts' contribution to the management theory of TQM

The first purpose of this objective was to provide a historical evolution of TQM. To achieve this, one has to understand how the concept of quality evolved during different time periods of development, namely the age of craftsmanship, the early twentieth century, and the post World War II through a literature review. What came out clearly from the literature review is the fact that the quality of goods and services has always been monitored, either directly or indirectly.

During the age of craftsmanship, the ancient Egyptians demonstrated a commitment to quality in the construction of their pyramids. In the middle of the eighteen century, a system for manufacturing muskets to a standard pattern using interchangeable parts was developed according to a carefully designed standard of quality control. In the early 1900s, the statistical control chart concept was developed, which is often considered to be the beginning of quality control. By the 1930s, statistical quality control methods were in widespread use in the manufacturing sector.

After the World War II, during the late 1940s and early 1950s, Japanese business integrated quality throughout their organisations and developed a culture of continuous improvement. In the 1970s, the United States of America companies developed what was referred to as leadership through quality better known as TQM, thus quality excellence became recognised as a key to worldwide competitiveness and was highly promoted. Managers began to realise that the lasting improvements could not be accomplished without significant attention to the quality of the management practices used on daily basis.

In other words, managers begun to recognise that the quality of management is as important as management of quality. Thereafter, quality assurance gave way to quality management, rather than narrow products based on a technical approach. Henceforth, TQM took on a new role that permeated every aspect of running an organisation.

The second purpose of this objective was to analyse the contribution of acclaimed quality management experts, such as Deming, Juran, Crosby, Feigenbaum, Ishikawa, Tagushi and Shingo in developing TQM theory to what it is in the 21$^{st}$ century. This was necessary because

they laid a foundation on how to achieve quality excellence. Although they all have their own approaches in respect of TQM, their general arguments do not differ from one another that much. Their theories can also serve as a guideline for implementing TQM at any institution.

Deming firmly believed in the systematic nature of institutions, and a need to reduce variations in institutional processes. Accordingly, the theoretical essence of the Deming management theory is about the creation of an organisational system that fosters cooperation and learning for facilitating the implementation of management practices, which, in turn, leads to continuous improvement of processes, products, services and to employee fulfilment, both of which are critical to customer satisfaction, and ultimately, to the organisation's survival.

Juran's theory of quality management can be classified as quality trilogy, that is, quality planning, quality control and quality improvement. The quality trilogy starts with planning at various levels of the organisation, each with a distinct goal. After the planning phase, quality control takes over. The objectives of quality control are to eliminate the causes of deficiencies and to bring the process output within the parameters of acceptable quality. The next phase is quality improvement which deals with the continuous improvement of the product/service and the process.

Feigenbaum's theory can be summarised mainly by three principles, namely: *Quality Leadership*: meaning that management must be grounded on sound planning and leads quality efforts; *Modern Quality Technology*: that is, the integration of personnel to evaluate and implement new techniques to satisfy customers; and *Organisational Commitment*: that is, continuous training and motivation of personnel by emphasising the importance of quality in all aspects of the organisation's activities.

Crosby's theory is embodied in what he termed the "absolutes of quality management and basic elements of improvement". These absolutes are characterised by four basic tenants, that is: *Quality means conformance to requirements*: once requirements are specified, quality is judged solely on whether requirements have been met; *The system for causing quality is prevention, not appraisal*: the quality department should measure conformance, report results, and lead the drive to develop a prevention mechanism toward quality improvement; *The performance standard must be zero defects*: that means concentrating on preventing defects rather than just finding and fixing them; and *The measurement is the price of non-conformance*: bring problems to management attention, select appropriate time for correction and track quality improvement over time.

Ishikawa's theory is based on collecting and analysing factual data using visual tools, statistical techniques, and teamwork as the foundation for implementing total quality. He believed that quality begins with the customer, in other words, the true quality characteristics are the customer's view of a product or service performance, as expressed in the customer's own words. Thus, understanding the customer's needs is a fundamental basis for improvement.

Tagushi's theory emphasised an engineering approach to quality. He contributed to improving engineering theories to product design by designing a product that is insensitive to variation in manufacturing, specification limits becomes meaningless. That is, he advocated certain techniques of experimental design to identify the most important design variables to minimise the effects of uncontrollable factors on the product variation, thus, addressing quality problems early in the design stage rather than reacting to problems that might arise later in production.

Shingo's theory is based on zero defects quality control. He believed that a true zero defects level of quality is the ultimate level of conformance to specification. Zero defects means that every item produced conforms to specification. The Shigo Zero Defect Quality Control System consists of four basic principles, namely use source inspections where defects originate; always use 100% source inspections, rather than sampling; minimise the time to carry out corrective action when abnormalities occur; and set up monitors, according to product and process requirements.

Finally, these theories contributed to the increase of understanding the characteristics of various management approaches. This understanding should lead to more efficient and effective efforts at achieving the purpose of transforming and improving the practice of management. For the purpose of this research, these theories provided the basis for an empirical examination to determine whether or not the real data support a theory of TQM improving organisational performance.

### 7.2.2 Objective two: to provide a conceptual analysis of TQM within the context of organisational theory and to identify TQM dimensions that can be applied to improve organisational performance

The first purpose of this objective was to provide a conceptual analysis of TQM in order to prepare an organisation to implement TQM. To achieve this, it was necessary to thoroughly review literature to understand different views of scholars in respect of quality and the meaning of TQM. In the research literature it became clear that quality is defined

and interpreted in many different ways. Thus, it was important to understand various approaches from which quality is viewed to fully appreciate the role it plays in TQM. While TQM is widely practiced in many organisations, there is little agreement on what it really means, despite the assertions that clear definitions are important.

However, a common definition is needed, based on the fact that TQM is not just a single concept, but a number of related concepts which create a comprehensive and different approach to managing organisations, to prevent confusion amongst personnel members and between departments in an institution. Based on the analysis of quality definitions by different authors, and on how TQM evolved from having a narrow focus on statistical process control to encompass a variety of technical and behavioural methods for improving organisational performance, the following definition of TQM was developed for this research, namely: TQM is a management approach that seeks to achieve continuous improvement of products or services by ensuring that all the needs and expectations of the organisations, customers, and the community at large are satisfied or exceeded.

This definition encapsulates the three basic principles of TQM, that is, continuous improvement, teamwork and customer focus. The principle of continuous improvement means a commitment to constant examination of technical and administrative processes in search for better methods. Teaming with customers and suppliers maximises benefits in terms of synergy and loyalty. The goal of satisfying the customer is expressed by the organisational attempt to design and deliver products or services that fulfil customer needs. Therefore, quality will be determined by the stakeholder's perception of the institution's products or services, and its action relative to their particular requirement.

The second purpose of this objective was to identify TQM dimensions that can be applied to improve organisational performance. From the literature review it was found that TQM has many dimensions. However, in this study the researcher divided them into nine dimensions in order to facilitate easy analysis, namely leadership and top management commitment, strategic planning, human resource management, organisational culture, process management, management information system, communication, continuous improvement and customer satisfaction.

*Leadership and top management commitment*: the degree of commitment and support that management takes in implementing a total quality environment is critical to the success of TQM implementation. Top management should support TQM through allocations of budgets,

planning for change at the beginning of implementation, and provide methods of providing progress. They should inspire efficient and effective use of resources and efforts of the institution towards quality excellence. Top management should create and maintain an internal environment in which all employees become fully involved in improving organisational performance.

*Strategic planning*: from TQM point of view strategy consists of understanding what customers want and aligning the organisation with plans to deliver it to them. TQM perspective believes that customer-driven quality is a key strategic organisational issue which needs to be integrated to overall organisational planning. Strategy begins with a decision, a decision that can only be made by top management, and that decision simply put, is a decision to compete as a world class organisation. Therefore, it is necessary to align quality control with organisational strategy to ensure that quality efforts reflect the long-term goals of the organisation.

*Human resource management*: literature review point out that the best way to improve organisational performance is by involving and empowering employees at all levels of the organisation. This dimension emphasises self-control, autonomy, and creativity among employees and calls for greater cooperation rather than just compliance. Developing skills through training and coaching, promoting teamwork and participating, motivating and recognising employees, and providing meaningful communication are important human resource management imperatives that managers must do for TQM to succeed. It therefore means that the effective management of human resources is at the heart of any successful TQM application.

*Organisational culture*: culture is the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes, and norms that knit an organisation together. These psychological qualities reveal organisational agreement, implicit or explicit, on how to approach decisions and problems, and the way things are done in an organisation. The central feature of TQM is the idea of culture being grafted into management theory and practice. The aim is to change management and employees' attitude towards quality control.

*Process management*: literature revealed that the overwhelming quality problems in many organisations are associated with processes and few are caused by employees themselves. Thus, such problems can be mitigated by good management of process quality. Management of process means that organisations should use systematic processes to pursue high levels of quality and operational performance. Nearly every activity that is intended to achieve some result

within an organisation involves a process. Therefore, management is responsible for restructuring and continuously improving the processes with which individuals work.

*Management information system*: information systems can help organisations achieve their quality goals by helping them specify products and processes, making improvement based on demand, reduce cycle time, and improve the quality and precision of design. Deciding which new information system to build should be an essential part of the organisational planning process. Organisations need to develop an information system plan that supports their overall business plan and in which strategic systems are incorporated into top level planning. The plan should contain a statement of corporate goals and specify how information technology will support the attainment of those goals. The plan should indicate the key management decisions concerning hardware acquisition, landline telephone, mobile and internet communication.

*Communication*: communication is an integral part of all management functions. In order to lead, plan, organise, and control, managers have to communicate to their subordinates. However, by itself communication is not necessarily effective communication. Effective communication means that the message is received, understood, and acted upon in a desired manner. This means that effective communication in a TQM environment requires persuasion, motivation, monitoring, and leadership on part of managers.

*Continuous improvement*: continuous improvement provides managers a form of strategic control that allows organisations to respond more proactively to rapid demands in the different areas that influence the organisation's success. The propensity of the organisation to pursue incremental and innovative improvement of its process, products and services should be the driver to achieve continuous improvement. Improvements seek to eliminate deficiencies and should be part of the daily work of all individuals and departments. Sources of improvement include employee ideas, research and development, customer input and benchmarking or other comparative performance information.

*Customer satisfaction*: it was established that customer service and satisfaction are at the core of any institution and the main focus of TQM. Customer needs should be identified and appropriate product designs or service delivery designs be instituted to satisfy those needs. Customer-driven quality should be the focus of an organisation, as it will ensure that the products and services are delivered with the objective to satisfy customer needs. The focus of this dimension is the degree to which an organisation's customers continuously perceive that their needs are being met.

What has emerged from this analysis is the fact that these TQM dimensions can be utilised as a model to improve organisational performance. Any organisation that is willing to implement TQM would rely on these dimensions as a compass to ensure that customers, clients, suppliers, and community expectations are met or exceeded.

### 7.2.3 Objective three: to describe a TQM implementation model and evaluation methodology that can be used by MAP Municipality to improve performance

Having established the principles and dimensions of TQM, the first purpose of this objective was to find an appropriate model to manage the organisational change surrounding the introduction of TQM in Maluti-A-Phofung Municipality. The research then proceeded to examine this model and the process of implementation. The top management is the catalyst for the entire process and is responsible for ensuring that all parties involved accept the changes created by a new approach. The following model divides TQM implementation into nine areas derived from dimensions discovered that seek to integrate several organisational functions for the total improvement of services.

**Leadership and top management**: decide and drive organisational objectives.

**Strategic planning**: create clear values and high expectations for performance excellence.

**Human resource management**: fully committed, well trained and involved workforce.

**Process management**: design of processes to develop and deliver products and services that meet the needs of customers.

**Organisational culture**: change management and employees' attitude to quality assurance by focusing on norms, believes and rituals of the organisation.

**Management information systems**: modern organisations depend on data and information to support and implement organisational strategies.

**Communication**: communication between individuals, individuals and teams is inextricably linked to the quality management.

**Continuous improvement**: incremental changes to enhance value to the customer through new and improved services by reducing errors, defects, waste, costs and improving responsiveness and cycle time.

**Customer satisfaction**: strive to meet the expectations of customers.

The second purpose of this objective was to describe an evaluation methodology that can be used by the MAP Municipality to improve performance. This dissertation proposes SERVQUAL methodology and is presented as follows:

- *Tangible:* the appearance of physical facilities, equipment, personnel and communication material.
- *Reliability:* the ability to perform the promised service dependably and accurately.
- *Responsiveness:* willingness to help customers and provide prompt service.
- *Assurance:* possession of required skills and knowledge to perform the service; politeness; respect; consideration and friendliness of contact staff; trustworthiness; believability and honesty of staff; and security from danger, risk and doubt.
- *Empathy:* access, that is, approachability and ease of contact; communication, that is, keeping customers informed in a language they understand and listening to them; and understanding customers by making an effort to know them and their needs.

This methodology helps to determine different customers' perceptions and expectations of service quality in order to highlight current performance levels, resultant quality gaps and how to manage customer expectations.

### 7.2.4 Objective four: to provide a conceptual analysis of organisational performance within the context of performance management theory

It was found that performance refers to how organisations conduct their operations and its management processes in order to satisfy customers by providing high quality products and services. The primary focus of performance management hinges on developing measurable indicators to track programme performance, and ultimately outcomes. A general understanding of performance management would necessitate an understanding of performance measurements, performance indicators, performance reporting, performance monitoring and evaluation, performance auditing and performance appraisal. These components of performance management are summarised as follows:

**Performance measurements**: should provide timely, accurate feedback on the efficiency and effectiveness of operations.

**Performance indicators**: describe what and how to measure and performance targets are used to identify the results to be achieved within a given timeline.

**Performance reporting**: records of performance on finance, human resource management, information technology management, quality management and surveys on customer satisfaction.

**Performance monitoring and evaluation**: are interlinked activities with monitoring providing the information used for evaluation.

**Performance auditing**: involves verifying that the measurement mechanisms are accurate and that proper procedures are followed to evaluate performance.

**Performance appraisal**: data is collected and reviewed about individual employees' past and current work behaviour and performance.

In this way the fundamental value and impact TQM may have on performance management can be determined.

### 7.2.5 Objective five: to determine empirically the extent of awareness and current application of TQM at the MAP Municipality

In chapter 6, an examination was made to determine the extent of current application of TQM in the MAP Municipality. Noting that there is no formal policy to apply TQM as a management strategy, it was found that there are indications of its application although incoherent. The opinion of respondents in this regard were tested in an empirical survey in chapter 6, section B of the questionnaire in appendix B. The outcome was that the majority of respondents are therefore aware that TQM is being applied in the MAP Municipality without being driven by policy imperatives.

### 7.2.6 Objective six: to determine empirically the attitude of personnel at the MAP Municipality regarding theoretical findings towards TQM dimensions improving performance

In chapter 6, an examination was also made to determine the attitude of personnel at the MAP Municipality regarding theoretical findings towards TQM improving performance. Noting that there is no formal policy to apply TQM as a management strategy, as mentioned above, it was found that there are indications of its dimensions being used incoherently. The opinion of respondents in this regard were tested in an empirical survey in chapter 6, section B of the questionnaire in appendix B. The majority of respondents are of the view that performance can be improved if TQM dimensions are being applied. This implies that if the MAP Municipality

can adopt a TQM policy and strictly implement it, the prospects are that it can have a positive influence in enhancing organisation performance.

### 7.2.7 Objective seven: to identify key obstacles to the application of TQM in the MAP Municipality

Chapter 3, section 3.5.3 provides an in-depth analysis of what may constitute obstacles to the application of TQM in the MAP Municipality. These obstacle are:
Lack of drive by senior management and middle management commitment and lack of skills by chief executives; skills shortage/lack of qualified personnel; limited resources; low engagement of employees; lack of strong leadership; convincing staff to take ownership of quality; employee resistance; low commitment of top management; lack of integrated performance measurement; lack of sufficient knowledge of the TQM practices; and lack of continuous monitoring of the TQM process.

## 7.3 HYPOTHESIS

In chapter 1 it was indicated that the aim of the research study is to test, with a view to verify or falsify the hypothesis that *"Application of TQM dimensions in Maluti-A-Phofung Municipality can contribute to the improvement in organisational performance"*. Having regard to an Oschman (2004:332) methodology that "an average score of at least 2,5 is regarded as the minimum numerical value a dimension should have for it to meet the theoretical and practical requirements of a dimension in question. Average scores with a numerical value of less than 2.5 is regarded as negative. Average scores equal to or greater than 2,5 but less than 3,5 is regarded as scores that, although positive, did not represent the ideal situation because deficiencies exists, whereas average scores equal to or greater than 3,5 are regarded as very positive, and represent the ideal situation".

With the total average score of 3.49, if one calculates the total average score of all categories of respondents per dimension, that is, leadership and management commitment 3.49, strategic planning 3.56, human resource management 3.55, organisational culture 3.10, process management 3.24, continuous improvement 3.51, communication 3.38, management information systems 4.24, and customer satisfaction 3.37 respondents held a view that TQM can contribute to the improvement of organisational performance. Therefore, one can conclude that the

personnel in Maluti-A-Phofung Municipality had firmly confirmed the hypothesis that "*Application of TQM dimensions in Maluti-A-Phofung Municipality can contribute to the improvement in organisational performance"*.

## 7.4 RESEARCH CONCLUSIONS/ RECOMMENDATIONS

Finally, in responding to a research question on the application of TQM dimensions contributing to the improvement of organisational performance, from the evidence of this research, the conclusions reached, which also serve as recommendations to this study, are that the success of TQM depends on the following:

- Top management must commit and support the implementation of TQM in the MAP Municipality.
- Top management must develop a TQM strategy that understand what customers want because customer-driven quality is a key strategic organisational issue which needs to be integral of overall organisational planning.
- The best way to improve organisational performance is by involving and empowering employees at all levels.
- The central feature of TQM that needs to be emphasised is the idea of organisational culture being grafted onto management theory and practice.
- It needs to be emphasised that the management of processes establishes systems to pursue high levels of quality and operational performance.
- Information systems can help organisations achieve their quality goals.
- Communication must be an integral part of all management functions.
- Based on the principle of continuous improvement of services, the TQM approach guides the user through logical processes of identifying service objectives, measuring current organisational performance, determining the effect of current practices and identifying where improvements are required; an aspect that necessitates attention.
- Lastly, a willingness is required to satisfy customers by meeting and exceeding their expectations.

## 7.5 SUMMARY

This concluding chapter has focused on summarising the key ingredient of this study and verifying whether the entire research study has managed to achieve its objectives. This was done by underlining the key findings of the evaluation of TQM and the experts' contribution to the management theory of TQM.

Furthermore, this chapter provided a brief overview of a conceptual analysis of TQM and highlighted the prominent dimensions thereof, with a view to underscore their centrality in enhancing organisation performance to those institutions intending to apply the theory of TQM. Related to this was a discussion on TQM implementation methodology and evaluation strategy thereof. Consequently, a synopsis of the conceptual analysis of organisational performance within the context of performance management theory was elucidated.

Finally, the general findings of the empirical study were highlighted in terms of a survey questionnaire discussed in detail in chapter 6. Then the recommendations informed by the findings on this dissertation were tabled. These recommendations were made with an understanding that the theory and principles of TQM provide a valuable approach in the quest for organisational excellence. This dissertation is completed with the trust that the findings recorded here and recommendations made will be useful.

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## APPENDIX A: QUESTIONNAIRE LETTER

TO: RESPONDENT

FROM: THAMAE PAULUS MASEJANE

DATE: 20 JUNE 2011

**AIM OF QUESTIONNAIRE**

1. The aim of this questionnaire is to do research on the effect of applying Total Quality Management (TQM) principles and dimensions in order to improve organisational performance in municipalities.
2. The aim of the study is to better understand the current application of TQM principles at the Maluti-A-Phofung Municipality and its effect on organisational performance.
3. The aim is to evaluate the opinion of personnel regarding the benefits that may be realised from use of TQM at the Maluti-A-Phofung Municipality and the possible obstacle that may prevent the effective application thereof.
4. To ensure the credibility and meaningfulness of this research you are required to indicate amongst others your political or administrative position, qualifications, department, number of years in service and gender. The information provided will be treated as strictly confidential and will not be used to the detriment of yourself or your department.
5. I thank you for your time.

Signed

_____

(T.P. Masejane)

**APPENDIX B: QUESTIONNAIRE**

# *TOTAL QUALITY MANAGEMENT AND ORGANISATIONAL PERFORMANCE IN MALUTI-A-PHOFUNG MUNICIPALITY IN THE FREE STATE PROVINCE*

## QUESTIONNAIRE ONE Section A: Biographical information

**The questionnaire evaluates the effect of applying TQM in order to improve organizational performance.**

**Please provide the following biographical information required by marking the applicable block with a cross (x).**

### Political Management

*For office use*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. Office Beers (Mayor, speaker, Whip) | | 2. Members of Mayoral Committee (Councilors) | | 3. Portfolio members (Councilors) | | | *1* |

### Administrative Management

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. Top Management (Municipal Manager and Directors | | 2. Middle Management (Managers and Supervisors) | | 3. Operational (workers) | | | *2* |

### Qualifications

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. Grd 7-9 | | 2. Grd 10-12 | | 3. Grd 12+1, 2 up to 3 years or Diploma (3 years) | | 4. Degree | | | *3* |

### Position

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. Municipal Manager | | 2. Director | | 3. Manager | | *4* |
| 4. Supervisor | | 5. Operational workers | | | | |

### Name of Department

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. Finance | | 2. Corporate Services | | 3. Land And Housing | | *5* |
| 4. Infrastructure | | 5. Community Services | | 6. Safety and Transport | | |
| 7. Sports and Recreation | | 8. Local Economic Development | | 9. Municipal manager | | |

### Years in Service: Maluti-A-Phofung Municipality

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1. Less than 2 years | | 2. 2-5 years | | 3. 6-10 years | | 4. More than 10 years | | *6* |

### GENDER

| | | | | |
|---|---|---|---|---|
| 1. Male | | 2. Female | | *7* |

The following two definitions of Total Quality Management may be helpful when answering subsequent sections.

**Boaden (1997:161) defines TQM as a management philosophy that is embracing all activities through which the needs and expectations of the customer and the community and the objectives of the organisation are satisfied in the most efficient and cost effective way by maximizing the potential of all employees in a continuing drive for improvement.**

**TQM is a management approach for continuously improving the quality of every aspect of the organisational activities, leadership, planning human resource, processes, systems, culture and communication through which the needs and expectations of organisation, employee's, customers and the community at large are satisfied or exceeded.**

Below you will find certain statements with which you may or may not agree. By using a 5-point Likert scale, please indicate how you feel by making a cross (x) in one of the blocks provided at each statement. For example, two (2) indicates that you feel that the statement is not true at all (does not agree at all), while five (5) indicates that you feel the statement is absolutely true (fully agree).

| Do not know | | Not true at all | | Slightly true | | True in most cases | | Absolutely true | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | 2 | | 3 | | 4 | | 5 | |

This is to help you decide to what degree you either agree or disagree. Please read all statements very carefully. Answer all questions based on how you feel now.

**QUESTIONNAIRE TWO SECTION B**

**The following questions evaluate the extent of current application of TQM principles at the Maluti-A-Phofung Municipality. (PLEASE INDICATE YOUR ANSWER BY MAKING ACROSS (x) IN THE APPLICABLE BLOCK.)**

| **1 = Do not know**<br>**2 = Not true at all**<br>**3 = Slightly true**<br>**4 = True in most cases**<br>**5 = Absolutely true** | **1** | **2** | **3** | **4** | **5** | ***For office use*** |
|---|---|---|---|---|---|---|
| B1. The Municipaliy has a clear vision for its future and provides guidance on performance. | | | | | | **8** |
| B2. Total Quality Management is a manner according to which the Municipality is managed and directed on a daily basis. | | | | | | **9** |
| B3. Top/middle management encourages operational workers to accept owneship of problems or opprtunities in their workplace. | | | | | | **10** |
| B4. Top/middle management has developed a clear and effective strategy, supported by a clear vision, mission and values to provide quality service. | | | | | | **11** |
| B5. Operational personnel understand the interface between their task and the stategic plans and objectives of the Municipality. | | | | | | **12** |
| B6. A hierachy of committees has been established that is resposible for quality service improvement. | | | | | | **13** |
| B7. Municipal personnel have been empowered to reach their full potential. | | | | | | **14** |
| B8. Top management delegates decision making to lower levels. | | | | | | **15** |
| B9. I feel fully responsible for the work that I do and believe that my work is important to the success of the Municipality. | | | | | | **16** |
| B10. Employees in my department/section work closely together as a team in order to coordinate work and improve quality. | | | | | | **17** |
| B11. Apart from my specific job, I participate in other activities through teams to help achieve quality service. | | | | | | **18** |
| B12. The Munipality has training facilitators to assess training needs. | | | | | | **19** |
| B13. The Munipality provides the appropriate level of education and training to ensure that your skills and attitudes enhance continuous improvement. | | | | | | **20** |
| B14. Availability of resources for training is sufficient. | | | | | | **21** |
| B15. Quality forms part of the municipality's culture. | | | | | | **22** |

| | | | | | | *For office use* | |
|---|---|---|---|---|---|---|---|
| B16. The Muninipality has a culture of continuous improvement. | | | | | | | **23** |
| B17. The organisational processes are adequately defined so that all employees understand how they work. | | | | | | | **24** |
| B18. All processes are designed to meet quality standards. | | | | | | | **25** |
| B19. Measurements of performance are based on defined standards. | | | | | | | **26** |
| B20. The Municipality is managed as a system for continuously improving the quality of service delivery. | | | | | | | **27** |
| B21. The Municipality communicates regularly to its stakehohers and customers. | | | | | | | **28** |
| B22. The effective use of information systems in your Municipality can be an advantage to improve organisational performance. | | | | | | | **29** |
| B23. The use of information technology can improve the quality of decision making and planning at your Municipality. | | | | | | | **30** |
| B24. What the Municipality management aims to achieve is clearly communicated. | | | | | | | **31** |
| B25. Your Municipality often communicates closely with the community to identify and understand what they want and how they define quality. | | | | | | | **32** |
| B26. Performance is verified against expectations from the municipality's management. | | | | | | | **33** |

**SECTION C**

**The following questions evaluate the opinions of personnel regarding the benefits that may be realised from the use of TQM at the Maluti-A-Phofung municipality. (PLEASE INDICATE YOUR ANSWER BY MAKING A CROSS (x) IN THE APPROPRIATE BLOCK.**

| **1 = Do not know**<br>**2 = Does not agree at all**<br>**3 = Slightly agree**<br>**4 = Agree in most cases**<br>**5 = Fully agree** | **1** | **2** | **3** | **4** | **5** | ***For office use*** |
|---|---|---|---|---|---|---|
| C1. Quality related activities have a huge impact on the success of any organization. | | | | | | **34** |
| C2. Quality and performance serve as a catalyst for improvement. | | | | | | **35** |
| C3. The implementation of Total Quality Managent generally mandates a review of and updating of all organizational measures. | | | | | | **36** |
| C4. Total Quality Management ensures that standards are set and remedial action taken whenever a service failure occurs. | | | | | | **37** |
| C5. Total Quality Management focuses on the measurement of work performance. | | | | | | **38** |
| C6. People are consulted about the level and quality of sevice they receive and, wherever possible, are given a choice about services that they are offered. | | | | | | **39** |
| C7. Total Quality Management focuses on getting employees well motivated and trained. | | | | | | **40** |
| C8. The TQM stategy focuses on satisfying customer/community requirements. | | | | | | **41** |
| C9. The TQM strategy focuses on work processes and on analyzing every task interfacing with the service user. | | | | | | **42** |
| C10. TQM deployes appropriate techniques and procedures necessary to meet customers/cummunity needs and improve management quality. | | | | | | **43** |
| C11. TQM focuses on the most efficient and productive use of resources to meet customer/community needs. | | | | | | **44** |
| C12. Employees can make important contribution to organisational performance when they have the power and necessary expertise. | | | | | | **45** |

**SECTION D**

**The following questions determine the obstacles which can hamper or prevent the effective application of TQM at the Maluti-A-Phofung municipality. (PLEASE INDICATE YOUR ANSWER BY MAKING A CROSS (x) IN THE APPLICABLE BLOCK.)**

| **1 = Do not know**<br>**2 = Not true at all**<br>**3 = Slightly true**<br>**4 = True in most cases**<br>**5 = Absolutely true** | **1** | **2** | **3** | **4** | **5** | ***For office use*** |
|---|---|---|---|---|---|---|
| D1. Lack of backing and commitment from top management. | | | | | | **46** |
| D2. Lack of enough knowledge of TQM practise. | | | | | | **47** |
| D3. Limited resources. | | | | | | **48** |
| D4. Perfomance is not measured. | | | | | | **49** |
| D5. Ineffective performance measures. | | | | | | **50** |
| D6. Ineffective internal communication between management and operational workers. | | | | | | **51** |
| D7. Poor management systems and procedures. | | | | | | **52** |
| D8. Lack of contionuous education and training. | | | | | | **53** |
| D9. Avoiding taking risks and radical changes, thus remaining being more committed to the status quo. | | | | | | **54** |
| D10. Poor management control. | | | | | | **55** |

***THANK YOU FOR YOUR TIME AND CONTRIBUTION. IT IS GREATLY APPRECIATED.***