

**UNIVERSITY OF KWAZULU-NATAL**

**STAKEHOLDER PERCEPTIONS OF THE SOUTH AFRICAN SUGAR  
ASSOCIATION'S CANE TESTING SERVICE DIVISION**

**By**

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## DECLARATION

I, Pragalathan Govender, declare that

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- (ii) This dissertation/thesis has not been submitted for any degree or examination at any other university.
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Date: 25 November 2013

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## **ABSTRACT**

In today's changing environment, corporates are forced to be customer orientated and customer satisfaction determines customer loyalty. The quality of service quality is a major differentiator for ensuring customer satisfaction. There is a need for service quality and customer satisfaction to form part of an organisations strategy because of the role it plays in corporate environment and on the company's profitability. The Cane Testing Service division of the South African Sugar Association provides a specialist service under contract to individual Mill Group Boards to determine the quality of individual grower cane deliveries to the mill for cane payment purposes. It is for this reason, there needs to be a relationship between Cane Testing Service and the Mill Group Boards. The aim of this study was to determine the perceived levels of satisfaction that Cane Testing Service provides to the Mill Group Boards as well as compare these perceptions to a study conducted in 2003. The study was conducted via an online questionnaire to all the Mill Group Board members who comprised of 70 miller members and 79 grower members. The questionnaire which comprised of thirty six statements which measured the sixteen service attributes that was defined for Cane Testing Service. The total population of this study was 149 members. The population size was small and it was decided to sample the entire population. The response rate of this study was 59 completed questionnaires which made up 40% of the population which was lower in comparison to the 2003 study of 63%. Statistical analyses revealed there was no significant difference between the overall perceptions of Mill Group Board members in both these studies although there was a decline in the 2013 study for five of the sixteen Cane Testing Service attributes that was measured. It was recommended that the Cane Testing Service management draft a strategy to eliminate the reasons for the decline in these attributes. Cane Testing Service should conduct a customer survey at least every five years to evaluate if the management strategy implemented has been effective.

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## **List of Acronyms**

CTS	Cane Testing Service
GDP	Gross Domestic Product
KZN	KwaZulu-Natal
MGB	Mill Group Board
RV	Recoverable Value
SASA	South African Sugar Association
SACGA	South African Cane Growers Association
SPSS	Statistical Package for the Social Science
SIA	Sugar Industry Agreement

# CHAPTER ONE

## Introduction to the Research

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### 1.1 Introduction

In today's changing environment, corporates are forced to be customer orientated and customer satisfaction determines customer loyalty. The quality of service quality is a major differentiator for ensuring customer satisfaction. There is a need for service quality and customer satisfaction to form part of an organisations strategy because of the role it plays in corporate environment and on the company's profitability. The Cane Testing Service (CTS) division of the South African Sugar Association (SASA) provides a specialist service under contract to thirteen individual Mill Group Boards to determine the quality of individual grower cane deliveries to the mill for cane payment purposes (South African Sugar Association, 2012). It is for this reason, there needs to be a relationship between Cane Testing Service and the Mill Group Boards (MGB). CTS as part of its business strategy needs to ensure that the MGB's are continually satisfied with the service. This strategy needs to have looked at what is currently offered as well as what is required and make the necessary changes to keep up to the new expectations of the MGB members.

### 1.2 Motivation for the Study

The Cane Testing Service division of the South African Sugar Association provides a specialist service under contract to thirteen individual Mill Group Boards to determine the quality of individual grower cane deliveries to the mill for cane payment purposes (South African Sugar Association, 2012). To ensure the sustainable relationship with Mill Group Boards, CTS needs to know exactly what service is required and how well the service is received by the Mill Group Board Members. The CTS laboratory management has had major changes in the past ten years since the previous study with only five managers that are still actively involved with the various MGB's.

During the changes of the past ten years, there was no indication of the exact perceptions of MGB members on the service provided by CTS. In the absence of

such research, CTS may not have realised that their service delivery in respect to some of the CTS attributes has declined thus creating poor perceptions of CTS amongst some members of MGB's.

This study will be beneficial to SASA Management, CTS management, CTS staff and MGB members in that the current perceptions that exist by MGB members towards the service provided by CTS will be determined. The findings of this study will provide CTS management with the knowledge that is required to manage the situation to improve the level of satisfaction of CTS customers. This will allow CTS to make changes to their strategy to recover from the service failure.

### **1.3 Focus on the Study**

The main area of focus of this study was to determine the perceived levels of satisfaction with CTS's service with regards to the overall performance as well as the sixteen CTS attributes and to identify changes since the previous study. The previous study showed that CTS was fulfilling its requirements to MGBs. This study will enable CTS to develop a strategy to preserve excellent service delivery or to remedy situations of poor service delivery to its customers. This study was conducted on the thirteen MGB members where CTS currently operates the analytical laboratory on contract to the MGB. The only aspect of CTS's role in the sugar industry that this study will focus on is the operation and management of the laboratories on contract to the MGB's albeit CTS also conducts an audit function to ensure compliance to the Official Methods Manual.

### **1.4 Problem Statement**

Since the previous study in 2003, there have been many changes in CTS management as well as in the composition of MGB members. For CTS to operate in this service environment, it is essential that CTS knows how it is performing in terms of service delivery to its customers and in this case the MGB members. This study was to identify the perceived levels of satisfaction with CTS's service and to identify changes since the previous study. The findings from this study will enable CTS to develop a strategy to preserve excellent service delivery or to remedy situations of poor service delivery to its customers. The study was conducted to

determine the current levels of satisfaction by MGB members' on the service provided by CTS.

### **1.5 Research Objectives**

The overall objective was to identify the perceived levels of satisfaction with CTS's service and to identify changes since the previous study.

Objective one was to establish the MGB members' perceptions of CTS in general and compare this to perceptions held in 2003.

Objective two was to determine millers level of satisfaction with current services provided and compare this to perceptions held in 2003.

Objective three was to determine growers level of satisfaction with current services provided and compare this to perceptions held in 2003.

Objective four was to identify perceived strengths and weaknesses of CTS with the intention of addressing and improving both actual and perceived weaknesses.

Objective five was to compare millers and growers perceptions of CTS in 2013.

### **1.6 Limitations of the Study**

The limitations experienced during this study were;

- The online questionnaire was not well received by some respondents.
- Time constraints
- Response rates
- New small scale growers that are on MGB's do not have internet access.

### **1.7 Overview of the Study**

The study was undertaken to determine levels of satisfaction of CTS by MGB's. This research paper was written up to make the reading and understating of the problem through to the findings in an easy to follow design. The chapters are as follows

- **Chapter One - Introduction**

This chapter provides a background to the problem that is experienced within CTS and aim of this study was to identify the perceived levels of satisfaction with CTS's service and to identify changes since the previous study. The overview of the subsequent chapter was highlighted.

- **Chapter Two - Literature Review.**

This chapter focused on the sugar industry and the roles of CTS and the MGB's. There was an overview on services and how service quality, customer satisfaction and customer loyalty are linked.

- **Chapter Three - Research Methodology**

This chapter described literature review of the research approach and this included the methodology used, aim of study, development of the research instrument to be used, population and sampling, data collection, data analysis and interpretation of the data in evaluating the problem statement.

- **Chapter Four - Presentation of Findings**

The finding from the data that was collected during the research was presented in tabular form or graphically. The data showed the perceptions from all MGB members and this was compared to the 2003 study.

- **Chapter Five – Discussion and Conclusion**

This chapter deals with the discussion of the data presented in the Chapter four. This chapter highlighted areas of concern with the outcome of the findings and will focus on the data and see if it supports the problem statement. There was recommendations for future studies and the limitations experienced during this study.

## **1.8 Summary**

The chapter provided a background to the research that was carried out to determine levels of satisfaction of CTS's service by MGB's. The problem was explained and the objective of this study was highlighted. Chapter two will focus on the review of literature regarding service quality and its impact on customer satisfaction and how that affects customer loyalty.

## **CHAPTER TWO**

### **Literature Review**

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#### **2.1 Introduction**

In this chapter the sugar industry is introduced with some of the stakeholders and the role that the Cane Testing Service (CTS) division of the South African Sugar Association (SASA) plays in the industry. One of the CTS's roles in this industry is one of being a service provider of analytical services to the Mill Group Boards (MGB). The impact of service quality has been the topic of many researchers in the past few decades and this is due to the fact that service quality is a major differentiator for ensuring customer satisfaction which in turn leads to loyalty and ultimately sustained growth in the organisation (Madan, 2012). The literature covers what impacts on service quality, the role of service quality in customer satisfaction and customer loyalty and presents the different models of service quality and ways to measure service quality.

#### **2.2 The South African Sugar Industry**

The South African sugar industry comprises of approximately 29 130 registered farmers and fourteen mills located in KwaZulu-Natal and Mpumalanga. There are currently about 27 580 small-scale growers and 1 570 large-scale farmers which includes 378 black emerging farmers. South African Cane Growers Association (SACGA) defines small-scale growers as those growers who currently deliver on average not more than 225 tons of Recoverable Value (RV) per year. The cane crop delivered by large-scale growers is 84.69%, 8.59% by small-scale growers and 6.72% by milling companies who own their own sugar farms. (South African Sugar Association, 2012).

The milling companies Illovo Sugar Ltd and Tongaat Hulett Ltd have four mills each, while TSB Sugar Limited has three. Gledhow Sugar Company, UCL Company Ltd and Umfolozi Sugar Mill own one mill each. Four of these mills have their own refinery, (South African Sugar Association, 2012).



The South African sugar industry makes an important contribution to the national economy, given its agricultural and industrial investments, foreign exchange earnings, its high employment, and its linkages with major suppliers, support industries and customers. The industry produced about 1,961 million tons of sugar in 2012/2013 of which approximately 40% was exported. The industry accounts for approximately 420 000 jobs, both directly and indirectly (South African Sugar Association, 2012). Seventeen million tons of sugarcane was crushed during the 2012/2013 season producing 1,961 million tons of sugar. Revenue for the industry in the 2012/2013 was in excess R10 billion of which more R6 billion was the value of sugar cane production (SASA annual report). The sugar industry plays a significant role in South Africa and contributes between 0.5 - 0.7 per cent of national Gross Domestic Product (GDP) (Mabuyakhulu, 2011).

The South African sugar industry is ranked amongst the most cost competitive producers of sugar globally but still finds it difficult to compete in the export market. This is due to the overproduction by some countries that have government subsidies in place and thus creates an unfair market. The introduction of tariffs and or quotas by other countries also restricts the export of South African sugar into some restricted markets which results in decreased revenue for the South African sugar industry (South African Sugar Association, 2012).

### **2.2.1 South African Sugar Association**

South African Sugar Association (SASA) is a company created out of statute arising from the Sugar Act of 1978. Its existence was brought about to “promote the global competitiveness, profitability and sustainability of the South African sugar industry. We do this by providing specialist support to the cane growers and sugar millers who make up the sugar industry, and to their representative bodies, the SA Canegrowers' Association and the SA Sugar Millers' Association” (South African Sugar Association, 2012).

The South African Sugar Association’s commitment to Customer Satisfaction is highlighted in its mission statement where its commitment to caring for customers and the satisfaction of their needs are highlighted (South African Sugar Association, 2012).

### **2.2.2 Cane Testing Service**

CTS is a division of the SASA and was established in terms of Clause 134 of the Sugar Industry Agreement (SIA) (2000) which states

“The South African Sugar Association shall establish and maintain a Cane Testing Service which

(a) **shall** provide an audit function in respect of the determination of the total mass of recoverable value of cane entering each mill in accordance with clause 53; and

(b) **may** undertake the sampling and laboratory procedures aimed at the determination of the recoverable value of cane delivered by growers to each mill, in respect of which the relevant Mill Group Board has entered into a contract with the South African Sugar Association for the provision of such services”.

It is through clause 134(b) that CTS provides a specialist service under contract to individual Mill Group Boards (MGB's) to determine the quality of individual grower cane deliveries to the mill for cane payment purposes. This analytical chemistry service assesses the recoverable value content in cane delivered to the mill by growers, providing a neutral and objective basis on which to calculate recoverable value payment by miller to grower. The above partnership between MGB's and CTS is however not prescriptive by the SIA (2000) and MGB's may choose any service provider to conduct its “testing” obligations. It is this scenario, which entrenches CTS to maintain a good working relationship with the MGB's. This relationship as with any other organisation is on keeping a customer satisfied. CTS's commitment to Customer Satisfaction is entrenched in that to attain its vision, customer focus is a key necessity.

### **2.2.3 Mill Group Boards**

Mill Group Boards are established as legal persona to fulfill a responsibility to the sugar industry. The MGB shall have representation from mill members (appointed by the mill) and grower members (appointed by the Local Grower Council) (SIA, 2000). Clause 53 (a) of the SIA (2000) states the MGB is to be responsible for;

“the provision of all sampling and analysing facilities and equipment required for the determination of the recoverable value of cane delivered by growers to the mill for the purpose of determining

- (i) the total mass of recoverable value of cane entering the mill; and
- (ii) the recoverable value of individual consignments of cane entering the mill, all in accordance with the Official Methods Manual”.

The MGB does not have the facilities to undertake the sampling and analyzing and therefore contracts this part of its obligation to specialised service providers. CTS currently fulfill this obligation to thirteen MGB’s under contract.

## **2.3 Services**

This section covers services and its role in industry and how it impacts on CTS. This will cover ways to measure service quality and the role that service quality plays in customer satisfaction.

### **2.3.1 Service Industry**

Zeithaml, Bitner and Gremler (2009, p.4) define services as “deeds, processes and performances provided or co-produced by one entity for another entity or person”. This definition was expanded by Lovelock and Wirtz (2011) who defined services as economic activities between parties whereby one expects a value-created constituent without the transfer of ownership from the other in exchange for money, time and effort. Gerstner (2001) as cited in Zeithaml *et al.*, (2009, p.2) said “Services are going to move in this decade to being the front edge of the industry”. The statement by Gerstner shows that senior leaders in business are taking note of the fact that there is a shift from formerly manufacturing focus to one of service orientation.

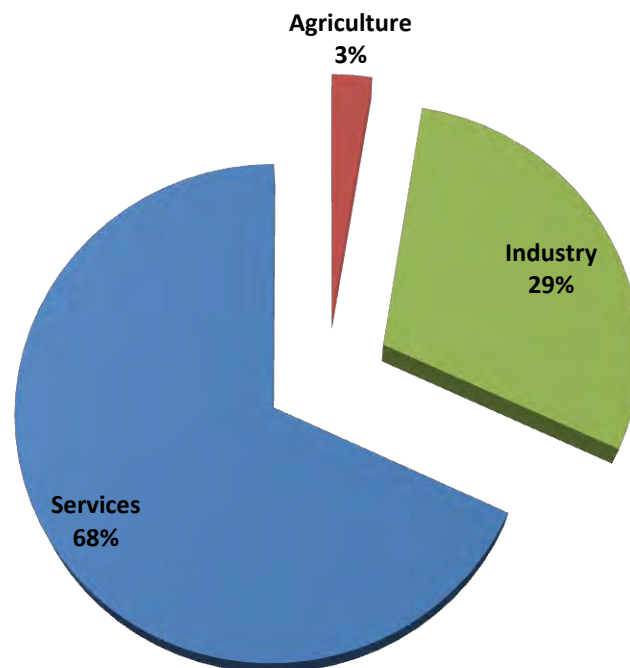
Sina and Ghosal (2009) highlights the change in industry from a manufacturing facility and service industry in that most manufacturing industries are so involved with services that there is no distinguishing between them. The predetermined notion that a service industry dealt only with customer service was dispelled by Zeithaml *et al.*, (2009).

Zeithaml *et al.*, (2009) further clearly defined four categories that service industries are divided into

- Services Industries and companies,
- Services as products,
- Customer services,
- Derived services,

which indicates the reason that the service industries are such large contributors to countries national Gross Domestic Product (GDP). The service industry besides its contribution to GDP is also responsible for the creation of employment (Lovelock and Wirtz, 2011). Figure 2.1 below shows the contributors to GDP in South Africa for 2012.

#### CONTRIBUTION TO SOUTH AFRICAN GDP



**Figure 2.1 Sector Contributions to GDP**

Adapted from Statistics South Africa, [http://beta2.statssa.gov.za/publications/P0441/ P04413rdQuarter2013.pdf](http://beta2.statssa.gov.za/publications/P0441/P04413rdQuarter2013.pdf).

The above figure highlights the importance of the service industries in a country as is shown in their contributions to the GDP. The service industry contributed 68% towards the GDP in South Africa for 2012 (Statistics South Africa, 2012). With the large number of organisations involved in services, organisations need to be geared to make a difference in the services that they provide to ensure sustained growth (Madan, 2012).

### **2.3.2 Categories of Service Mix**

Kotler (2003) remarks that all companies, in some ways offer services in its offering. There are five categories these offerings fall into viz.

- Pure tangible good - these are goods with no accompanying service e.g. soap,
- Tangible good with accompanying services – these are goods that some service is attached to it e.g. computers,
- Hybrid – this includes an equal part of service and goods e.g. restaurant which offers both food and service,
- Major service with accompanying minor goods and service – this is a major service with some goods and additional service,
- Pure service – consists of only a service e.g. baby sitting

The above shows that there are varying mixes of goods and services that exist in the marketplace and that service do in fact make up a large portion of organisations. CTS fall in the category of pure service as it does not produce any product but is the provider of an analytical service to the MGB's.

### **2.3.3 Characteristics of Services**

Services can be distinguished by four characteristics that separate it from physical goods (Kotler, 2003; Lamb, Hair, McDaniel, Boshoff, Tereblanche, Elliot, Klopper, 2010; Zeithaml *et al.*, 2009). These characteristics are;

- Intangibility means that the services are not like goods produced whereby the customer can look and touch the product whereas with services the

customer cannot feel or touch the service before being bought. Buyers of a service will look at all aspects that they can to determine if the service to be received is of a suitable standard. This can be likened to the testing service that CTS provides to the MGB's. The product is a set of analyses for the cane and this cannot be touched or tasted and the MGB's will endeavor to determine if the analyses are of a suitable quality,

- Inseparability/Heterogeneity means that services are produced and consumed at the same time unlike physical goods which are manufactured, stored, sold and consumed,
- Variability/Simultaneous Production and Consumption means that services are dependent on the provider of the services and the provider of the services is not always the same person,
- Perishability means that services cannot be stored like physical goods which can be used at a later stage.

All the above characteristics of service mean that unlike goods, services are different and as such should be treated differently. Organisations need to understand the differences between service and goods and make sure that this is portrayed when dealing with services.

#### **2.3.4 Marketing Mix for Services**

The traditional marketing mix is made of the four P's but due to the characteristics of services, service marketing was more challenging and as such the marketing mix had to be expanded to include an additional three P's (Kotler, 2003; Zeithaml *et al.*, 2009; Lamb *et al.*, 2010; Lovelock and Wirtz, 2011). The seven P's are

- Product - this needs to be a service that responds to the customer's primary need. It is said that if the service is not designed correctly, it would not appeal to customer and would not add value to them,
- Place - service delivery unlike a product cannot be stored and as such where the service is to be provided is critical,

- Promotion – effective communication of the service being offered is critical. The communication process is to provide the facts and figures of the service, passing on the knowledge of the brand and informing the consumers of when and where to take advantage of the service,
- Price – pricing of services differ in that the cost of the product is easier to calculate so it is imperative the cost of the service is priced competitively. Price of a service that a customer is willing to pay also impacts on the value that the customer is willing to receive,
- People – people can make the difference in the service in that in most cases the delivery of a service to a customer will have some interaction between the customer and the service employees,
- Physical Environment – this looks at giving the service a tangible representation in that the appearance of the buildings, people and furnishings amongst others need to provide the environment necessary,
- Process – this allows for the same standard of service is delivered to customers,

Lovelock and Wirtz (2011, p.44) argue that for the organisation to ensure profitability, it would need to have strategies in place to address the 7 P's or as they call them the "seven strategic levers of service marketing".

### **2.3.5 Service Quality**

Service quality can be defined as the relationship between the actual services received in comparison to perception of what that service entailed. Service quality has been highly researched in the past few decades (Grönroos, 1984). According to Parasuraman, Zeithaml and Berry (1985, p.42) service quality can be defined as "a measure of how well the service level delivered matches customer expectations". Rosen *et al.*, (2003) as cited in Maddern, Maull, Smart and Baker (2007, p.3) state that service quality is "not just a corporate offering but a competitive weapon".

According to Shemwell *et al.*, as cited in Sureshchander, Rajendren and Anatharam (2002), due to the high levels of competition in the marketplace, the advantage of ensuring service of the highest possible quality will result in satisfied customer. The belief amongst researchers of the importance that service quality will play in the corporate environment, means that service quality needs to be part of the organisations strategy and if the organisation is not geared for customer satisfaction, this will result in a decline in the profitability (Shahin and Samea, 2010; Prentice, 2013; Narteh, 2013). The profitability of an organisation can be linked to the behavior of customers and there is an indication that service quality does play a role in customers' behaviour and this behaviour has an influence on customer satisfaction (Saha and Theingi, 2009).

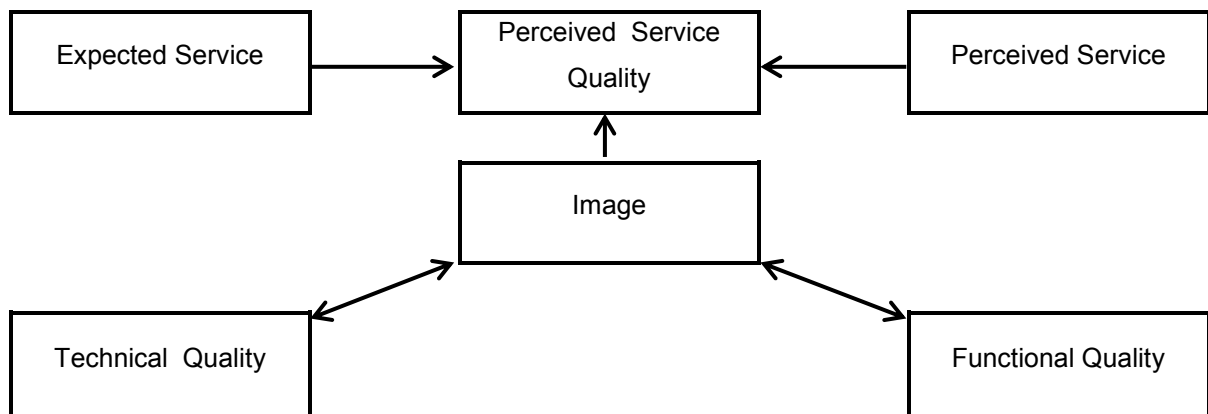
Bakti and Sumaedi (2013, p.399) commented that with all the research into service quality, most of the researchers have agreed on three basic points for service quality which are "it is some form of customer attitude, it is a function between service performance and expectation and is related to a focused evaluation that reflects the customer appraisal concerning the element of service". Juga, Juntunen and Grant (2010), researched the relationship between service quality and loyalty. Their research concluded that there is a relationship between service quality and loyalty. These research efforts shed more light on the influence that service quality plays and how organisations need to focus on service quality to ensure continuation.

### **2.3.6 Service Quality Models**

There have been numerous models that have been developed by various researchers to try to understand service quality (Chaipooirutana, 2008) but this review will look at three that probably had the most influence in service quality discussions.



Grönroos (1984) developed one of the first models to try to explain service quality. The Nordic Model, also known as the Customer Satisfaction/Dissatisfaction model identified three components to understand service quality. Figure 2.2 shows the three components that were identified by Grönroos.



**Figure 2.2: The Nordic Model**

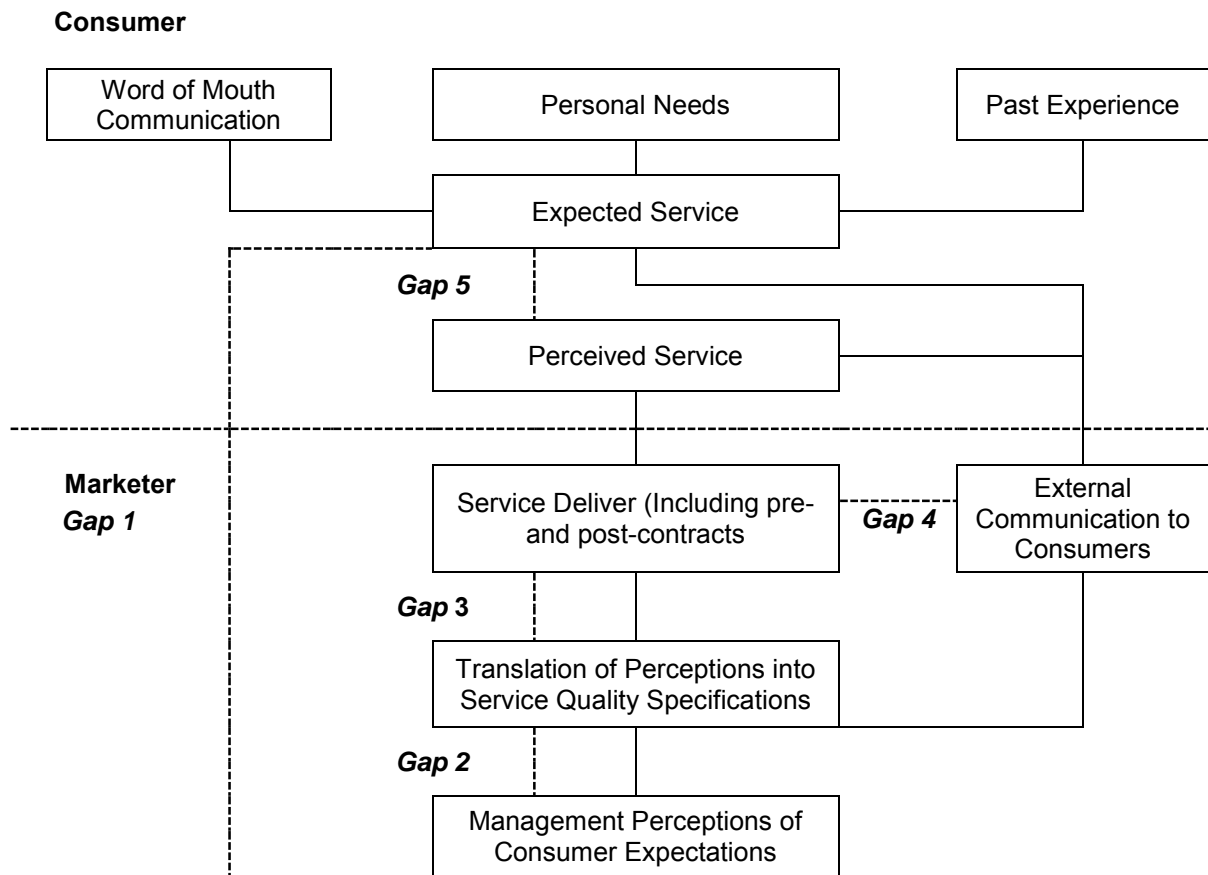
Adapted from Grönroos (1984) “A Service Quality Model and its Marketing Implications” *European Journal of Marketing*, volume 18, p 40.

The three components of the Grönroos model was also deliberated by Seth, Deshmukh and Vrat (2004) and Chaipoopirutana (2008) and these are defined as

- Technical Quality which is the quality actually received as a direct interaction between the consumer and the service organisation,
- Functional Quality is how he gets the technical outcome. This also measures the service as it is received,
- Image is important to service firms and this can be built up mainly by technical and functional quality of service,

and these three components from the Grönroos model are used to successfully to measure service quality in various industries.

Parasuraman *et al.*, (1985) used the Nordic Model and developed the Gaps Model of Service Quality as shown in figure 2.3.



**Figure 2.3: Gaps Model of Service Quality**

Adapted from Parasuraman, A, Berry, LL and Ziethaml, VA (1985), “A Conceptual Model of Service Quality and its Implications for Future Research”, Journal of Marketing, Volume 49, p.44.

This model was built on the concept that the difference between expectation and performance is a measure of service quality (Seth *et al.*, 2004; Parasuraman *et al.*, 1985). The work by Parasuraman *et al.*, (1985) identified gaps that existed in the “perceptions of service quality and the tasks associated with service delivery to consumers. These gaps can be major hurdles in attempting to deliver a service which consumers would perceive as being high quality”. Parasuraman *et al.*, (1985) identify the gaps as follows:

- Gap 1 deal with the gap between customer expectation and management perception of customer expectation. This implies that management is not

aware of what is required from a service to satisfy a consumer. Zeithaml *et al.*, (2009) call this the Listening Gap and they define this as where the firm does not understand or are unaware of what customers expect,

- Gap 2 deal with the gap between management perceptions of customer expectations and the service quality specifications. This gap can be explained by the constraints of resources but also if management is not totally committed to service quality,
- Gap 3 deals with service quality specifications and actual service delivery which was also called the service performance gap by Zeithaml *et al.*, (2009). This says that even with service quality specifications in place, excellent services are not guaranteed,
- Gap 4 deal with the gap between actual service delivery and external communication which was called the communication gap by Zeithaml *et al.*, (2009). This deal with company advertising a service and the customer expectation of that service is lifted by this external communication but there is a discrepancy between the actual service and the promised service,
- Gap 5 deal with the gap between expected service and perceived service which was called the customer gap by Zeithaml *et al.*, (2009). This all important gap can be removed by removing or dealing with all the other gaps that have been discussed. This gap can be seen as a function of the other four gaps viz.

$$\text{Customer Gap} = f(\text{gap1}, \text{gap2}, \text{gap3}, \text{gap4}).$$

Cronin and Taylor (1992) argued that the model put forward by Parasuraman *et al.*, (1985) which measures service quality as a function for performance and expectation was not a true measure because it confused satisfaction and attitudes. They developed a service quality model based purely on perceptions which they deemed was a better predictor of service quality. Their model was called SERVPERF maintains that performance and not “Performance – Expectation” determines service quality.

## **2.4 Customers**

The role that customer satisfaction plays in service quality will be discussed as well as how customer satisfaction impacts on customer loyalty.

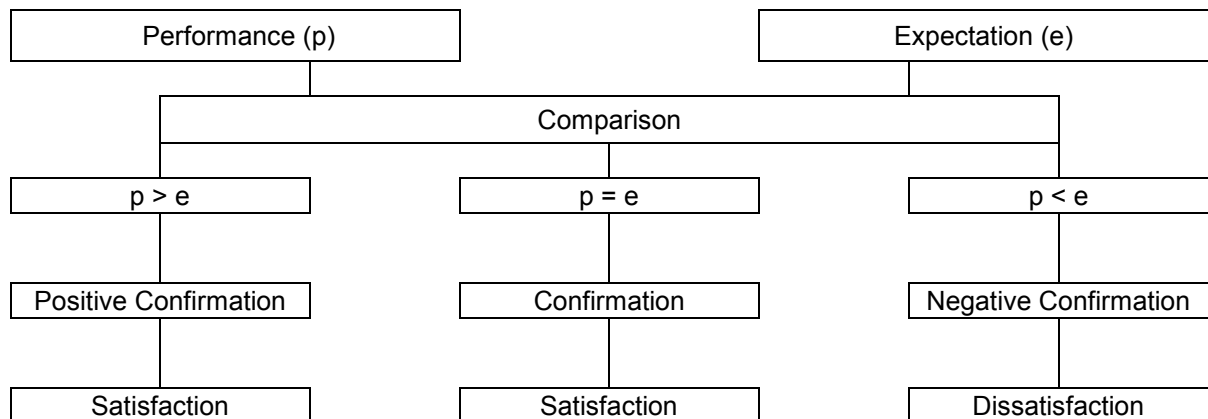
### **2.4.1 Customer Satisfaction**

Lamb *et al.*, (2010, p.5) define customer satisfaction as “a customer’s response to a product or service in terms of the extent to which consumption meets the customer’s expectations”. Kotler (2003) defines customer satisfaction as being dependent on the performance offered in relation to the customer’s expectations. Lovelock and Wirtz (2011) define customer satisfaction in relation to services experience.

Giese and Cote (2000) have researched various definitions for satisfaction and they have concluded that there are three components namely a response and the response is to some focus which they explain as an expectation or product and this response happens at a particular time like after consumption. According to Chodzaza and Gombachika (2013), satisfaction is a response given by consumers and customer satisfaction is the realisation of an expectation.

All these researchers say that customers have some preconceived level of service they will receive prior to the actual occurrence of the service and when they receive the service they compare this to their preconception of the service. This comparison leads to either the customer being satisfied, highly satisfied or dissatisfied.

The can be explained using the Disconfirmation Paradigm shown in Figure 2.4



**Figure 2.4: The Disconfirmation Paradigm**

Lamb, C.W., Hair, J.F., McDaniel, C., Boshoff, C., Terblanche, N., Elliott, R. and Klopper, H.B. 2012. Marketing. 4<sup>th</sup> edition. Oxford University Press Southern Africa.

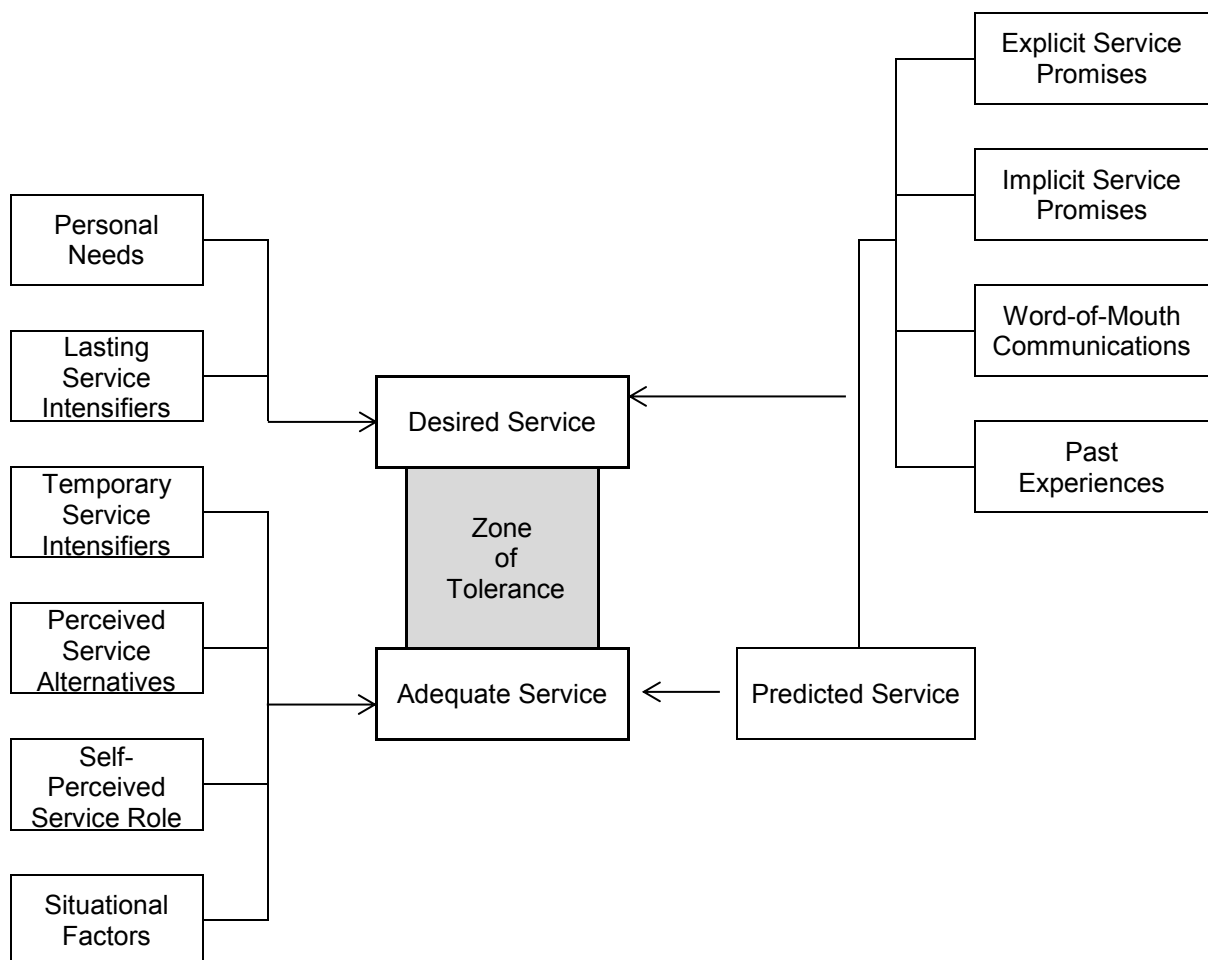
Figure 2.4 shows that when the performance of a service meets or betters customer’s expectations, then a customer is satisfied but there is dissatisfaction when the performance of the service is less than the expectation. This implies that to ensure customer satisfaction, the performance of the service has to at the minimum meet the customer’s expectations. In today’s changing environment, corporates are forced to be customer orientated and customer satisfaction determines customer loyalty. The quality of service quality is a major differentiator for ensuring customer satisfaction (Madan, 2012).

The role and importance that customer satisfaction plays in the corporate environment and in profitability is highlighted by many researchers (Lien and Kao, 2008; Iacobucci, Ostrom and Grayson, 1995). Prentice (2013), also mentions that customer retention leads to higher profitability. Chodzaza and Gombachika (2013), concluded that in their monopolistic environment, the expectations of the consumers was higher than the perceptions and this lead to poor service quality ratings. This lower service quality lead to consumers being dissatisfied, disloyal and defecting; this confirms the relationship between service quality, customer satisfaction and customer loyalty.

## 2.4.2 Customer Expectations

When customers are making decisions regarding service, they assess the qualities and risks of that service and it is during this time that they coerce expectations of the service that they would want to receive (Lovelock and Wirtz, 2011). This view of customer expectation is supported by Kotler (2003) who says that customers form expectation from previous experiences as well as from other customers, marketer’s information and family. Zeithaml *et al.*, (2009, p.75) define customer expectation as “beliefs about service delivery that serve as standards or reference points against which performance is judged”.

Figure 2.5 shows the factors that influence desired and predicted service.



**Figure 2.5 Factors that Influence Desired and Predicted Service**

Adapted from Zeithaml, V.A., Bitner, M.J., and Gremler, D.D. 2009. Services Marketing - Integrating Customer Focus Across the Firm. 5<sup>th</sup> Edition. McGraw Hill.

Figure 2.5 shows how customers can have dual expectation for services. They have a desired service level which is the highest level that they can hope for the service to be and then there is the adequate service level which is the level that they will accept knowing that the highest levels are not always attainable. It is known that services are varied and performances between service providers will differ. These variances of services fall between desired service level and adequate service level and is known as the zone of tolerance (Zeithaml *et al.*, 2009). There are various factors that influence these service levels.

#### **2.4.2.1 Sources of Desired Service Expectations**

According to Zeithaml *et al.*, (2009), there are two factors that influence the “desired service” level and these are

- Personal Needs are states that are essential to the physical and psychological well-being of the customer and are pivotal factors that shape the desired levels of service,
- Lasting Service Intensifiers are individual stable factors that lead the customer to a heightened sensitivity to service.

#### **2.4.2.2 Sources of Adequate Service Expectations**

According to Zeithaml *et al.*, (2009), there are five factors that affect adequate service expectations and these are normally short-term and fluctuate more than the factors that influence desired service. These are

- Temporary Service Intensifier which makes the customer more aware of the need for the service,
- Perceived Service Alternatives are other service providers that can provide the same service,
- Self-Perceived Service Role deals with the role that customer plays in the level of service received and this means that if they have a higher expectation then they will not accept a service of a lower level,

- Situational Factors are the service performance conditions that customers view as beyond the control of the service provider,
- Predicted Service is the level of service that a customer expects to get (Zeithaml *et al.*, 2009).

#### **2.4.2.3 Sources of Predicted and Desired Service Expectations**

This deals with the information that customers get when looking for a service (Zeithaml *et al.*, 2009). These can be defined as

- Explicit Service Promises are statements regarding the service offered by an organisation either by personnel (personal) or via advertising (nonpersonal),
- Implicit Service Promises are indications that lead to suggestions of what the service should be like,
- Word-of-Mouth Communication deals with some other form of statement by someone not involved within the organisation on what the service will be like,
- Past Experience deals with the customers own experience of a service received (Zeithaml *et al.*, 2009).

#### **2.4.3 Customer Loyalty**

By keeping customers satisfied by offering exceptional service can make them loyal customers and hence ensure an organisation's long term growth and survival (Lamb *et al.*, 2010). Kotler (2003) says that attracting new customers is not enough but keeping existing ones is highly required to grow the business. Lovelock and Wirtz (2011, p.338) said "targeting, acquiring and retaining the right customers is at the core of many successful service businesses". Research has found that to retain a customer is far more cost effective than attracting new customers (Pizam and Ellis, 1999). All these researchers have highlighted the need to ensure customers remain loyal to an organisation to ensure sustainable success. The economic outcome of loyal customers is highlighted by Lamb *et al.*, (2010) and these are;



- Lower acquisition costs are the costs associated with recruiting new customers. The costs will remain low if the organisation has loyal customers thus ensuring its profitability,
- Base profit is earned on all products the longer a customer is retained,
- Revenue growth is enhanced with loyal customers who tend to spend more over longer periods,
- Cost savings with loyal customer not requesting service that an organization does not provide,
- Referrals increase as loyal customers recommend the organization to others,
- Price premium – loyal customers are not price sensitive,

It is imperative to understand attitudes and behavior of individuals in relation to loyalty. Table 2.1 shows the relationship between satisfaction, loyalty and behaviour.

**Table 2.1 Individual Customer Satisfaction, Loyalty and Behaviour**

Jones, T.O., and Sasser W.E. 1995. Why satisfied customers defect. Harvard Business Review. Harvard Business School Publishing Corporation.

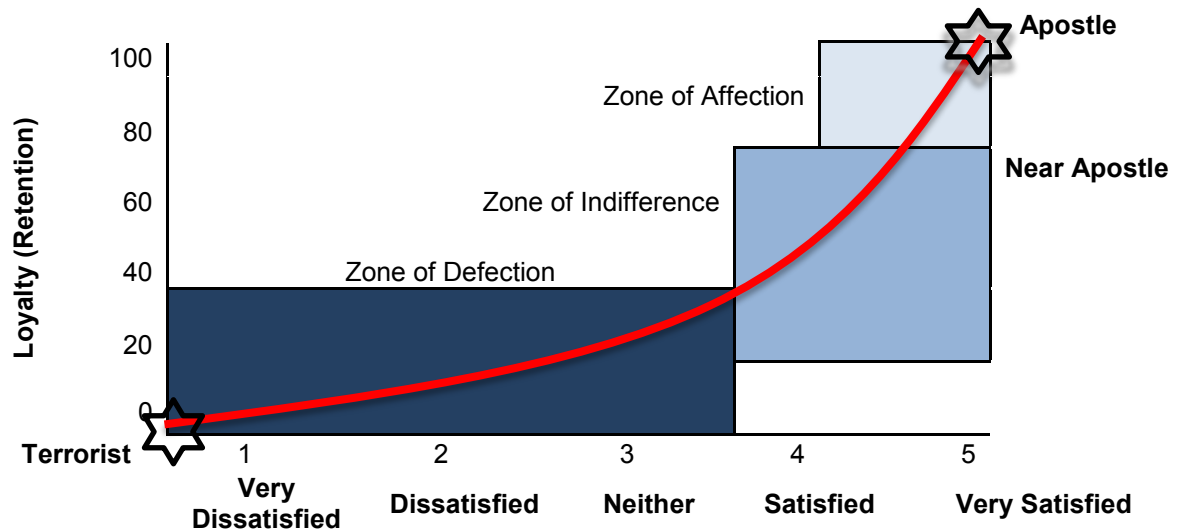
	<b>Satisfaction</b>	<b>Loyalty</b>	<b>Behavior</b>
<b>Loyalist/Apostle</b>	High	High	Staying and supportive
<b>Defector/Terrorist</b>	Low to medium	Low to medium	Leaving or having left and unhappy
<b>Mercenary</b>	High	Low to medium	Coming and going; low commitment
<b>Hostage</b>	Low to medium	high	Unable to switch; trapped

According to Jones and Sasser (1995), depending on an individual's behavior or satisfaction levels, customers behave in four basic ways. These are

- Loyalist/Apostle is a customer that is completely satisfied and it seems like the customers' needs and the organisations service offering are a perfect match and it is most likely these are the easiest customers to serve,
- Defector/Terrorist is customers whose satisfaction levels vary from neutral to very dissatisfied and will look for the service elsewhere. They are noted for spreading bad publicity about the organisation,
- Mercenary is a customer who does not follow the normal rules with loyalty and satisfaction. He can be completely satisfied but has no loyalty to the organization,
- Hostage is a customer that has no choice but to use that particular service provider due to the unavailability of alternates.

According to Hansen, Samuelsen and Sallie (2013, p.1160), there are four distinctions between loyalty and these are “no loyalty, spurious loyalty, latent loyalty and loyalty” and loyalty exists if “there is a high level of repeat patronage and high relative attitude”. This shows how customers' behavior can influence if the customer becomes loyalty. This is also supported by Baumann, Elliott and Burton (2012) who also resolved that customer behavior impacts on customer loyalty. Coelho and Henseler (2012), in their research highlighted that customer loyalty can be achieved by customisation which leads to customer service quality and customer satisfaction.

Lovelock and Wirtz (2011) discusses the relationship between satisfaction and loyalty in Figure 2.6 which was adapted from Jones and Sasser (1995)



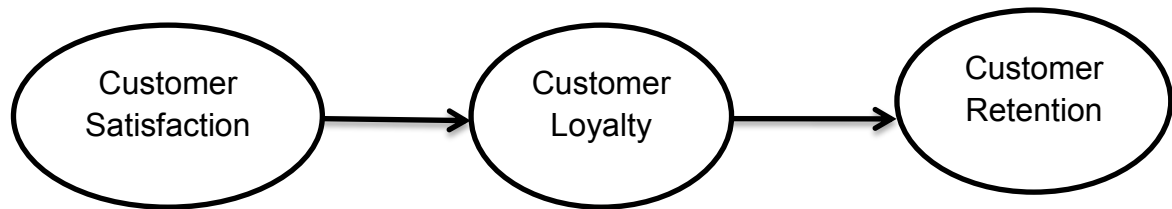
**Figure 2.6 Relationships between Customer Satisfaction and Loyalty**

Adapted from Lovelock, C., and Wirtz, J. 2000. Services Marketing – People, Technology, Strategy. 7<sup>th</sup> Edition. Pearson.

According to Lovelock and Wirtz (2011), the relationship between customer satisfaction and loyalty can be divided into three zones viz.

- Zone of defection is where the levels of satisfaction are low and where customers will defect unless the cost associated with defecting is too high or there is no alternative service provider,
- Zone of indifference is where with the levels of satisfaction is close to neutral and will move if a better alternate service provider is found,
- Zone of affection is the area where customers are highly satisfied and will not look for alternate service providers.

According to Wicks and Roethlein (2009), satisfied customers lead to higher retentions and in turn higher profitability. Figure 2.7 shows the flow from customer satisfaction to customer retention.



**Figure 2.7: The customer Retention Chain**

Adapted from Wicks, A.M and Roethlein, C.J. 2009. A Satisfaction - Based Definition of Quality. *Journal of Business and Economics Studies*, Vol. 15, No. 1, pp. 82 – 97.

The above figure shows that when customer is satisfied, they become loyal and in turn the organisation retains the customer which leads to continued sustainability of the organisation. This is further highlighted in research by Bakti and Samaedi, (2013, p.405) where they concluded that “service quality affects customer loyalty indirectly through customer satisfaction”. Their research showed that there was a link from service quality to customer satisfaction and to customer loyalty. Kitapci, Dortyol, Yaman and Gulmez (2013) have identified that service quality is regarded as a key strategy in business to increase customer base and retain customers. They also highlighted the need to understanding the needs of customers if customer loyalty is to be achieved.

## **2.5 Measuring Service Quality**

Crosby (1979) and Garvin (1983) as cited in Parasuraman *et al.*, (1988) said that unlike goods, whose quality which can be objectively measured by durability or the number of defects, there is no objective way of measuring service quality. During their research, Parasuraman *et al.*, (1988) established that irrespective on the service, there was a similarity in the ways service was evaluated by customers. These could be grouped into ten categories and was called Determinants of Service Quality. These ten determinants were identified as reliability, responsiveness, competence, access, courtesy, communication, credibility,

security, understanding and tangibles. With the limited research into measuring service quality during that period, Parasuraman *et al.*, (1988, 1991) developed an instrument called SERVQUAL, to determine customer perceptions of service quality in service and retail industry. The instrument was developed using the ten determinants of service quality. The perceived quality (Q) was determined as a function of perception (P) and expectation (E) as shown below.

$$Q = P - E$$

The evaluation of data in their studies resulted in a purification exercise where they found that there was a correlation between several of these determinants and combined them into five determinants. The need for a reliable instrument to measure service quality is discussed by Cuthbert (1996). He explains that the SERVQUAL instrument is not a perfect fit to any environment and may have to be adapted. The SERVQUAL instrument is based on 22 points over the five service dimensions for the customer expectations and perceptions.

Lovelock and Wirtz (2011) and Parasuraman *et al.*, (1988) define these five new determinants as;

- Tangibles - appearance of physical elements, physical facilities or equipment,
- Reliability - ability to perform promised service dependably and accurately,
- Responsiveness – willingness to help customers and provide prompt service,
- Assurance - Competence is the knowledge and skills required to perform the service,
- Empathy – the understanding and caring of customer.

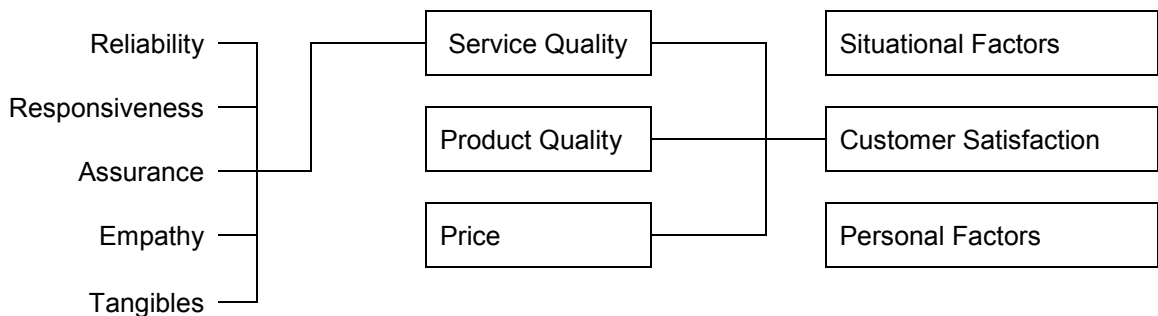
The CTS research instrument used the sixteen attributes that was identified for CTS and incorporated those into the five service dimensions identified by Parasuraman *et al.*, (1988). Table 2.2 shows how these were grouped.

**Table 2.2 CTS Attributes**

Reliability	General satisfaction, employee ability, testing accuracy, testing frequency satisfaction, world class
Assurance	Impartiality and integrity, cost-effectiveness provision of information, technical competence/effectiveness
Tangibles	Suitability of technology, housekeeping
Empathy	Customer satisfaction, monthly reports, handling queries
Responsiveness	Recent improvement, continuous improvement

Table 2.2 highlights the how the CTS attributes was grouped into the five service dimensions. These areas of the CTS instrument were concentrated on in gathering the perceptions of MGB members. The perceptions of these attributes will form the cornerstone of CTS service quality strategy albeit the CTS instrument is not based on the SERVQUAL instrument.

Cronin and Taylor (1992) put forward a different instrument for measuring service and this was called the SERVPERF. This instrument unlike the SERVQUAL which looked at the difference between expectations and perceptions, focused on measuring only customers perceptions. The CTS instrument was based on this with it only measuring perceptions of MGB members on the sixteen attributes. The relationship between service quality and customer satisfaction has been the work of many researchers and Figure 2. 8 highlight this relationship.



**Figure 2.8 Service Quality and Customer satisfaction**

Adapted from Ziethaml, V.A., Bitner, M.J., and Gremler, D.D. 2009. Services Marketing - Integrating Customer Focus Across the Firm. 5<sup>th</sup> Edition. McGraw Hill.

Figure 2.8 shows that service quality is determined using the five determinants of service quality (Zeithaml *et al.*, 2009; Parasuraman *et al.*, (1985, 1988). It also shows that service quality is one of the precursors to customer satisfaction.

## **2.6 Service Recovery Strategies**

Zeithaml *et al.*, (2009, p 213) define a service failure as “service performance that falls below a customer’s expectation in such a way that leads to customer dissatisfaction”. They advised that 1% - 5% of customer complain to management, 45% complain to service staff and 50% don’t complain. According to Zeithaml *et al.*, (2009), organisations have realised the important of implementing service recovery strategies for disappointed customers. They identified eight strategies that could assist in ensuring a satisfied customer. These are

- Make the service fail-safe – Do it right the first time. This means that if the customer receives what they expected then there would not be any dissatisfaction. This leads to reduced costs in that there would not be the need to redo the service,
- Encourage and track complaints mean the organisation will set up systems to encourage customers to complain to reduce failure,
- Act quickly means that responses to customer complaints need to acted on with minimal delays,
- Provide adequate explanations requires the organisation to provide pertinent information so the customer can understand the reason for the failure of the service,
- Treating customers fairly will entail acknowledging a failure has occurred and apologising for the failure and taking steps towards resolving the problem,
- Cultivate relationships with customers by forging long term strong relationships is likely to result in customers being more forgiving in times of service failure,

- Learn from recovery experiences will deal with organisations that have had service failure previously and not allowing the service failure to re occur,
- Learn from lost customer means that the organisation needs to understand the reasons customer have defected.

This service recovery strategy can assist an organisation to ensure customer satisfaction and have loyal customers.

## **2.7 Summary**

This chapter dealt with different researcher's views and definitions of service quality, customer satisfaction, customer loyalty and ways to measure service quality. The different service quality models was highlighted and the differences between them. The literature has shown that that there is a link between service quality and customer satisfaction and very satisfied customers tend to be loyal to a service provider. The SERVQUAL and SERVPERF instruments showed different ways of measuring service quality. The sugar industry and the role that CTS plays in the industry was discussed and the importance that customer satisfaction plays on the various stakeholders, in particular CTS to the MGB's. CTS as part of its business strategy needs to ensure that the MGB's are continually satisfied with the service that CTS provides and thereby build long term relationships with the MGBs. Chapter Three indicates how research is conducted and the way that CTS conducts research in the sugar industry.



## CHAPTER THREE

### Research Methodology

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#### 3.1 Introduction

According to Sekaran and Bougie (2010, p.3), research deals with finding solutions to problems and they define business research as “an organised, systematic, data-based, critical, objective, scientific inquiry or investigation into a specific problem”. The main area of focus of this study was to determine the perceived levels of satisfaction with CTS’s service with regards to the overall performance as well as the sixteen CTS attributes and to identify changes since the previous study. This study will enable CTS to develop a strategy to preserve excellent service delivery or to remedy situations of poor service delivery to its customers. This research project looked at the hypothetico-deductive method to resolve this problem.

#### 3.2 The Hypothetico - Deductive Method

According to Sekaran and Bougie (2010), the hypothetico-deductive method is a scientific method that is used for solving problems. There are seven steps that was followed in this method and these are discussed below

- Identify a broad problem area – this will be an area that will be identified as an area of concern,
- Define the problem statement – this will encompass the objectives of the study,
- Develop hypotheses – this will be association between the variables and the problem,
- Determine measures – this needs to be determined to test the hypotheses,
- Data collection – how do we collect the data,
- Data analysis – the data collected need to be analysed to confirm or reject the hypotheses,
- Interpretation of data – the data collected is used to make deductions,

This process if followed will assist managers to solve problems within their work areas.

### **3.3 Problem Statement**

In the current economic climate, organisations need to ensure survival at all costs and this means no business can continue without service quality and customer satisfaction. The need for service quality and customer satisfaction need to form part of an organisations strategy. The profitability of an organisation can be linked to the behavior of customers and there is an indication that service quality does play a role in customers' behaviour and this behaviour has an influence on customer satisfaction (Saha and Theingi, 2009). In the South African sugar industry, MGBs may appoint any service provider to operate and manage their analytical laboratories for cane payment (SIA, 2000). The CTS of the South African Sugar Association (SASA) currently operates and manages thirteen analytical laboratories under contract to the MGB. There has been a high staff turnover since the previous study conducted in 2003 with only five of fifteen managers directly involved with MGB's that are still currently employed by SASA CTS. The problem that CTS is currently faced with is that it does not know how the MGB members perceive the service provided to them. The aim of this research is to determine the current level of satisfaction of the MGBs on CTS's service delivery as well as compare these to a previous study conducted in 2003.

### **3.4 Objectives of the Study**

The overall objective was to identify the perceived levels of satisfaction with CTS's service and to identify if there has been any significant change since the previous study in 2003.

Objective one was to establish the MGB members' perceptions of CTS in general and compare this to perceptions held in 2003.

Objective two was to determine millers level of satisfaction with current services provided and compare this to perceptions held in 2003.

Objective three was to determine growers level of satisfaction with current services provided and compare this to perceptions held in 2003.

Objective four was to identify perceived strengths and weaknesses of CTS with the intention of addressing and improving both actual and perceived weaknesses.

Objective five was to compare millers and growers perceptions of CTS in 2013.

### **3.5 Research Design and Approach**

This research was undertaken to determine levels of satisfaction by the combined MGB as well as grower and miller members of the service provided by CTS. There has been a high staff turnover since the previous study was done in 2003 with only five of the fifteen managers directly involved with MGB's that are employed by SASA CTS.

#### **3.5.1 Research Studies**

There are various reasons why research is conducted. Sekaran and Bougie (2010) differentiate these reasons as;

- **Exploratory Study** which deals with research where little or no previous information is available regarding a specific type of problem.
- **Descriptive Study** is undertaken to describe the features that exist between members of a group that was studied e.g. age or sex.
- **Hypothesis Testing** is conducted to determine changes between subject groups.

In the CTS research, the study was undertaken to determine current perceptions as well as the change of perceptions from the previous study. This was conducted by hypothesis testing to determine if there was any significant difference between perceptions held in 2003 and the current perceptions.

#### **3.5.2 Research Design**

According to Sekaran and Bougie (2010), a cross-sectional study is one in which data is collected just once to answer a research question and a longitudinal study is one where data is collected at two or more points in time to answer a research question. The study was a combination of a cross-sectional study and a longitudinal study. This study was undertaken ten years after the previous study and comparisons have been made between the two studies. This study was

undertaken to determine the perceptions that are held by MGB members; as many of the MGB members may not have been a part of the previous study.

### 3.5.3 Research Instrument

Nauman and Giel as cited in Naidoo (2003) stated that the accurate identification of attributes important to the customer is the foundation upon which all portions of the customer satisfaction measurement programme must be built. Naidoo (2003) identified sixteen attributes that was pertinent to CTS. These attributes was developed using the input from the CTS managers that liaise directly with MGB members as well as the initial pilot test conducted on MGB Chairmen/Chairladies. The sixteen attributes were grouped into the five service dimensions that Parasuraman *et al.*, (1988) had identified. These are listed below in Table 3.1.

**Table 3.1 CTS Attributes Grouped as Service Dimensions**

<b>Service Dimension</b>	<b>CTS Service Attribute</b>	<b>No. of statements</b>
Reliability	General Satisfaction	1
	Employee Ability	3
	Testing Accuracy Satisfaction	3
	Testing Frequency Satisfaction	2
	World class	1
Assurance	Impartiality and Integrity	5
	Cost Effectiveness	5
	Provision of Information	3
	Technical Competence	2
Tangibles	Suitability of Technology	1
	Housekeeping	1
Empathy	Customer Satisfaction	3
	Monthly Reports	1
	Handling Queries	3
Responsiveness	Recent Improvement	1
	Continuous Improvement	1

The CTS questionnaire consists of thirty six statements aimed at determining the perceptions of MGB members. The statements are spread over the sixteen CTS attributes with number of statement ranging from five statements to one statement per attribute. The questionnaire used is the same questionnaire that was used in the previous study of 2003 as this study compared 2013 perceptions with the previous study of 2003. The statements based on the sixteen attributes were designed to extract the perceptions of the MGB members and to eliminate the MGB members aimlessly choosing responses, negative worded statements were include in the questionnaire.

The questionnaire had five parts with Part One asking for general information and a nominal scale which allows the respondents to select specific categories that they may fit into. Part Two, Three and Four consists of a total of thirty six statements that MGB members had to rate on a seven point Likert Scale. According to Sekaran and Bougie (2010), the Likert Scale was designed to allow respondent to choose how strongly s/he agreed or disagreed with the statements.

A five point Likert Scale was considered for this current study but in order to make appropriate comparisons between both studies, it was necessary to ensure that both studies scored all the questions using the same scales and the seven point Likert Scale was retained. Naidoo (2003, p.68) explained the seven point Likert Scale was used to allow “for a greater sensitivity of measurement and that any score of five and below was of concern to CTS management”. Some of the statements that were put forward to MGB members in the questionnaire were worded negatively and this was cautioned at the beginning of the survey. The use of negatively worded statement is used to eliminate respondents to choose from one end of the scale (Sekaran and Bougie, 2010). During the analysis of data, the scores of the negatively worded statements was firstly reversed and then evaluated. Part five of the questionnaire contains five open ended questions where the respondents can add specific comments.

#### **3.5.4 Reliability**

According to Sekaran and Bougie (2010, p.161), the reliability of a measure “is an indication of the stability and consistency with which the instrument measures the

concept and helps to assess the “goodness” of the measure”. The methods to determine reliability are discussed

- Stability of measure is the measure to give the same result irrespective of the number of times it is measured. There are two ways to measure the stability of measure and these are
  - Test - retest reliability – this is determined when the same set of questions are administered to a group and after a period re-administered to the same group and the scores are correlated between both tests,
  - Parallel – form reliability - this is determined when the same set of questions are administered to a group and after a period re-administered to the same group and the scores are correlated between both tests,
- Internal consistency of measures is to measure the same notion without changing the overall meaning of the items. There are two ways to measure the internal consistency and these are
  - Inter-item consistency reliability – tests how consistent the answers to a questionnaire is, from different respondents,
  - Split – half reliability – this tests the correlation between different sections of the questionnaire

For the CTS questionnaire the internal consistency of measure was used. This used the Cronbach’s alpha to determine reliability. A Cronbach’s alpha score of less than 0.60 is considered poor and those in the range of 0.7 are acceptable and imply good internal consistency (Sekaran and Bougie, 2010). For the CTS study, the Cronbach’s alpha was determined for each service dimensions as defined in Table 3.1 for a group of miller members from one MGB. The overall Cronbach’s alpha calculated was found to be 0.942 which implied good internal consistency. These Cronbach scores are discussed in Chapter four.

### **3.5.5 Validity**

According to Sekaran and Bougie (2010), validity is to ensure that the instrument is measuring the concept that the researcher requires. The types of tests to measure validity are as follows

- Content Validity – deals with how well the concept is defined,
- Criterion – Related Validity deals with the differentiation between respondents on a measure,
- Construct Validity deals with how the results and the theories fit together.

Content validity was used for the CTS instrument. A team of CTS managers was used to determine if the content of the instrument was in fact measuring what was set out to be measured, perceptions of MGB members.

### **3.5.6 Population and Sampling**

The population was the entire group that was to be researched and a sample is a portion of the population that the researcher can draw conclusions that generalise to the population (Sekaran and Bougie, 2010). The target population in this study were all members of MGB's in the sugar industry where CTS is contracted to perform an analytical service. The physical locations of these MGB's are the KwaZulu-Natal (KZN) Lower South Coast, KZN Midlands, KZN North Coast and the lower Mpumalanga. A census was conducted of all MGB members and it was determined that there are 149 members made up of 70 miller members and 79 grower members. According to the Researcher Advisors Manual (2006), a population of 150 would require a sample of 137 with a confidence level of 95% and a margin of error of 2.5%.

A sampling process in research deals with getting the correct representation from the population so when analysing the sample, the findings can be generalised to the population (Sekaran and Bougie, 2010). The sampling process was as follows

- Defining the population – this means the entire population needs to be identified in terms of elements and geographic locations,
- Determining the sample frame – which would require the physical representation of all elements in the population from which sample is drawn,
- Determining the sampling design – this would include either
  - probability sampling which is when each element in the population has same chance of being chosen, or

- non-probability sampling which means that there is not a known chance of being selected,
- Determining the sample size – this is largely dependent on six factors
  - The research objective,
  - The extent and precision required,
  - The acceptable risk in predicting the level of precision,
  - The amount of variability in the population itself,
  - The cost and time constraints,
  - The size of the population,
- Executing the sampling process (Sekaran and Bougie, 2010).

According to (Sekaran and Bougie, 2010, p 288), “precision denotes how close we estimate the population parameter based on the sample statistic and confidence denotes how certain we are that our estimates will really hold true for the entire population”. For this purposes of this study, it was decided to sample the entire population of 149 members. This meant that all MGB members was sent the customer survey to complete and by using the entire population for this research meant there was no issues with the confidence levels and the precision.

### **3.5.7 Data Collection**

According to Sekaran and Bougie (2010), data that is collected can either be primary or secondary data. Primary data is collected directly by the researcher specific to a study while secondary data exists and is sourced via the literature review. The data collected in this study will be primary data.

There are various methods of collect data for research (Sekaran and Bougie (2010). The main two are

- Interviews which are conducted as follows,
  - Face to face interviews can be useful in that the interviewer can clarify queries with questions and get the correct response but on the negative side, it may not be possible to interview all respondents due to geographical limitations,



- Telephone interviews can be useful in that geographical limitations are not an issue although the some respondents do not like telephonic interviews and may disconnect the call,
- Computer assisted are online questions that can “pop” up on a respondents computer,
- Questionnaires – these can be;
  - Personally administered questionnaires will require the administrator to gather all respondents to collect the data. The advantage is quick collection and completion,
  - Mail surveys which can cover a wide area geographically. The return rates are quite low at 30% however such is acceptable (Sekaran and Bougie, 2010). A weakness is that should there be a query such cannot be clarified immediately. The data collected has to be manually entered into some statistical programme for analysis,
  - Electronically administered is where questionnaire is sent to respondents via an electronic medium such as email or the internet. The problem experienced with electronic questionnaire is similar to the mail survey with low response rates and also some respondents not familiar with a computer.

The data for the CTS research was collected was using an electronic online self-administered questionnaire which was created using Questionpro. Questionpro is an internet based survey tool. Questionpro allows researchers to design a questionnaire to collect quantitative and qualitative data as well as to analyse the data either online site or extract the data to either Excel or Statistical Package for the Social Science (SPSS) and further analyse the data. It has the facility to track the responses in real time in that at a glance at any timer one can see the number of respondents that have viewed, started and completed the questionnaire.

This method of data collection was chosen as it would be the most cost effective as well as most efficient way in reaching all MGB members. This electronic method will eliminate the geographical difficulty if a personally administered questionnaire was used. With the electronic questionnaire there should not be delays in collection of completed questionnaires as the data is automatically

logged in Questionpro. This also makes data analysis more efficient. The questions used in creating the questionnaire were the same that was used in the 2003 study. This was to ensure that any comparisons made would be relevant and also to see if there was change from the previous study.

The collection of data for this survey was conducted in a six week period starting on 30 September 2013 and ending on the 9 November 2013. The link to the online questionnaire was e-mailed to the MGB secretaries with a request to forward to their individual members. The link to the online questionnaire was accompanied with a covering letter outlining the reason for the study, the confidentiality of the study and the participation in the study was voluntary. Reminders were sent out to the MGB secretaries twice after the initial e-mail requesting those members who wanted to participate in the study to complete the questionnaire by the due date. The dates that the reminders were sent were 16 October 2013 and 5 November 2013. Table 4.1 shows the response rates after each e-mail was sent. The six week period that was allowed for the completion of the online questionnaire would have included at least one monthly MGB meeting and the original letter and any subsequent correspondence concerning this study would have been tabled at the meeting. The CTS managers at each centre also assisted MGB members with any queries with regards to answering the questionnaire.

### **3.5.8 Data Analysis**

The statistical analysis of the data was done using SPSS statistical analysis and Excel 2010. Descriptive and inferential statistics of the data will be presented. When the data was analysed all respondents with incomplete questionnaires was removed. Incomplete questionnaire could arise from the respondent not fully understanding the questionnaire. The removal of incomplete questionnaires ensured that the data was accurate. There were statements that were worded negatively and the scores for these statements were reversed prior to any data analysis. The use of negatively worded statement was used to eliminate respondents choosing from one end of the scale (Sekaran and Bougie, 2010).

During the data analysis, each statement after reversal of negatively worded statements was assigned to each attribute, the number of statement per attribute ranged from five to one. The scores for each attribute was then averaged and the standard deviations computed. The average score was the representation of the perception of each attribute. These scores are represented in chapter four. Each attribute as defined for CTS was rated with a mean score and the standard deviation. This evaluation determined the perceptions by MGB members, miller members and grower members of CTS's service. These scores were compared to the study of 2003. The determination of significant difference was conducted on each attribute and on the overall score for MGB members, grower members and miller members. This was done using a t-test and probability analysis. The 2003 and 2013 studies was statistically evaluated using hypotheses testing to determine if there was any significant difference between both studies. The sixteen attributes for CTS was compared to 2003 and a t - test was conducted to determine if there was any significant difference between the perceptions of MGB member from the two studies. From the t test, a probability (p) value was computed based on a 95% significance level for each of the sixteen attributes. The p value determined was tested using the following hypotheses,

- $H_0: p > 0.05$  - there is no significant difference between the 2013 and 2003 studies. (Null Hypothesis)
- $H_1: p < 0.05$  - there is a significant difference between the 2013 and 2003 studies. (Alternate Hypothesis – either an improvement in perceptions or a decrease in perception)

In hypotheses testing of each of the sixteen attributes, a p value  $> 0.05$  means that there is no significant difference between the perceptions of the respondents between the studies and the null hypothesis is not rejected and a p value  $< 0.05$  means that there is a significant difference between the perceptions of the respondents between the studies and the null hypothesis is rejected.

This analysis will assist CTS to build its strategy on customer satisfaction and rectify and problems that exist with the current service delivery.

### **3.5.9 Interpretation of Data**

The data that was collected using the online electronic questionnaire and analysed using SPSS and Excel, needed to be interpreted in terms of the perceptions of MGB members on the service provided to them by CTS. These interpretations use statistical analyses to make inferences. The sample of this study was the entire population of 149 members.

### **3.6 Summary**

The research methodology that was discussed in this chapter follows highlighting the possible problems that may exist in CTS and the objectives of this study. The development of the questionnaire was based on the sixteen attributes that was developed for CTS. The sample and population of the study was determined and after some deliberation it was decided to use the population as the sample. The distribution of the questionnaire was done via the MGB secretaries and the data was collected online with the use of Questionpro. The analysis of the data was done using Excel and SPSS and is presented in the next chapter.

## CHAPTER FOUR

### Presentation of Findings

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#### 4.1 Introduction

This chapter will highlight the analysis of the primary data collected using the questionnaire that was sent out to all MGB members to determine their perceptions of CTS. The data presented will be consolidated data after removing incomplete data, reversing negatively worded statement scores and will be presented graphically and in table formats with all data being explained thereafter.

#### 4.2 Data Collection

The target population in this study is all members of MGB's in the sugar industry where CTS is contracted to perform an analytical service. The physical locations of these MGB's are the KZN Lower South Coast, KZN Midlands, KZN North Coast and the lower Mpumalanga. A census was conducted on all MGB members and it was determined that there are 149 members made up of 70 miller members and 79 grower members.

According to the Researcher Advisors Manual (2006), a population of 150 would require a sample of 137 with a confidence level of 95% and a margin of error of 2.5%. For this purposes of this study, it was decided to sample the entire population of 149 members. This meant that all MGB members was sent the customer survey to complete. The study of 2003 had 168 members. One of the main reasons for the difference between the total MGB members is that in the ten years between the two studies, one mill had closed and the respective MGB is now defunct.

The collection of data for this survey was conducted in a six week period starting on 30 September 2013 and ending on the 9 November 2013. The link to the online questionnaire was e-mailed to the MGB secretaries with a request to forward to their individual members. The link to the online questionnaire was accompanied with a covering letter outlining the reason for the study, the confidentiality of the study and the participation in the study was voluntary. Reminders were sent out to

the MGB secretaries twice after the initial e-mail requesting those members who wanted to participate in the study to complete the questionnaire by the due date.

#### 4.2.1 Total Response Rates

The respondents that viewed, started and completed the questionnaire on the Questionpro website was tracked on a weekly basis. Table 4.1 shows the response rates that were achieved during the six weeks that the survey was in process.

**Table 4.1 Response Rates**

	Period 1 30/09/13 – 15/10/13	Period 2 16/10/13 – 04/11/13	Period 3 5/11/13 – 09/11/13
Percent competed in relation to the population	6	28	40

Periods in Table 4.1 indicate time period after which a reminder was sent out to all MGB members informing of the survey and expected completion dates. The data shows that 6% completed the questionnaire in the first three weeks and this increased to 28% in the next two weeks and eventually ended with 40% when the survey ended on 9 November 2013. The increases in the number were evident after the reminders were sent out and the survey was discussed at the monthly MGB meeting.

#### 4.2.2 Questionnaire Response Analysis

Table 4.2 shows the number of MGB that viewed and attempted the questionnaire.

**Table 4.2 Summary of Respondents**

Viewed	Attempted	Completed	Drop off
141	72	59	13

There were 141 members that viewed the questionnaire online, with 72 starting the questionnaire and only 59 completing the questionnaire. The 59 responses

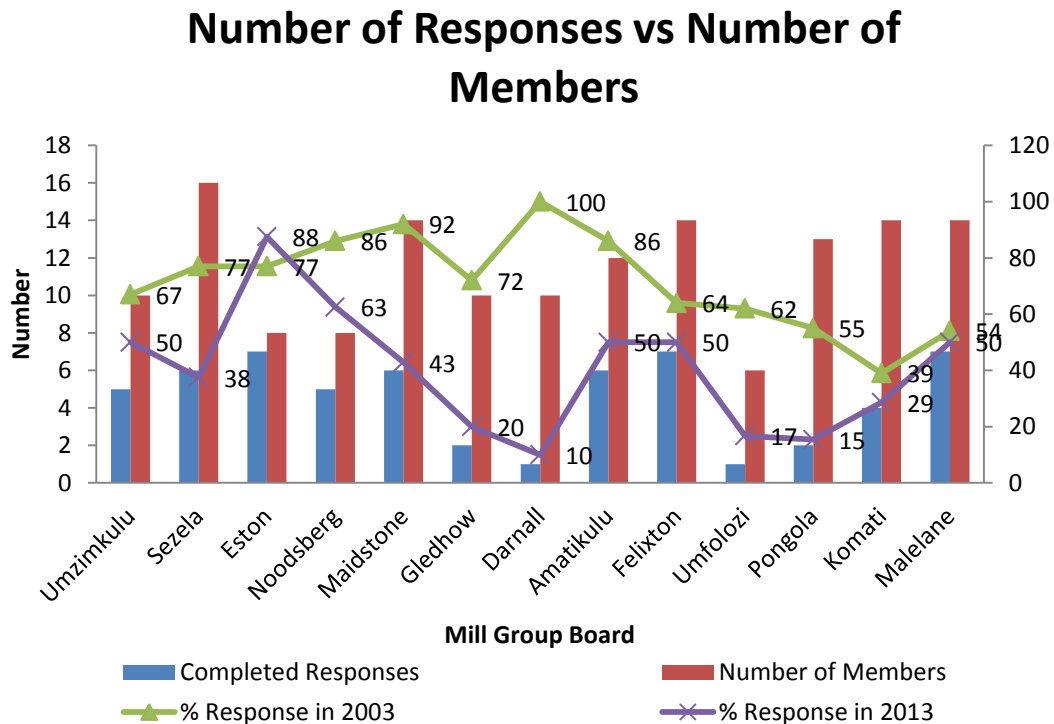
represent a 40% completion rate with regards to the total population of 149 members. The fact that 141 members viewed the questionnaire survey and only 59 completed the questionnaire indicates that there may have been some issues with completing the online questionnaire. The response rate is listed as a limitation of this study. The study of 2003 yielded a response rate of 68% with 115 completed questionnaires. The difference could be attributed to the previous study being on a printed questionnaire and management pressure to complete it.

### 4.3 General Results of Survey

The findings that was collated from each attribute are presented in the discussion below.

#### 4.3.1 MGB Responses

The survey was sent to members of 13 MGB's. Figure 4.1 shows the completed respondents from each MGB as well as the 2003 statistics.



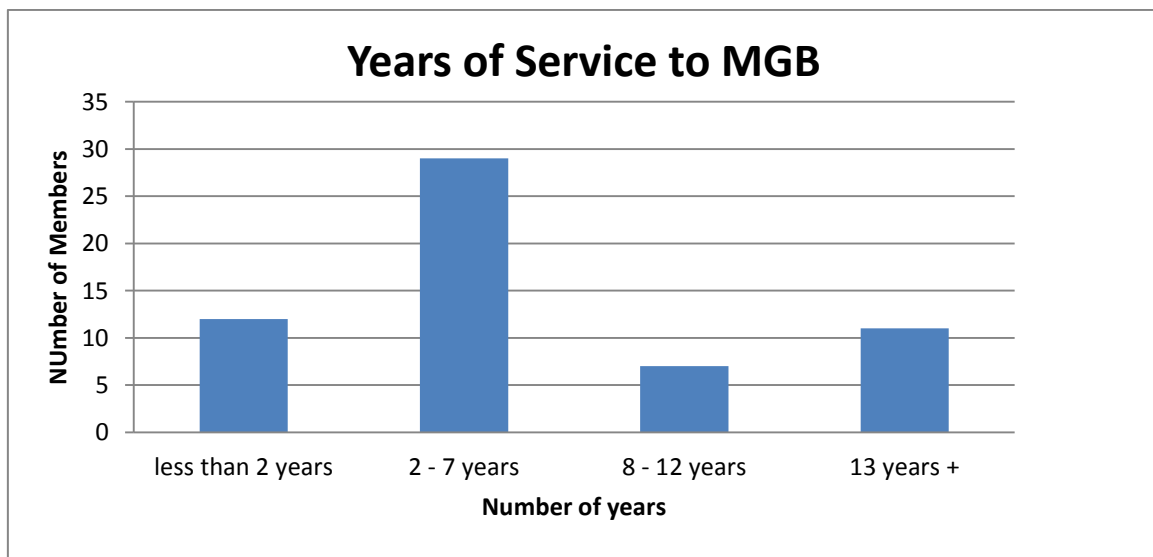
**Figure 4.1 Responses per MGB**

Figure 4.1 shows the number of completed responses from each MGB in comparison to the number of MGB members, there is a variation of responses

from the different MGB's. The highest completion rate was from Eston with 88% of MGB members having successfully responded or 7 members out of a possible 8 members completing the questionnaire. The lowest completion rate was from Darnall with a 10% completion rate or 1 member out of 10 members completing the questionnaire. In comparison to 2003, where the total response rate was 68%, there was also major differences amongst the individual MGB's with Darnall producing a 100% response rate in 2003 compared to 10% in 2013. In comparison to 2003, where the total response rate was 68%, there was also differences amongst the individual MGB's with Darnall producing the highest response rate at 100% and Komati having the lowest response rate at 39%.

#### 4.3.2 Length of Service as MGB Member

Figure 4.2 shows the length of service of the members that successfully completed the questionnaire.



**Figure 4.2 Length of Service**

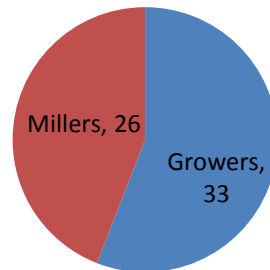
Figure 4.2 shows the highest number of respondents, twenty nine in total, had between two and seven years of service while the lowest number of respondents, eleven in total, had between eight and twelve years of service. This means that at last forty one of the respondents were not part of the 2003 survey which was ten years ago.



### 4.3.3 Representation of Respondents

Figure 4.3 shows the split of respondents between grower and miller members.

### Number of Responses per Sector



**Figure 4.3 Representations of Respondents**

Figure 4.3 shows that the 33 grower members of the MGB completed the questionnaire in comparison to 26 miller members of the MGB. In 2003 70 grower members completed the questionnaire and 45 miller members completed the questionnaire.

### 4.4 Current Perceptions And Comparison with Previous Study

The data from MGB perceptions, grower perception and miller perceptions was evaluated individually and are tabulated in tables 4.3, 4.4, 4.5, 4.6, 4.7. The data from 2013 was compared to that of 2003 and statistical analyses were conducted to see if there was any significant difference between the studies. The sixteen attributes for CTS was compared to 2003 and a t - test was conducted to determine if there was any significant difference between the perceptions of MGB member from the two studies. From the t test, a probability (p) value was computed based on a 95% significance level for each of the sixteen attributes. These values are tabulated in tables 4.3, 4.4, 4.5, 4.6, 4.7 and each table was ranked from the lowest p to the highest p.

For hypotheses testing in these tables,

- $H_0: p > 0.05$  - there is no significant difference between the 2013 and 2003 studies. (Null Hypothesis)

- $H_1: p < 0.05$  - there is a significant difference between the 2013 and 2003 studies. (Alternate Hypothesis – either an improvement in perceptions or a decrease in perception)

In hypotheses testing of each of the sixteen attributes, a p value  $> 0.05$  means that there is no significant difference between the perceptions of the respondents between the studies and the null hypothesis is not rejected and a p value  $< 0.05$  means that there is a significant difference between the perceptions of the respondents between the studies and the null hypothesis is rejected.

#### 4.4.1 Perceptions of CTS by MGB members

Table 4.3 shows the perceptions of MGB members to the CTS sixteen attributes that was defined for the 2013 study and the comparison to the 2003 study.

**Table 4.3 MGB Perceptions for 2003 and 2013**

CTS ATTRIBUTES	Mill Group Board							
	2013			2003			Statistics	
	Mean	Std Dev.	N	Mean	Std Dev.	N	t	p
Technical competence/effectiveness	4.137	1.542	59	5.165	0.936	115	5.497	0.000
Monthly Reports	4.102	1.583	59	5.078	1.186	115	4.572	0.000
Continuous Improvements	4.034	1.438	59	5.097	0.946	115	5.843	0.000
Suitability of Technology	4.424	1.600	59	5.209	0.987	115	3.991	0.000
Housekeeping	5.034	1.245	59	4.496	1.334	115	2.580	0.011
Provision of information	4.701	1.603	59	5.148	0.542	115	2.320	0.022
World Class	5.259	1.113	59	4.887	1.205	115	1.977	0.050
Testing Frequency Satisfaction	5.522	1.347	59	5.843	0.894	115	1.876	0.062
Cost Effectiveness	5.230	1.464	59	4.779	1.604	115	1.807	0.072
General satisfaction	5.864	1.196	59	5.530	1.142	115	1.797	0.074
Recent improvements	4.831	1.132	59	4.487	1.252	115	1.771	0.078
Handling queries	5.560	1.211	59	5.326	0.771	115	1.550	0.123
Impartiality and integrity	5.860	1.381	59	5.690	0.780	115	1.038	0.301
Testing accuracy satisfaction	5.167	1.517	59	5.361	1.008	115	1.006	0.316
Customer Satisfaction	5.207	1.370	59	5.186	0.784	115	0.129	0.898
Employee ability	4.983	1.499	59	4.968	1.004	115	0.078	0.938
<b>OVERALL</b>	<b>5.134</b>	<b>1.504</b>	<b>59</b>	<b>5.141</b>	<b>0.514</b>	<b>115</b>	<b>0.0451</b>	<b>0.9641</b>

There were a total of 59 respondents for the 2013 study and 115 respondents for the 2003 study. The table shows the perceptions of MGB members for the 2013 and 2003 studies. The overall perception for both the studies was based on the overall average of all sixteen attributes. Using these averages, a t – test was conducted on these averages and a p value computed. This p value indicates if there was any significant difference between both the studies based on a  $p > 0.5$  implying there is no significant difference and a  $p < 0.5$  implying there is a significant difference.

The overall perceptions for MGB members shows  $p = 0.9641 > 0.05$  for the two studies and that implies that there is no significant difference in the overall perceptions of MGB members between both studies. This implied that the MGB members were on the overall satisfied with the service provided by CTS.

The average for each attribute which represents the perception per attribute was computed. The perceptions per attribute ranged from 4.034 to 5.860 for the 2013 study. For each individual CTS attribute, a t-test was conducted and a p value computed. Each attribute was compared to the 2003 study to see if there was any significant difference between both studies. Any significant change could indicate the perceptions have either improved or lessened to a degree that is not within an acceptable limit as determined by the p value. There was six individual attributes that showed a significant change in perceptions which meant that the perceptions for those attributes have either improved or lessened to a degree that is not within an acceptable limit as determined by the p value. The attributes that showed significant change was monthly reports, technical competence/ effectiveness, continuous improvements, suitability of technology, housekeeping and provision of information.

Naidoo (2003) said that a score of five and below for any of the measured perceptions would be a concern for CTS management. When evaluating the 2013 study, it was noted that the individual perceptions for seven attributes scored below five. These were technical competence/effectiveness, monthly reports, continuous improvements, suitability of technology, provision of information, recent improvements and employee ability. When compared to the 2003 study, five attributes scores below five.

#### 4.4.2 Perceptions of CTS by Grower Members of the MGB

Table 4.4 shows the perceptions of grower members of MGB to the sixteen CTS attributes that was defined for the 2013 study and the comparison to the 2003 study. This includes the statistical analyses to determine if the two studies was significantly different or not.

**Table 4.4 Grower Perceptions for 2003 and 2013**

	Growers							
	2013			2003			Statistics	
	Mean	Std Dev.	N	Mean	Std Dev.	N	t	p
<b>CTS ATTRIBUTES</b>								
Technical competence/effectiveness	3.969	1.610	33	5.229	0.966	70	4.940	0.000
Monthly Reports	3.848	1.603	33	5.186	1.277	70	4.563	0.000
Continuous Improvements	3.939	1.391	33	5.129	0.977	70	5.010	0.000
Suitability of Technology	4.424	1.714	33	5.329	1.032	70	3.328	0.001
Provision of information	4.557	1.689	33	5.209	0.520	70	2.959	0.004
Testing Frequency Satisfaction	5.250	1.512	33	5.914	0.929	70	2.743	0.007
Testing accuracy satisfaction	4.897	1.649	33	5.300	1.065	70	1.492	0.139
Employee ability	4.876	1.609	33	5.014	1.065	70	0.855	0.395
General satisfaction	5.697	1.357	33	5.529	1.259	70	0.616	0.539
World Class	5.091	1.182	33	4.960	1.279	70	0.497	0.621
Cost Effectiveness	4.994	1.566	33	4.877	1.079	70	0.442	0.660
Handling queries	5.412	1.367	33	5.307	0.728	70	0.385	0.701
Customer Satisfaction	5.094	1.377	33	5.171	0.776	70	0.363	0.718
Housekeeping	4.818	1.286	33	4.729	1.284	70	0.328	0.744
Impartiality and integrity	5.584	1.555	33	5.654	0.777	70	0.305	0.761
Recent improvements	4.576	1.119	33	4.529	1.411	70	0.168	0.867
<b>OVERALL</b>	<b>4.949</b>	<b>1.59</b>	<b>33</b>	<b>5.191</b>	<b>0.598</b>	<b>70</b>	<b>1.121</b>	<b>0.265</b>

There were a total of 33 respondents for the 2013 study and 70 respondents for the 2003 study. The table shows the perceptions of grower members of MGB for the 2013 and 2003 studies. The overall perception for both the studies was based on the overall average of all sixteen attributes. Using these averages, a t – test was conducted on these averages and a p value computed. This p value indicates if there was any significant difference between both the studies based on a  $p > 0.5$  implying there is no significant difference and a  $p < 0.5$  implying there is a significant difference.

The overall perceptions for grower members shows  $p = 0.265 > 0.05$  for the two studies and that implies that there is no significant difference in the overall perceptions of grower members of MGB between both studies. This implied that the grower members of MGB were on the overall satisfied with the service provided by CTS.

The average for each attribute which represents the perception per attribute was computed. The perceptions per attribute ranged from 3.848 to 5.697 for the 2013 study. For each individual CTS attribute, a t-test was conducted and a p value computed. Each attribute was compared to the 2003 study to see if there was any significant difference between both studies. Any significant change could indicate the perceptions have either improved or lessened to a degree that is not within an acceptable limit as determined by the p value. There was six individual attributes that showed a significant change in perceptions which meant that the perceptions for those attributes have either improved or lessened to a degree that is not within an acceptable limit as determined by the p value. The attributes that showed significant change was monthly reports, technical competence/ effectiveness, continuous improvements, suitability of technology, testing frequency satisfaction and provision of information. When evaluating the 2013 study, it was noted that the individual perceptions for ten attributes scored below five with three of these attributes scoring below four. These were monthly reports, technical competence/ effectiveness, continuous improvements, suitability of technology, testing accuracy satisfaction, recent improvements and provision of information. When compared to the 2003 study, four attributes scored below five.

#### 4.4.3 Perceptions of CTS by Miller Members of the MGB

Table 4.5 shows the perceptions of miller members of MGB to the sixteen CTS attributes that was defined for the 2013 study and the comparison to the 2003 study.

**Table 4.5 Miller Perceptions for 2003 and 2013**

CTS ATTRIBUTES	Miller							
	2013			2003			Statistics	
	Mean	Std Dev.	N	Mean	Std Dev.	N	t	p
Housekeeping	5.308	1.158	26	4.133	1.342	45	3.731	0.000
Cost Effectiveness	5.527	1.269	26	4.627	1.033	45	3.250	0.002
Continuous Improvements	4.154	1.515	26	5.044	0.903	45	3.108	0.003
Recent improvements	5.154	1.084	26	4.422	0.965	45	2.943	0.004
World Class	5.480	1.046	26	4.778	1.085	45	2.661	0.010
Technical competence/effectiveness	4.346	1.440	26	5.067	0.889	45	2.612	0.011
General satisfaction	6.077	0.935	26	5.533	0.944	45	2.347	0.022
Impartiality and integrity	6.086	1.065	26	5.533	0.944	45	2.149	0.035
Suitability of Technology	4.423	1.474	26	5.022	0.892	45	2.137	0.036
Monthly Reports	4.423	1.528	26	4.991	1.019	45	1.878	0.065
Handling queries	5.744	0.959	26	5.356	0.841	45	1.779	0.080
Employee ability	5.115	1.348	26	4.896	0.906	45	0.818	0.416
Provision of information	4.883	1.478	26	5.053	0.568	45	0.691	0.492
Testing Frequency Satisfaction	5.863	1.020	26	5.733	0.837	45	0.582	0.563
Customer Satisfaction	5.346	1.356	26	5.207	0.805	45	0.543	0.589
Testing accuracy satisfaction	5.506	1.263	26	5.456	0.916	45	0.192	0.848
<b>OVERALL</b>	<b>5.362</b>	<b>1.353</b>	<b>26</b>	<b>5.062</b>	<b>0.451</b>	<b>45</b>	<b>1.368</b>	<b>0.176</b>

There were a total of 26 respondents for the 2013 study and 45 respondents for the 2003 study. The table shows the perceptions of miller members of MGB for the 2013 and 2003 studies. The overall perception for both the studies was based on the overall average of all sixteen attributes. Using these averages, a t – test was conducted on these averages and a p value computed. This p value indicates if there was any significant difference between both the studies based on a  $p > 0.5$  implying there is no significant difference and a  $p < 0.5$  implying there is a significant difference.

The overall perceptions for miller members shows  $p = 0.176 > 0.05$  for the two studies and that implies that there is no significant difference in the overall perceptions of miller members of MGB between both studies. This implied that the miller members of MGB were on the overall satisfied with the service provided by CTS.

The average for each attribute which represents the perception per attribute was computed. The perceptions per attribute ranged from 4.346 to 6.086 for the 2013 study. For each individual CTS attribute, a t-test was conducted and a p value computed. Each attribute was compared to the 2003 study to see if there was any significant difference between both studies. Any significant change could indicate the perceptions have either improved or lessened to a degree that is not within an acceptable limit as determined by the p value. There was nine individual attributes that showed a significant change in perceptions which meant that the perceptions for those attributes have either improved or lessened to a degree that is not within an acceptable limit as determined by the p value. The attributes that showed significant change was world class, cost effectiveness, general satisfaction, recent improvements, impartiality and integrity, housekeeping, continuous improvement, technical competence/effectiveness and suitability of technology. When evaluating the 2013 study, it was noted that the individual perceptions for five attributes scored below five. These attributes was continuous improvements, technical competence/effectiveness, suitability of technology, monthly reports, and provision of information. When compared to the 2003 study, six attributes scores below five.

#### 4.4.4 Comparison of Grower and Miller member Perceptions of CTS

Table 4.6 shows the comparison of perceptions of miller and grower members of MGB to the sixteen CTS attributes.

**Table 4.6 Grower and Miller Perceptions**

CTS ATTRIBUTES	2013							
	Grower			Miller			Statistics	
	Mean	Std Dev.	N	Mean	Std Dev.	N	t	p
Recent improvements	4.576	1.119	33	5.154	1.084	26	1.997	0.051
Testing Frequency Satisfaction	5.250	1.512	33	5.863	1.020	26	1.772	0.082
Testing accuracy satisfaction	4.897	1.649	33	5.506	1.263	26	1.556	0.125
Housekeeping	4.818	1.286	33	5.308	1.158	26	1.517	0.135
Cost Effectiveness	4.994	1.566	33	5.527	1.269	26	1.408	0.165
Impartiality and integrity	5.584	1.555	33	6.086	1.065	26	1.406	0.165
Monthly Reports	3.848	1.603	33	4.423	1.528	26	1.396	0.168
World Class	5.091	1.182	33	5.480	1.046	26	1.319	0.192
General satisfaction	5.697	1.357	33	6.077	0.935	26	1.217	0.229
Handling queries	5.412	1.367	33	5.744	0.959	26	1.051	0.298
Technical competence/effectiveness	3.969	1.610	33	4.346	1.440	26	0.935	0.354
Provision of information	4.557	1.689	33	4.883	1.478	26	0.777	0.440
Customer Satisfaction	5.094	1.377	33	5.346	1.356	26	0.703	0.485
Employee ability	4.876	1.609	33	5.115	1.348	26	0.608	0.546
Continuous Improvements	3.939	1.391	33	4.154	1.515	26	0.567	0.573
Suitability of Technology	4.424	1.714	33	4.425	1.474	26	0.002	0.998
<b>OVERALL</b>	<b>4.949</b>	<b>1.59</b>	<b>33</b>	<b>5.362</b>	<b>1.353</b>	<b>26</b>	<b>1.057</b>	<b>0.295</b>

There were a total of 33 grower respondents and 26 miller respondents for the 2013 study. Table 4.6 shows the comparison of perceptions of miller and grower members of MGB for the 2013 study. The overall perceptions shows  $p = 0.295 > 0.05$  and that there is no significant difference in the perceptions between the grower and miller members of MGB.

All sixteen individual attributes show no significant difference between the perceptions of the miller members' and grower members. The perceptions per attribute ranged from 3.848 to 5.697 for growers and 4.346 to 6.086 for growers.



#### 4.4.5 Perceptions of CTS Based on Service Dimensions

Table 4.7 shows the comparison of perceptions of MGB, miller and grower members of MGB to the five service dimensions.

**Table 4.7 CTS Service Dimension**

	2013					
	Grower		Miller		Statistics between Miller and Grower	
	Mean	Std Dev.	Mean	Std Dev.	t	p
<b>CTS ATTRIBUTES as per service dimensions</b>						
Reliability	5.062	1.553	5.514	1.231	0.994	0.325
Empathy	5.049	1.494	5.385	1.298	1.127	0.265
Assurance	4.965	2.001	5.425	1.407	1.213	0.230
Tangibles	4.621	1.517	4.865	1.387	0.637	0.527
Responsiveness	4.258	1.293	4.654	1.399	0.908	0.368

The sixteen attributes were grouped together into the five service dimensions as identified by Parasuraman *et al.*, (1988). The table shows that both growers and miller member have scored Reliability as the highest dimension and Responsiveness as the lowest dimension. The CTS attributes that make up the Reliability service dimension, is general satisfaction, employee ability, testing accuracy satisfaction, testing frequency satisfaction and world class. The CTS attributes that make up the Responsive service dimension is recent improvements and continuous improvement. Of concern will be scores of less than five for growers and these include assurance, tangible and responsiveness. These three dimensions comprise eight CTS attributes and represent eighteen statements from the questionnaire. From a miller perspective, Tangibles and responsiveness score are below five. These service dimensions comprise four CTS attributes and four statements from the questionnaire.

#### 4.4.6 Reliability based on Cronbach's Alpha

For the CTS questionnaire the internal consistency of measure was used. This used the Cronbach's alpha to determine reliability. Table 4.8 shows the calculated Cronbach's alpha for each of the five service dimension for this study.

**Table 4.8 Cronbach's Alpha**

	2013	
	Cronbach's Alpha	Number of items
<b>CTS ATTRIBUTES as per service dimensions</b>		
Reliability	0.891	10
Empathy	0.795	7
Assurance	0.690	15
Tangibles	0.768	2
Responsiveness	0.762	2
Overall	0.942	36

A Cronbach's alpha score of greater than 0.60 implies good internal consistency. This study determined the Cronbach's alpha for a group of miller members from one MGB. A Cronbach's alpha score of less than 0.60 is considered poor and those in the range of 0.7 and above are acceptable and imply good internal consistency (Sekaran and Bougie, 2010). All the calculated Cronbach's alpha's for each service dimension was above 0.60 with the overall Cronbach alpha was calculated to be 0.942. This implied that the CTS questionnaire was measuring the attributes reliably.

#### 4.5 Discussion of Results

The overall objective was to identify the perceived levels of satisfaction with CTS's service and to identify if there has been any significant change since the previous study in 2003. To determine the overall objective, the specific objectives would have to have determined first.

Objective one was to establish the MGB members' perceptions of CTS in general and compare this to the perceptions held in 2003. The current overall perception of CTS by MGB members in terms of an average score is 5.134. A score of above

five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study has a score of above five which implies that the perceptions of CTS by MGB members are satisfactory.

The comparison between the 2003 and 2013 studies show that there was no significant difference between the perceptions of MGB members. This implies that there has been no change in the services offered by CTS, suggesting that CTS has been fulfilling its obligations to the MGB's in terms of their service level contacts.

Objective two is to determine millers' level of satisfaction with current services provided and compare this to perceptions held in 2003. The current overall perception of miller members of MGB in terms of an average score is 5.362. A score of above five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study has a score of above five which implies that the perceptions of CTS by miller members are satisfactory.

The comparison between the 2003 and 2013 studies show that there was no significant difference between the perceptions of miller members. This implies that there has been no change in the services offered by CTS, suggesting that CTS has been fulfilling its obligations to the MGB's in terms of their service level contacts.

Objective three is to determine growers' level of satisfaction with current services provided and compare this to perceptions held in 2003. The current overall perception of grower members of MGB in terms of an average score is 4.949. A score of above five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study has a score of below five which implies that the perceptions of CTS by grower members are not satisfactory and CTS is not fulfilling all its obligations.

The comparison between the 2003 and 2013 studies show that there was no significant difference between the perceptions of grower members. This implies that there has been no change in the services offered by CTS between both

studies. This is a concern for CTS management and needs to be addressed in their strategy to improve service quality.

Objective four is to identify perceived strengths and weaknesses of CTS with the intention of addressing and improving both actual and perceived weaknesses. To determine strengths and weakness within CTS, it was considered to focus on the individual attributes. The average perception scores for 2013 was compared to the average scores of 2003. An increase in a perception score would mean that CTS performed well therefor an increase in the perception score and can be treated as a strength. Similarly a decrease in a perception score can be treated as a weakness.

From Table 4.3, the strengths was identified as housekeeping, world class, cost effectiveness, general satisfaction, recent improvements, handling queries, impartiality and integrity, customer satisfaction and employee ability and the weaknesses as technical competence/effectiveness, monthly reports, continuous improvements, suitability of equipment, provision of information, testing frequency satisfaction and testing accuracy satisfaction. This must be used by CTS to rectify the weaknesses and enhance the strengths to ensure customer satisfaction.

Objective five was to compare millers and growers perceptions of CTS in 2013. The current overall perception of grower members was 4.949 and overall perception of miller members was 5.362. This showed there was no significant difference between grower and miller perceptions. A score of above five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study highlights that the growers has a score of below five which implies that the perceptions of CTS by grower members are not satisfactory and CTS is not fulfilling all its obligations.

#### **4.6 Summary**

The results presented in this chapter are a statistical overview and interpretation of the data collect by means of the CTS questionnaire. The questionnaire was validated and the reliability measures and both were acceptable. The results from the questionnaire showed no significant differences in overall perceptions of the MGB members, grower members and miller members between the 2003 and 2013

study. A comparison between miller and grower members for the 2013 study showed no significant differences between the overall perceptions although the miller members perceptions for all sixteen attributes was higher than that of the grower members. This implies that the miller members have a higher perception serve provided by CTS than the grower members. Although this study shows that the overall perceptions between the two studies are not significant, CTS management needs to heed the reasons for some of the perceptions for specific attributes declining in this period. The following chapter discusses the outcome from these findings.

## CHAPTER FIVE

### Discussion and Conclusion

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#### 5.1 Introduction

This chapter reviews the findings presented in the previous chapter and discusses them.

#### 5.2 Evaluation of the Responses

The study of 2013 yielded a response rate of 40% which is lower than the 2003 study where the response rate was 68%. This response rate equates to 59 completed questionnaires in the 2013 study and 115 completed questionnaires in the 2003 study. This could be due to the different formats of questionnaire used and the time period of the administering of the questionnaire. This study used an electronic questionnaire while the previous study had hard copies that were sent out to the members. The survey lasted six weeks whereas the previous study was undertaken in eight weeks. Another fact was that CTS is contracted to 13 MGB's whilst the study in 2003 was contracted to 14 MGB's of which one MGB is now defunct due to the mill closing down.

The completion rates for specific MGB's varied in the current study and when compared to the previous study there was generally a higher response rate per MGB. The highest completion rate for this study was from Eston with 88% of MGB having successfully responded or 7 members out of a possible 8 members completing the questionnaire. The lowest completion rate was from Darnall with a 10% completion rate or 1 member out of 10 members completing the questionnaire. In comparison to 2003, where the total response rate was 68%, there was also differences amongst the individual MGB's with Darnall producing a 100% response rate in 2003 and Komati the lowest at 39%.

#### 5.3 Perceptions by MGB Members

The overall performances with regards to average perceptions based on the sixteen attributes for CTS is shown in Table 5.1

**Table 5.1 Comparison of Overall perceptions**

	<b>MGB Members</b>		<b>Miller Members</b>		<b>Grower Members</b>	
	<b>2013</b>	<b>2003</b>	<b>2013</b>	<b>2003</b>	<b>2013</b>	<b>2003</b>
Overall	5.134	5.141	5.362	5.062	4.949	5.191

The overall scores show that for the combined MGB member there is very little difference between the two studies but the overall growers perception have decreased with the overall millers perceptions having increased. When looking at the individual attributes for CTS, there are a variation of increases and decreases in perceptions. The attributes that have shown a decline in the 2013 study compared to the 2003 study are shown in Table 5.2.

**Table 5.2 Attributes that Showed a Decline in Perceptions**

<b>MGB</b>	<b>Miller</b>	<b>Grower</b>
Technical Competence/ Effectiveness	Technical Competence/ Effectiveness	Technical Competence/ Effectiveness
Monthly Reports	Monthly Reports	Monthly Reports
Continuous Improvements	Continuous Improvements	Continuous Improvements
Suitability of Technology	Suitability of Technology	Suitability of Technology
Provision of Information	Provision of Information	Provision of Information
Testing Accuracy Satisfaction		Testing Accuracy Satisfaction
		Testing Frequency Satisfaction
		Employee Ability
		Customer Satisfaction
		Impartiality and Integrity

The concern from Table 5.2 is that there are five common attributes that have shown a decline for all groups notwithstanding the other declines. CTS need to try and understand if these declines are in fact a weakness in CTS and this

information needs to be used in developing a strategy to overcome the reasons for the decline.

#### **5.4 Research Problem and Findings**

The research was undertaken to determine levels of satisfaction, by stakeholders namely MGB members comprising of miller members and grower members, of CTS's delivery of service. This study was also to determine if there was any change from a previous study conducted in 2003. The study was conducted on 149 MGB members with a response rate of 40%.

##### **5.4.1 Research Objective One**

Objective one was to establish the MGB members' perceptions of CTS in general and compare this to the perceptions held in 2003.

The current overall perception of CTS by MGB members in terms of an average score is 5.134. A score of above five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study has a score of above five which implies that the perceptions of CTS by MGB members are satisfactory.

The comparison between the 2003 and 2013 studies show that there was no significant difference between the perceptions of MGB members. This implies that there has been no change in the services offered by CTS, suggesting that CTS has been fulfilling its obligations to the MGB's in terms of their service level contacts.

##### **5.4.2 Research Objective Two**

Objective two was to determine millers' level of satisfaction with current services provided and compare this to perceptions held in 2003.

The current overall perception of miller members of MGB in terms of an average score is 5.362. A score of above five implies that CTS is fulfilling their obligations to the miller members in terms of the service level agreement (Naidoo, 2003). The current study has a score of above five which implies that the perceptions of CTS by miller members are satisfactory.



The comparison between the 2003 and 2013 studies show that there was no significant difference between the perceptions of miller members. This implies that there has been no change in the services offered by CTS, suggesting that CTS has been fulfilling its obligations to the miller members in terms of their service level contacts.

#### **5.4.3 Research Objective Three**

Objective three was to determine growers' level of satisfaction with current services provided and compare this to perceptions held in 2003.

The current overall perception of grower members of MGB in terms of an average score is 4.949. A score of above five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study has a score of below five which implies that the perceptions of CTS by grower members are not satisfactory.

The comparison between the 2003 and 2013 studies show that there was no significant difference between the perceptions of grower members. This implies that there has been no significant change in the services offered by CTS between both studies. This is a concern for CTS management and needs to be addressed in their strategy to improve service quality.

#### **5.4.4 Research Objective Four**

Objective four was to identify perceived strengths and weaknesses of CTS with the intention of addressing and improving both actual and perceived weaknesses.

To determine strengths and weakness within CTS, it was considered to focus on the individual attributes. The average perception scores for 2013 was compared to the average scores of 2003. An increase in a perception score would mean that CTS performed well therefor an increase in the perception score and can be treated as a strength. Similarly a decrease in a perception score can be treated as a weakness.

From Table 4.3, the strengths identified was housekeeping, world class, cost effectiveness, general satisfaction, recent improvements, handling queries, impartiality and integrity, customer satisfaction and employee ability and the

weaknesses as technical competence/effectiveness, monthly reports, continuous improvements, suitability of equipment, provision of information, testing frequency satisfaction and testing accuracy satisfaction. This must be used by CTS to rectify the weaknesses and enhance the strengths.

#### **5.4.5 Research Objective Five**

Objective five was to compare millers and growers perceptions of CTS in 2013.

The current overall perception of grower members was 4.949 and overall perception of miller members was 5.362. This showed there was no significant difference between grower and miller perceptions. A score of above five implies that CTS is fulfilling their obligations to the MGB's in terms of the service level agreement (Naidoo, 2003). The current study highlights that the growers has a score of below five which implies that the perceptions of CTS by grower members are not satisfactory and CTS is not fulfilling all its obligations.

#### **5.5 Research Problem and Findings**

The research was undertaken to determine the levels of satisfaction, by stakeholders namely MGB members, miller members and grower members, of CTS's delivery of service. This study was also to determine if there was any change from a previous study conducted in 2003. The study was conducted on 149 MGB members with a response rate of 40%.

The overall objective was to identify the perceived levels of satisfaction with CTS's service and to identify if there has been any significant change since the previous study in 2003.

To determine the overall objective, the specific objectives would have to have met. Objective one, two and three had been achieved resulting in the overall objective being achieved. This implies that the perceived level of satisfaction of CTS's service is acceptable and when compared to the 2003 study there is no significant change in the levels of satisfaction.

## **5.6 Recommendations to Solve the Research Problem**

The issues with the decline in specific attributes are of specific concern to CTS. CTS need to implement service recovery as part of its strategy to remedy the shortcomings from this research. According to Zeithaml *et al.*, (2009), organisations have realised the important of implementing service recovery strategies for disappointed customers. Some of the service recovery strategies applicable to CTS can include

- Implement quality control mechanisms to assist in providing a service correctly the first time,
- Set up a dedicated e-mail address to encourage and track complaints,
- Complaints received should be resolved within 36 hours,
- Training and empowerment programmes for employees who deal with customers,
- Setting procedures and guidelines so all customers are treated equitably
- Networking opportunities to be created to strengthen customer relationships.

## **5.7 Recommendations for Future Studies**

The role and importance that customer satisfaction plays in the corporate environment and in profitability is highlighted by many researchers. (Lien and Kao, 2008; Ostrom, Iacobucci and Grayson, 1995). This should motivate organisations and especially enforce CTS to conduct regular customer satisfaction studies to monitor changes in the perceptions of stakeholders. This study should be conducted at least every five years to monitor if changes made by CTS management, to rectify any shortcomings, has been effective.

The research showed that there is no significant difference between miller members and grower members' perceptions, there is a difference with grower members perceptions being lower than that of the miller members (4.949 compared to 5.362). This difference may not be due to CTS not delivering quality service but the expectations are different from the grower and miller members. A

future study could be where the expectations of millers and grower could be researched and this be used to change CTS's service delivery to meet the expectation.

The grower members on the MGB total 79 but these members' represent 29 130 growers in the industry. These growers can liaise directly with the CTS manager with issues that they experience with their analytical results. A customer focused survey can be introduced with this community on their interactions with CTS.

## **5.8 Limitations of the Study**

The study did not achieve all that was set out to achieve. One set of data that could not be achieved was due to the response rates for individual MGB's was lower and as such detailed analyses between different MGB's could not be achieved. There are possible reasons that the response rate was lower than the 2003 study and these could be

- The survey was conducted via an online questionnaire. This may not have been welcomed by all as some CTS managers did provide feedback that some respondents did not like the online survey and would have preferred a physical copy of the questionnaire to complete,
- Time was a major factor for the research process,
- The low response rate could not be controlled as it was a self-administered questionnaire and with low response rates, the findings obtained may not represent the population.
- There are newer MGB members that represent the small scale growers and some may not have had internet access although it was requested that those who do not have access to contact their local CTS Manager to assist them.

## **5.9 Summary**

The 2013 study was conducted to determine perceptions by MGB members on the services provide by CTS. These services were concentrated along sixteen attributes that engulf the services that CTS provides. The research was conducted on 149 MGB members with a response rate of 40%. From the perceptions of the respondents it was determined that the level of satisfaction of services provided by

CTS was satisfactory and there was no significant difference with the study conducted in 2003. By inference, there is no change to the perceptions of all MGB members between both studies. As much as there was no significant difference in perceptions between both studies and between millers and grower in the current study, the startling facts was that perceptions of some CTS attributes have declined and these need to be addressed by CTS management and a strategy needs to be implemented to improve on these attributes. Some recommendations regarding a service recovery strategy were made.

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**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

Dear Respondent,

**MBA Research Project**

**Researcher:** Pragalathan Govender (Eric) (0823214608)

**Supervisor:** Alec Bozas (0823344477)

**Research Office:** Ms P Ximba 031-2603587

I, Pragalathan Govender (Eric) am a MBA student, at the Graduate School of Business and Leadership, of the University of KwaZulu Natal and the Technical Manager at the Cane Testing Service. You are invited to participate in a research project entitled **Stakeholder Perceptions of the South African Sugar Association's Cane Testing Service Division**. The aim of this study is to determine current levels of customer satisfaction and to improve service delivery by CTS. Through your participation I hope to understand the current issues with CTS's service delivery. The results of this survey are intended to contribute to ensuring CTS continues to deliver a quality service to the industry.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN. If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_

**This page is to be retained by participant**

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**MBA Research Project**

**Researcher:** Pragalathan Govender (Eric) (0823214608)

**Supervisor:** Alec Bozas (0823344477)

**Research Office:** Ms P Ximba 031-2603587

**CONSENT**

I..... (Full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT

DATE

.....

**This page is to be retained by researcher**

**SOUTH AFRICAN SUGAR ASSOCIATION  
CANE TESTING SERVICE  
CUSTOMER SURVEY  
2013**

**GUIDELINES FOR QUESTIONNAIRE COMPLETION AND RETURN**

On the following pages you will find several statements designed to obtain your perceptions of the Cane Testing Service. The survey is divided into different sections, each of which has specific completion instructions. Please read these statements carefully, but try to respond to them as quickly and spontaneously as possible. Please respond as honestly and frankly as possible. This is essential, as the information obtained from the survey will be used to help improve our service to you.

Thank you for your participation.

**CANE TESTING SERVICE  
CUSTOMER SURVEY  
PART ONE – GENERAL INFORMATION**

**Please select your response**

1. I am a member of the following Mill Group Board

- Umzimkulu
- Sezela
- Eston
- Noodsberg
- Maidstone
- Gledhow
- Darnall
- Amatikulu
- Felixton
- Umfolozi
- Pongola
- Komati
- Malelane

2. How many years have you been a MGB member

- Less than 2 years
- 2 - 7 years
- 8 – 12 years
- 13 years +

3. I represent the following group.

- Miller
- Grower

## PART TWO

Listed below are a number of statements that might be used to describe the Cane Testing Service. Please select the response that in your opinion describes the Cane Testing Service. Please try to be as objective as you can in deciding how accurately each statement describes your view of the Cane Testing Service.

**Please note:** Some statements are expressed negatively (i.e. an 'Agree' response indicates a weakness in CTS), and some positively (i.e. an 'agree' response indicates a strength in CTS).

**How well, in your opinion, does each of the following statements describe the Cane Testing Service?**

	1. Very Bad	2. Badly	3. Not Very Bad	4. Uncertain	5. Fairly Well	6. Well	7. Very Well
1. The Cane Testing Service can be completely trusted to make fair and impartial decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The Cane Testing Service seems to carry on doing things the way they have always done them, despite the need for change and improvement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. There has been a marked improvement in the performance of the CTS during the past year or so.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The performance of the Cane Testing Service would be greatly improved if their staff were more competent and dedicated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The benefits to us of the Cane Testing service far outweigh its cost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. When I have queries I am highly satisfied with the concern and attention these are given.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The information provided by the Cane Testing Service could be far more useful and user-friendly than it is at present.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The Cane Testing Service places a high value on the importance of customer satisfaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. One can feel completely confident about the way Cane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Testing Service is managing its budget and controlling expenditure.							
10. The accuracy with which testing is performed by the Cane Testing Service is reliable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. There are times when I think that the Cane Testing Service could perform its task with a greater degree of competency and effectiveness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. If only Cane Testing Service would use more up-to-date technology they would be able to achieve their results more effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. In my opinion, Cane Testing service is truly a world-class operation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. One of the things that pleases me is the general appearance of the Cane Testing Service laboratory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. The monthly reports given by the Cane Testing Service to the Mill Group Board could be greatly improved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I really need to be kept more up-to-date by Cane Testing Service regarding its operational and analytical performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### PART THREE

Each of the following statements below is something you may or may not say about the Cane Testing Service. Please indicate the extent to which they match your own view by select a response.

	1. Strongly disagree	2. Disagree	3. Slightly Disagree	4. Neutral	5. Slightly Agree	6. Agree	7. Strongly Agree
1. The DAC system is the most cost-effective system for testing cane.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. It is essential that there is an impartial body to test cane.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The Cane Testing Service cannot be completely trusted to act impartially in applying the Sugar Industry Agreement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The Cane Testing Service is definitely good value for money.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. There could be a huge improvement to the quality and type of information the Cane Testing Service provides.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. One of the Cane Testing Service's strengths is the fact that it is staffed by highly competent and experienced employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The Cane Testing Service's performance in achieving the test frequency level as set by the Mill Group Board is very satisfactory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Generally speaking I am highly satisfied with the performance of the Cane Testing Service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The Cane Testing Manager can be completely relied on to withstand attempts to sway him/her with pressure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. There is definitely not enough emphasis placed on the level of customer service provided by the Cane Testing Service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. The explanations given by the Cane Testing service for variations in test results are not very convincing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. The Cane Testing Service's explanation when the target test frequency is not achieved is acceptable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## PART FOUR

Please indicate how satisfied you are with each of the following aspects of the Cane Testing Service's performance.

**How satisfied are you with each of the following aspects of Cane Testing Service's performance?**

	1. Extremely Dissatisfied	2. Dissatisfied	3. Slightly Dissatisfied	4. Neutral	5. Slightly Satisfied	6. Satisfied	7. Extremely Satisfied
1. The extent to which the Cane Testing Service can be relied upon to make fair and impartial decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The extent to which the Cane Testing Service is staffed by competent employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The efficient way in which the Cane Testing Service handles queries and problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The efficient way in which the Cane Testing Service handles queries and problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The level of commitment to customer service that the Cane Testing Service demonstrates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The extent to which the information provided to us is meaningful and useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The degree of control that the Cane Testing Service exerts over its costs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The professionalism with which our queries and problems are handled.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The accuracy with which the testing is performed by Cane Testing Service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## PART FIVE

Please respond to the following questions in the space provided.

1. Is there any other feedback you can give us about your views on Cane Testing Service in general or the local centre in particular?

2. Are there any ways in which the service provided to you by the Cane Testing Service could be improved?

3. I have/have not had a tour of the local Cane Testing Service operation.

4. I would/would not like to have a tour of the local Cane Testing Service centre.

5. General comments. (Any other points you would like to add.)



07 November 2013

Mr Praglathan Govender (204513375)  
Graduate School of Business & Leadership  
Westville Campus

Protocol reference number: HSS/1134/013M  
Project title: Stakeholder perceptions of the South Africa Sugar Association's Cane Testing Service Division

Dear Mr Govender,

**Expedited Approval**

I wish to inform you that your application has been granted Full Approval.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....  
Dr Shenuka Singh (Acting Chair)

/ms

cc Supervisor: Mr Alec Bozas  
cc Academic Leader Research: Dr E Munapo  
cc School Administrator: Ms Wendy Clarke

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Humanities & Social Sciences Research Ethics Committee

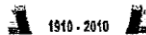
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PJMS/PN  
19 September 2013

Graduate School of Business and Leadership  
UKZN

To whom it may concern

**EMPLOYER APPROVAL OF DISSERTATION TOPIC AND METHODOLOGY**

I am authorised to advise that the South African Sugar Association approves of the topic and methodology to be pursued by Mr. Pragalathan Govender UKZN Student Number 204513375 in the undertaking of his MBA dissertation. His topic is "Stakeholder Perceptions of the South African Sugar Association Cane Testing Service Division".

Please contact me with any queries.

Yours faithfully

A handwritten signature in black ink, appearing to read 'PJ Milner-Smyth', written over a light blue horizontal line.

**PJ MILNER-SMYTH**  
Human Resources Executive