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# Customer Satisfaction Levels at Caltex Oil SA

By

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TO WHOM IT MAY CONCERN

RE : CONFIDENTIALITY CLAUSE

Due to the strategic importance of this research it would be appreciated if the contents remain confidential and not be circulated for a period of five years.

Sincerely

S.Prithvirajh

096993

DECLARATION

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

Signed .....  .....

Date ..... 08/06/2004 .....

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The staff and retailers of Caltex Oil SA for their support and encouragement.

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## ABSTRACT

Global pressures from within the oil industry has decreased profitability of retail operations which has affected the large oil companies as well as franchisees. A point of differentiation that has been identified is customer service and although all the major players have more or less the same training programmes – they are internally generated. There is very little literature to suggest that oil companies carry out customer perception surveys and to this end, this research has been tailored. Although it is impossible to react to all customer's perceptions, there may be benefits in conducting further research if certain aspects are highlighted by different respondents.

Using SERVQUAL as the basic measuring instrument of customer satisfaction, it was adapted to suite the petroleum industry. Caltex Oil SA uses an independent auditor Market Pulse and the main points of this questionnaire were incorporated in the study. It is important to note that the Market Pulse audit is internally generated, measuring the retailer's compliance to Caltex standards. A new questionnaire was then developed to measure customer's expectations and their perceptions of what a good service station should offer. The gaps were then statistically identified and explored, and, possible solutions to close these gaps are generated.

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## **CHAPTER ONE**

### **1.1 INTRODUCTION**

Increasingly, retail operations across a variety of industries are trying to use customer service as a point of differentiation. Caltex Oil S.A. operates in a highly competitive environment in the Durban area, and, with Engen, Shell, Total, BP and Sasol, the customer is spoilt for choice. The customer is the essence, the reason for existence, for all these organisations. It is therefore necessary that all retail activities must be measured from a customer's perspective. Although Caltex Oil S.A. has many internally generated checks and balances, the customer's perception of service delivery is rarely measured in any structured format.

This dissertation sets out to use an adapted form of SERVQUAL to measure customer's expectations of an excellent service station. These responses are then compared to their perceptions of Caltex service stations. All responses are statistically analysed and gaps between the expectations and perceptions are identified.

The results of this research give insight in what customers want from a service station and highlights where Caltex is falling short. Possible recommendations are made in chapter five and it is the decision of senior management to commission further research into these findings.

### **1.2 BACKGROUND OF THE RESEARCH**

Caltex Oil South Africa is a wholly owned subsidiary of Chevron Texaco based in San Ramon in the US. This multi – national operates under the Caltex brand in Africa, Middle East, Asia, Australia and New Zealand. In South Africa, Caltex has gradually seen an erosion of its market share due to a combination of factors. It operates in one of the few regulated markets in the

world, which is the largest on the African continent. Most of the intellectual capital is based on deregulated markets. Other oil companies have been more aggressive in their marketing whilst Caltex Oil S.A. (COSA) has to compete with other geographies for capital expenditure.

In a regulated market, the government determines the selling price of fuel. Due to the shortage of oil in the 1970's, the government also placed other restrictions on the industry. Service stations cannot individually promote the sale of fuel with promotions as this is deemed as "conditional selling" and is in violation with regulations as set out by the Department of Mineral & Energy. One of the reasons for this regulation is that smaller, independent service stations will not be able to compete with those owned by large retail organisations. Shell at Pick n Pay Hypermarket is owned by Pick n Pay and in a deregulated market, Pick n Pay would be able to use the fuel price to attract more customers to its retail operations. This will force many service stations to go out of business and when one considers the number of attendants that will lose their jobs – it is little wonder that COSATU is one of the strongest voices against deregulation. However, there are equally strong advocates for a deregulated market led by Raymond Ackerman who has vowed to see a deregulated market in his life - time.

With such restrictive governance over the industry, customer service was considered the differentiator between the brands but this is no longer the case. Quality customer service is the understood foundation of any retail operations and is expected as a norm by customers. Customers look at the broader offering from the RATER factors to an organisations service recovery. Customers study the promise made by the brand and evaluate it constantly. Customers today have more information available to them than any time in history and they have become extremely discerning.

It is for this reason that their perceptions of the brand has to be studied – their emotional ties to the brand across a spectrum of interactions with both people or tangible elements of the brand.

### **1.3 VALUE OF THIS PROJECT**

According to the research for this project, a study of this nature in this industry has not been undertaken before. All oil companies have audits of their service both overt and covert but the customer's perceptions of the Caltex brand has not been measured. This study will shed light on how customers view Caltex as an organisation – hopefully highlighting shortfalls so that Caltex can better focus its efforts on their positioning in customers minds.

### **1.4 MOTIVATION FOR THE RESEARCH**

Caltex has been gradually losing market share in the Durban area. One of the reasons that are constantly quoted is that the brand is underrepresented – to few service stations in this locality as compared to the competitors. Another reason stated is that the opposition have better facilities on their forecourts, offer better service, have more attractive offerings in the convenience stores, larger forecourts, and better products. All this however is mere speculation and if Caltex has to address all these issues, it is an extremely costly exercise that may not be the problem. This study will attempt to quantify how customers perceive the Caltex brand in Durban North and attempt to identify strategies to rectify the situation.

### **1.5 PROBLEM STATEMENT**

Due to the lack of information concerning customer perceptions and customer satisfaction levels at Caltex, the following “problem statement” was identified: What is customer satisfaction at Caltex Oil SA ?

### **1.6 OBJECTIVES**

- To identify a measurement scale for customer satisfaction by conducting the appropriate literature research and by reviewing present policies and processes adopted by Caltex in analysing these levels.

- To measure customer satisfaction at Caltex Service Stations in the “Durban North area”.
- To make recommendations that will constructively enhance the present service quality programme.

## **1.7 RESEARCH METHODOLOGY**

This type of research design is a cross sectional analytical intercept survey method. The study involves a more quantitative approach to research, an approach that provides more structure and control. Internal Validity will be checked against the review of the related literature (i. e: the accuracy of the measurement scale, namely the adapted “Servqual” instrument which has been chosen), and will also be checked using the feedback obtained from focus groups held with a few corporate executives. Internal Consistency will be tested using the results from the Cronbach coefficient alphas. Choosing a very representative, non-bias sample of the population will ensure external validity. To ensure reliability within this process, the questionnaire is well designed and that the interviewer is well trained. Cronbach Coefficient Apha correlations will also be used to test for reliability .

Good questionnaire design techniques will be applied in accordance with the available theory and previously designed questionnaires. The population of users will be all customers to our nominated Service Stations. The sampling technique applied will be a form of probability sampling namely systematic sampling. The population size will be approximated. A sample size of 120 questionnaires will be chosen, 20 from each nominated Service Station.

All statistical analysis will be conducted using the SPSS (version 11.5) software suite. This Statistical software program is manufactured by SPSS Inc, 444N. Michigan Avenue, Chicago, Illinois, USA. For our analysis we will run various descriptive statistics on our demographic data such as frequency

tables and we will also draft the appropriate graphical illustrations where necessary such as bar and pie charts, and, histograms. Arithmetic means and standard deviations will also be calculated where appropriate. Zones of Tolerance will also be calculated on behalf of the customer i.e : the study will build 95% confidence intervals for population mean expectations per dimension. Hypothesis tests will then be run to test if the population perception means fall within these calculated confidence intervals. Based on the results of such analysis recommendations will be made to Caltex Oil South Africa with regards quality assurance.

## **1.8 DELIMITATIONS**

The study is delimited to the Durban North suburb of the Durban Metro within Kwazulu Natal. (See attached Map in Appendix) .The study is also delimited by both time and budget constraints, as it is an academic MBA Thesis and not a commercially funded venture.

## **1.9 ASSUMPTIONS**

It has to be assumed that the population statistics provided by the specific Service Station are accurate. It also has to be assumed that the Measuring instrument is valid, that the interviewer is well trained, and that the respondents respond truthfully.

## **1.10 STRUCTURE OF THE RESEARCH**

The study will be presented in following chapters:

### **1.10.1 Chapter Two – Review of the Related Literature**

This chapter will review the related literature on measuring service quality. The increasing importance over the last few years of quality service as a means of gaining competitive advantage has seen the emergence of

comprehensive programs to research customers expectations and perception of service quality. According to “Palmer” the most widely adopted approach thus far has been that suggested by Parasuraman , Zeithami and Berry (1985) who have developed the Service Quality “Servqual “ methodology. The Servqual is a multi -item scale for measuring consumer perceptions of service quality.

Today numerous applied research companies use the “ Servqual “ instrument as an adapted measuring instrument to measure Customer Satisfaction within their industry. In this study the theory on “Servqual” is combined with previous studies on quality management conducted by Caltex to structure an adapted measuring instrument of Customer Satisfaction.

#### **1.10.2 Chapter Three – The Research Design and Methodology**

This type of research is a cross sectional analytical survey using more quantitative rather than qualitative research. Validity and reliability issues are discussed and the adapted measuring instrument presented.

#### **1.10.3 Chapter Four – The Data Design and Collection**

The population consists of all users of pre selected Caltex service stations. From this group days of the week and times of the day will be randomly chosen. From this a combination of systematic and convenience sampling will be applied choosing 20 clients per service station. Users will be identified and interviewed.

The questionnaire will consist of an introductory letter, a demographic section that will consist mostly of categorical variables some measured on a nominal scale and some measured on an ordinal scale. The body of the questionnaire will consist of two parts. The first part will measure expectations of the clients of a petroleum service station and the second part will measure perceptions of

clients of Caltex . Note that these questions will be adapted from the theory of Servqual and from previously designed questionnaires within Caltex. Both sections will ask questions in a similar fashion. As per the literature - search Customer Satisfaction will be broken down into five sub areas to be measured namely: tangibles, responsiveness, reliability and assurance. Each of these sub areas will compose of six questions interspersed throughout the questionnaire. All questions will be worded using the correct methodologies. Most questions will be measured using the likeart scale but we will also use dichotomous variables and a qualitative open ended question.

#### **1.10.4 Chapter Five- Recommendations and Conclusions**

This chapter will highlight recommendations and conclusions based on the findings of the study.

#### **1.11 SUMMARY**

To measure the level of customer satisfaction for a service, the results for perceptions and expectations need to be calculated for each customer. The gaps between expectations and perceptions can be very helpful. The type of research design is a cross sectional analytical survey method. A more dominant quantitative approach is used in the analysis as in this type of research cause and effect relationships can be easily identified and the research is more structured and controlled.

This research dissertation is aimed at identifying the key factors that impact on the levels of service at Caltex Oil SA and an attempt at evaluating the effects of the service levels to determine what actions are necessary to improve the levels of service at these retail facilities. Based on the outcomes of the research, recommendations will be made for further investigations or actions.

## CHAPTER 2

### HOW TO MEASURE SERVICE/GOODS QUALITY?

#### 2.1 INTRODUCTION

Recently the globalization of world markets has seen American companies loosing market share especially to the Asian markets. This has prompted a focus on the concept of "Total Quality Management" in an attempt to get an edge over competitors. Within "The Total Quality Management" spectrum falls the arena of "Service Quality". This is the partly an area where this study concentrates on. Over the last ten years there has been numerous research in the area of service quality. This study focuses on the conceptualization of service quality as it is viewed within the petroleum industry, it also discusses the various approaches available to measuring it, the advantages and disadvantages to each approach and finally why an "adapted" *Servqual Instrument* is regarded as the best available measuring tool for quantifying service quality within the petroleum industry. "Adapted" as it combines the theory with available pre defined measuring instruments which measure technical specifications of a service station namely the internationally accepted Market Pulse Audit developed in Australia.

According to "Palmer" there is a difference between service quality in goods provision related industries, and, service provision related industries, in that the former is more easily testable and the later is not only more difficult to quantify but can only be measured once the service is consumed.

An understanding what service dimensions are, is important to both the customer and the organisation. One cannot assume they are the same. Also customers have certain expectations of both the service provider and the services they offer and usually both these expectations are very closely linked.

## **2.2 WHAT DO WE MEAN BY SERVICE / GOODS QUALITY?**

According to (Palmer 1998) organizations must establish requirements and specifications and once established, the quality goal of the various functions of an organization is to comply strictly with these specifications. However, the questions remain: whose requirements and whose specifications? The organizations or the customers. A second series of definitions is all about fitness for use (Juran, 1982), a definition based on satisfying customers' needs. According to Palmer (1998) both these definitions can be limited in the concept of customer perceived quality - quality can only be defined by customers and occurs where an organization supplies goods or services to a specification that satisfies their needs. This is an area where Caltex is seriously lacking at present within its market research intelligence system it only conducts one internationally accepted store audit programme developed by management at all its locations with no consideration at all to regionally accepted customer audits.

### **2.2.1 What is Service versus Goods Quality?**

If quality is defined as the extent to which a service meets customers' requirements, the problem is to identify just what those requirements are.

According to Odayar(2003) Service quality is a highly abstract construct as opposed to goods quality in which technical features dominate and can more easily be scored. The conceptualization of service quality begins by trying to understand exactly what customer expectations of service quality are and then measuring how the perceived service quality measures up to these expectations. In this way, a service which is perceived as being of average standard may be considered of high quality when compared against low expectations, but of low quality when measured against high expectations, In

the case of Caltex the process of Petroleum delivery at a service station is a combination of both service delivery and goods delivery and any attempt of measuring it needs to accommodate both these dimensions.

### **2.3 VARIOUS TECHNIQUES APPLIED IN RESEARCHING SERVICE QUALITY.**

Zeithaml, Parasuraman and Berry (1990) specifically mention that any measuring instruments developed for "Service quality " should satisfy certain criteria namely that they should be :

- *Varied* . Every research method has its limitations and in order to overcome this and to achieve a comprehensive insight into a problem, a combination of qualitative and quantitative research techniques should be used.
- *Ongoing* . The expectations and perceptions of customers are constantly changing as is the nature of the service offer provided by companies and their competitors. It is therefore important that a service research process is administered on a continuous basis so that any changes can be picked up quickly and acted upon if necessary.
- *Undertaken with employees* . The closeness of staff to customers within the services sector makes it important that they are asked about problems and possible improvements as well as their personal motivations and requirements.
- *Shared with employees* . Employees' performance in delivering service quality may be improved if they are made aware of the results of studies of customer expectations complaint analysis, etc.

### **2.3.1 Mystery Customers**

Mystery shoppers are used extensively in the retail industry to judge service delivery. This is essential to monitor staff and provide meaningful insights into potential gaps that may exist. According to Palmer (1998), covert auditing must be conducted by trained personnel using a template approach that must be partly constructed by staff themselves. Staff that is unwilling to meet preset specifications for service delivery can be identified, retrained or managed out of the system.

If these techniques are applied correctly, management will know what is really happening during staff interaction with customers. These covert audits need to be undertaken independently, should be objective and must be consistent. The training of auditors is critical to the effective use of this research method and should include, for example training in observation techniques.

### **2.3.2 Transaction Analysis**

Companies can judge their own performance based on recent transactions. It allows a company to judge customers satisfaction especially with regards to the contact person with whom the transaction was conducted. This provides an overall insight into the company. This research is done by means of a mail out survey that is sent after the transaction and then analysed. Staff can receive a reward if the analysis is favourable.

### **2.3.3 Ongoing Customer Surveys**

With global competition, organizations have been trying to find that differentiating factor which makes them stand out from competitors in the customers mind. Customers are spoilt for choice and if a company wants to be number one on the customer's choice list, they have to incorporate a process of constantly listening to their clients. As such a few companies have made it a policy to regularly conduct surveys to satisfy this very thing.

A few examples of such surveys include a questionnaire one fills out in an aeroplane, surveys conducted in hospitals, restaurants and so on. Although a few of these assist management in practical decision making, the majority of such surveys smack of token marketing where branding seems to be the norm rather than actually listening to the customers complaints which end up being hardly acted on. An example of two such as found in fast food outlets are illustrated below i.e:

**Woolworths**  
**café**

## customer comment form

please help us make your "café experience" an even better one by completing this form

	very good	good	average	poor
was your order accurate and complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
did our food meet your expectations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
how do you rate our coffee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
does our service impress you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
how do you rate our beverage selection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
overall, how do you rate us?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

your comments and suggestions \_\_\_\_\_

---

when was your visit?

mon  tue  wed  thurs  fri  sat  sun

09:00-11:00  11:00-15:00  15:00-17:00  17:00-21:00

how often do you visit the Woolworths café?

	week	month
once	<input type="checkbox"/>	<input type="checkbox"/>
twice	<input type="checkbox"/>	<input type="checkbox"/>
three times or more	<input type="checkbox"/>	<input type="checkbox"/>

what is your favourite Woolies café beverage / meal? \_\_\_\_\_

---

would we contact you regarding your visit? yes  no

name: \_\_\_\_\_ tel: \_\_\_\_\_



## Customers Comments

KFC is committed to serve  
great tasting complete meals  
at affordable everyday prices

Tell us what you think!

Pleasing our customers is the most important service we offer.  
You can help us maintain this service by taking a minute  
to answer the questions below.

**Please tick appropriate block:**

C	Was the restaurant clean ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
H	Did you receive excellent hospitality ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A	Was your order accurate ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
M	Was the restaurant well maintained ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
P	Was the product consistent with other KFC's ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
S	Where you served speedily ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Date of visit : \_\_\_\_\_ Time of visit ? \_\_\_\_\_

Server Name : \_\_\_\_\_

How can we serve you better ? \_\_\_\_\_

What would make you return more frequently ? \_\_\_\_\_

Please write any comments or suggestions you may have (especially if you feel strongly about any of the above) \_\_\_\_\_

**Please tick :**

Male  Female    Age group    Under 12    12-15    16-25    26-45    46+

Name : \_\_\_\_\_

Address : \_\_\_\_\_

Post Code : \_\_\_\_\_ Telephone : (    ) \_\_\_\_\_

24 HOUR CUSTOMER CARE LINE 0860 100 222

Please feel free to discuss any aspect of our food, service or restaurant with the Store Manager who will deal with any problems immediately.

### 2.3.4 Customer Panels

This form of research is used extensively amongst retailers within the FMCG markets to monitor market share and Brand loyalty amongst a specific group of customers who are tracked over a lengthy period of time. This form of research assists organizations to anticipate problems early on and to react when the problem is still at an embryonic phase.

The biggest drawback of this form of research is the representative-ness of the panel as a whole. The sample of panel conveners may be bias with respect to numerous dimensions and demographics.

### **2.3.5 Perception Surveys**

This tool is used by numerous organizations in developing marketing strategies. Knowing how customers view an organization, in other words, helps the firm see itself as clients see it. The qualitative portion of the study involves group discussions and/or in-depth interviews where researchers attempt to identify the attitudes *of* clients (past, present and future) towards the firm as well as how the firm is perceived by the community at large (this may involve eliciting information from journalists, intermediaries and even competitors). The quantitative phase includes asking clients a series of attitude statements included within a survey.

### **2.3.6 Employee Research**

This is used on an ongoing basis within companies via staff development seminars, training programs, reporting systems, quality circle workshops and suggestion boxes. The constructive proposals offered by employees can assist the company in providing its services more efficiently and more effectively.

### **2.3.7 Similar Industry Studies**

Obviously researchers can learn from and adapt where necessary from similar industry studies. As an example Servqual was originally conducted in the hospitality industry and later adapted from this to the hospital industry.

Benchmarking is frequently used to describe the process by which companies set standards for themselves, based on a study of best practice elsewhere

### **2.3.8 Analysis of Complaints**

Tracking the complaints of customers provides an invaluable source of problem diagnostics.

### **2.3.9 More Contemporary Service Quality Research**

Recently more comprehensive programmes to research service quality have emerged. These include a thorough investigation of the comparisons of how customers expect a service to perform and how it is actually performing. The most popular technique being applied in industry today is the "Servqual" measuring instrument which is elaborated on in more detail below.

## **2.4 VARIOUS TECHNIQUES APPLIED IN RESEARCHING AND PROMOTING SERVICE QUALITY BY THE COMPETITORS.**

Very little research on service quality from the customers point of view is done by service stations in the petroleum industry. The only available study sourced via the internet is surveys conducted by Shell, which are discussed in more detail in 2.4.1.

### **2.4.1 Shell's customer satisfaction department strives for excellence**

In a global organization like Shell, customer satisfaction surveying, both internal and external, is vital, complex and ongoing. Shell's customer satisfaction department, based in Melbourne Australia, has a growing reputation within the company for its high-quality surveying methodologies, analysis of results and efficiency. A victim of its own success, the team was finding itself under increasing pressure, as requests for help with customer satisfaction surveys rolled-in from Shell's three international regions. The team usually designed and formatted each survey from scratch, but as demand increased, they looked for an innovative technology solution to help them with their workload, while maintaining their trademark quality and efficiency.

Shell's customer satisfaction department carried out a thorough search for available software solutions and "Right Now" Metrics was the clear winner. The Metrics survey tool, which is a part of "Right Now Service™" was selected as a hosted stand-alone application, as it suited Shell's needs

perfectly. Shell needed a software solution that would allow fast and simple creation of various types of surveys and also allow analysis of results. Using “Right Now” Metrics would mean employees could access the software globally via the Internet.

Using Metrics, Shell’s global customer satisfaction team constructs ad-hoc surveys in a fraction of the time it used to take. The streamlined survey design process made possible by Metrics allows the team to simply enter the survey questions and send them via email to the respondent. Previously, they had to design the survey and manually program it into a Web format.

So far, Shell has used Metrics to construct, distribute and analyze approximately 20 surveys, both internal and external. These have included surveys of the Shell social club membership, customer service satisfaction surveys following a hardware implementation, human resources leadership surveys, feedback surveys for senior management and a survey to assess SAP user training needs prior to an upgrade. Each of these surveys had approximately 100 to 200 respondents. Response rates have averaged above 50 percent, which is a much higher rate than for typical survey methods.

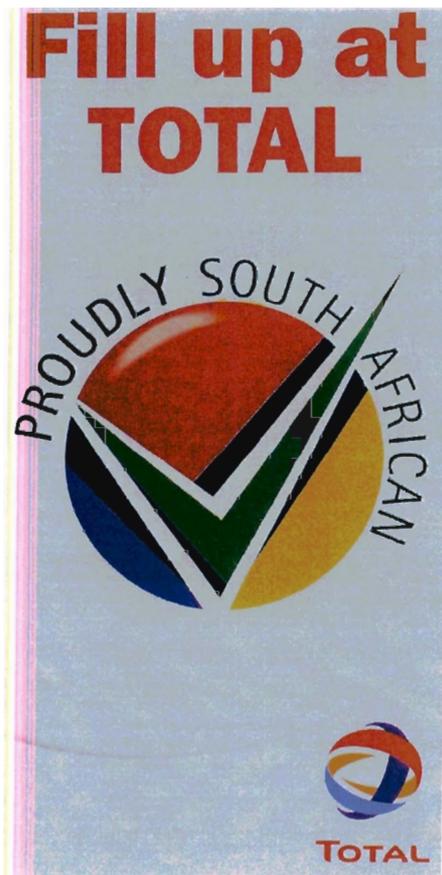
When it comes to analysis of survey results, “Right Now” Metrics simplifies that part of the process as well. Once a respondent completes a survey, the results are automatically added to a database and instantly analyzed. A summary report is also produced automatically and the results can be viewed in a variety of graphical representations, such as pie or bar charts. In addition, survey results can also be extracted into Excel for more in-depth analysis.

Metrics at Shell has resulted in its uptake by departments in all three international regions. Metrics is a simple application to use, which means that individual departments now have the ability to conduct ad-hoc internal

and external customer satisfaction surveys without seeking the assistance from the customer satisfaction department. This is not only empowering for individual departments, but it also frees-up the customer satisfaction department to concentrate on more in-depth surveys and analysis. The other competitors are doing very little on this level.

#### **2.4.2 The Proudly South African Approach by Total**

Although the images below are not exactly an alternative form of research, they are an indication of what the competition is doing in South Africa within the petroleum retail industry in order to reposition themselves within the mind of the customer and as such become relevant to the study. Proudly South African is a very topical theme at present and here Total is taking advantage of this and letting their own customers know.



### **2.4.3 Various approaches in promoting Service in Singapore Petroleum**

This company promotes its services rigorously on the internet as part of its' overall marketing program and it registers itself on numerous search engines under the category of "petroleum customer service" , one of the few players in the industry to do so. This lends one to think that it is extremely dynamic and a vigorous advocator of service quality. This company can be found at [www.spc.com](http://www.spc.com) and a sampling of some of the information at this web site is highlighted below.

**Singapore Petroleum Company Limited (SPC)**, founded in 1969, is today a regional oil and gas company with interest in oil and gas development and production, refining, terminalling and distribution, marketing and trading of crude and refined petroleum products.

SPC's activities are focused on four strategic business units. These are upstream, midstream, downstream and gas to power.

SPC's assets are world class, utilising state-of-the-art technology to deliver premium products and first class services to our customers. SPC's refinery situated on Jurong Island has been consistently ranked in the top quartile of refineries worldwide and is well positioned to capitalise on growth opportunities in the petroleum and petrochemical industry in the region. On Pulau Sebarok, SPC has a sophisticated storage and terminalling facility utilising advanced instrumentation and technology to ensure fast turnaround. The energy demand of the region is expected to grow strongly and SPC will benefit from this growth.

Despite the competitive landscape and many challenges in the oil and gas industry, SPC is confident that together with all its stakeholders it has the talents, assets and strengths to ride the wave and emerge as a premier oil and gas company in this region.

A few of the examples of various promotions run by the company are portrayed below :

Exciting, value-added sales promotions are available at SPC service stations on an ongoing basis to meet different customers' needs and expectations. Take advantage of these goodies at your next visit to a SPC service station. Promotions such as various food promotions are ongoing and marketed via their web site. Reciprocity marketing is conducted via the local radio station With reciprocal web site links and promotions and competitions.

Information on fuel and all contact details including Hot line services is extremely extensive.

The convenience store called Choice is well marketed on the web site. Choices offers the convenience of a one-stop shop for your daily staples and more while you fill up. It offers a wide selection of goods ranging from snacks to breakfast items and from toiletries to car care. All of this in a clean and friendly environment.

Finally the one stop garage concept ranging from fuel requirements to car servicing is well punted on the web. Speedy Care is a brand new SPC Lubricant Sales Department's initiative to provide a one-stop car care service for motorists. The focus is on providing a complete service package to customers and end-users of SPC lubricants. SPC operates five car servicing centres under speedy care.

**The three basic premise of Speedy Care are:**

1. Speedy Service – understanding that time is valuable to customer. Prompt comprehensive service and work efficiency is central to excellent service delivery. (Operational Excellence)

2. Professional Mechanics – training beyond technical know-how. Customer relationship management and response are also part of professional training. (Technical Excellence)

3. Personal Care – understanding that the key to long-term success rest in the ability to gain and maintain the trust and confidence of satisfied customers. (Service Excellence)

Speedy Care in essence is beyond car repair and lube oil change.

Speedy Care is about providing genuine perceivable and tangible value (benefits) to customers.

Speedy Care is about providing an intimate service encounter that exceeds customer's expectations.

## **2.5 AN OVERVIEW OF THE SERVQUAL MEASURING INSTRUMENT**

The Servqual measuring instrument has been used numerously in different industries in an attempt to quantify the level of service quality. The following sections discuss how this instrument is conceptualized and more specifically how the abstract construct namely customer satisfaction is linked to service quality.

### **2.5.1 SERVQUAL an introduction**

Parasuraman, Zeithaml and Berry's research according to Palmer (1998) focuses on the belief that the construct service quality is measurable. It establishes the dimensions that make up service quality from studying the specific factors that the customer perceives as being important. Only customers judge quality - all other judgements are considered to be essentially irrelevant. Therefore they set out to establish what those customer expectations from services are, what the characteristics are which define these services (effectively what is the service in the mind of the customer).

According to Palmer a service is considered to be of high quality when consumers' expectations of the service are met. Because of the emphasis on differences between expectations and perceptions, this type of model is often referred to as a disconfirmation model. Parasuraman, Zeithaml and Berry have subsequently endeavoured to develop an instrument for measuring customers' perceptions of service quality compared to their expectations.

Their findings have evolved from a set of qualitative marketing research procedures culminating in the quantitative technique for measuring service quality which is known as **ServQual** (derived from **Service Quality**)

“The original conceptual work on the SERVQUAL scale was developed from the studies on the meaning of service quality by (Sasser, Olsen, and Wyckoff 1978; Gronroos 1982; Lehtinen and Lehtinen 1982) and from extensive qualitative research work that defined service quality and illuminated the dimensions along which consumers perceived and evaluate service quality (Parasuraman, Zeithaml, and Berry 1985).

### **2.5.2 The Process of conceptualising the need for Servqual**

The SERVQUAL measuring instrument is based on perceived quality, which is the consumer's judgement about an entity's overall excellence or superiority (Zeithaml 1987), it is a form of attitude, which is quantified from a comparison of expectations of, with perceptions of performance.

### **2.5.3 The Aspects of both Technical (Objective) and Functional (Perceived) Quality**

A few researchers (Garvin 1983; Dodds and Monroe 1984; Holbrook and Corfman 1985; Zeithaml1987) highlight the difference between objective and perceived quality.

Holbrook and Corfman (1985), mention that consumers do not use the term quality in the same way as researchers and marketers, who define it

conceptually. The conceptual definition according to researchers and marketers distinguish between mechanistic and humanistic quality; “mechanistic (quality) involves an objective aspect or feature of a thing or event; humanistic (quality) involves the subjective response of people to objects and is therefore a highly relativistic phenomenon that differs between judges” (Holbrook and Corfman 1985, p. 33)

As far as customers are concerned Gronroos (1984) identified 'technical' and 'functional' quality as being the two principal components of quality. Furthermore Palmer (1998) refers to Technical quality as the relatively quantifiable elements of a service that consumers receive in their interactions with a service firm. Examples of technical quality include the waiting time at a petrol - pump and the reliability of train services. This however, is not to be the only element that makes up perceived service quality.

In the case of Caltex Oil SA numerous aspects encompass technical quality from the managements point of view by analysis of the Market Pulse Audit which is covered in section 2.7

Because services involve direct consumer-supplier interaction, consumers are also influenced by *how* the technical quality is delivered to them. This is what Gronroos describes as *functional* quality and cannot be measured as objectively as the elements of technical quality.

In the case of the queue at a petrol pump, functional quality covers issues such as the environment in which queuing takes place and consumers' perceptions of the manner in which queues are handled by the service station staff. Gronroos also sees an important role for a firm's corporate image in defining customers' perceptions of quality. The Servqual measuring instrument assists in quantifying certain elements of this functional quality.

#### **2.5.4 Service Quality as attitude.**

The three researchers below all concur that quality is a form of attitude. Olshavsky (1981) views quality as a form of overall evaluation of a product and Holbrook suggests that quality acts as a relatively global value judgement, while Parasuraman, Zeithaml, and Berry (1985) believe that service quality is an overall evaluation similar to attitude.

Parasuraman, Zeithaml, and Berry (1985) according to Odayr (2003) conducted a total of twelve focus group interviews with current or recent consumers of four different services – retail banking, credit card, securities brokerage, and product repair and maintenance. The discussions centered on issues such as the meaning of quality in the context of the service in question, the characteristics the service and its provider should possess in order to project a high-quality image, and the criteria customers use in evaluating service quality. Comparison of the findings from the focus revealed that, regardless of the type of service, customers used basically the same general criteria in arriving at an evaluative judgement about service quality.

#### **2.5.5 The relationship between Service Quality and Satisfaction**

Most organizations tend to view service quality and customer satisfaction as one and the same thing, however, there is a difference but a definite relationship between the two constructs that is highlighted below.

Oliver (1981) summarizes the transaction-specific nature of satisfaction, and differentiates it from attitude, as follows:

Attitude is the consumer's relatively enduring affective orientation for a product, store, or process (e.g., customer service) while satisfaction is the emotional reaction following a disconfirmation experience which acts on the

base attitude level and is consumption-specific. Attitude is therefore measured in terms more general to product or store and is less situational oriented.

According to Palmer (1998) consistent with the distinction between attitude and satisfaction, is a distinction between service quality and satisfaction. Perceived service quality is a global judgment, or attitude, relating to the superiority of the service, whereas satisfaction is related to a specific transaction. Indeed, in the twelve focus group interviews included in the exploratory research conducted by Parasuraman, Zeithaml, and Berry (1985), respondents gave several illustrations of instances when they were satisfied with a specific service but did not feel the service firm was of high quality. In this way, the two constructs are related, in that incidents of satisfaction over time result in perceptions of service quality.

#### **2.5.6 How is Service Quality Measured ?**

The works of Sasser, Olsen, and Wyckoff (1978); Gronroos (1984) and Lehtinen and Lehtinen (1982), and the numerous focus group interviews conducted by Parasuraman, Zeithaml, and Berry (1985), unilaterally supports the notion that service quality, as perceived by consumers, arises from a comparison of what they feel service firms should offer (i.e., from their expectations) and their perceptions of the performance of firms providing the services. Therefore Perceived service quality is viewed as the degree and direction of the discrepancy between consumers' perceptions and expectations.

The original works by Parasuraman, Zeithaml, and Berry (1985) revealed that the criteria used by consumers in assessing service quality fit 10 potentially overlapping dimensions. These dimensions were tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding/knowing the customer, and access (Parasuraman, Zeithaml,

and Berry 1985,p. 47).

According to Odayr items representing various facets of the 10 service-quality dimensions were generated to form the initial item pool for the SERVQUAL instrument. This process resulted in the generation of 97 items (approximately 10 items per dimension). Two statements were created from each item – one to measure expectations about firms in general within the service category being investigated and the other to measure perceptions about the particular firm whose service quality was being assessed. Roughly half of the statement pairs were worded positively and the rest were worded negatively, in accordance with recommended procedures for scale development (Churchill 1979). A seven-point scale ranging from “strongly Agree” (7) to “Strongly Disagree” (1), with no verbal labels for scale points 2 through 6, accompanied each statement (scale values were reversed for negatively worded statements prior to data analysis). The expectation statements were grouped together and formed the first half of the instrument. The corresponding perception statements formed the second half.

Furthermore the 97-item instrument was subjected to two stages of data collection and refinement. The first stage focused on: (1) condensing the instrument by retaining only those items capable of discriminating well across respondents having differing quality perceptions about forms in several categories, and (2) examining the dimensionality of the scale and establishing the reliabilities of its components.

Some further multiple refinements to the scale then occurred reducing the number of items from 97 to an eventual 22 items. Techniques to accomplish this ranged from the Cronbach coefficient Alpha correlation coefficients as measures of reliability of scale items to factor analysis (with oblique rotations) used to measure the dimensionality of the scales used.

From the above process the original scale of 97 items collapsed into the present refined scale (“SERVQUAL”) of 22 items which was spread over five dimensions from the original 10 dimensions.

The final items making up each of SERVQUAL’s five dimensions alluded to the following labels and descriptions for each of the dimensions:

- |   |                 |   |
|---|-----------------|---|
| 1 | Tangibles:      | Physical facilities, equipment, and appearance of personnel.                          |
| 2 | Reliability:    | Ability to perform the promised service dependably and accurately.                    |
| 3 | Responsiveness: | Willingness to help customers and provide prompt service.                             |
| 4 | Assurance:      | Knowledge and courtesy of employees and their ability to inspire trust and confidence |
| 5 | Empathy:        | Caring, individualized attention the firm provides its customers.                     |

The last two dimensions (assurance and empathy) contain items representing seven original dimensions – communication, credibility, security, competence, courtesy, understanding/knowing customers, and access – that did not remain distinct after the two stages of scale purification. Therefore, while SERVQUAL has only five distinct dimensions, they capture facets of all 10 originally conceptualized dimensions.

### **2.5.7 The Servqual Measuring Instrument In More Detail**

Various organizations today use an adapted “ Servqual “ instrument to measure Customer Satisfaction within their industry. This instrument is highly regarded and the most popular in measuring the abstract phenomena of Customer Satisfaction when it is adapted to the particular industry of choice.

The measuring instrument breaks down the construct of Customer Satisfaction into five distinct areas namely:

- Tangibles (appearance of physical elements)
- Reliability (dependability, accurate performance)
- Responsiveness (promptness and helpfulness)
- Assurance (competence, courtesy, credibility, and security)
- Empathy (caring and individualized attention the firm provides for its customers)

(Parasuraman, Ziethaml and Berry 1985 : P23)

The measuring instrument asks four/five questions within each of these defined dimensions as listed above and measures the perceptions and attitudes of the respondents. The main body of the measuring instrument uses a like art scale (5 – strongly agree to 1 – strongly disagree) for each question. Each question is asked twice once initially when measuring expectations of the service and then after when obtaining perceptions of the experienced service levels. Customers are also asked for supplementary demographic data and additional questions are also added if felt necessary by management.

The differentials between expectations and perceptions are then calculated overall and per dimension. The results from this once off study tells the company whether its customer expectations are exceeded or not and where

the problem areas are that need work. It can also be used to monitor service quality over time, to compare performance with that of competitors, or to measure customer satisfaction with a particular service industry generally.

An organization or industry group can use the information collected in this way to improve its position by acting upon the results and seeking to surpass customers' expectations on a continuous basis. Additionally, the expectations-perceptions results, along with the demographic data, may facilitate effective customer segmentation.

It is important that service providers decide upon a target quality of service level and then communicate the level of service on offer to both consumers and employees. This allows employees to know what is expected of them and customers will have an idea of the level of service they can expect to find.

#### **2.5.8 Possible explanations for the Variance in Expectations vs Perceptions.**

The SERVQUAL methodology below highlights the difficulties in identifying the possible reasons for differences in expectations and perceptions.

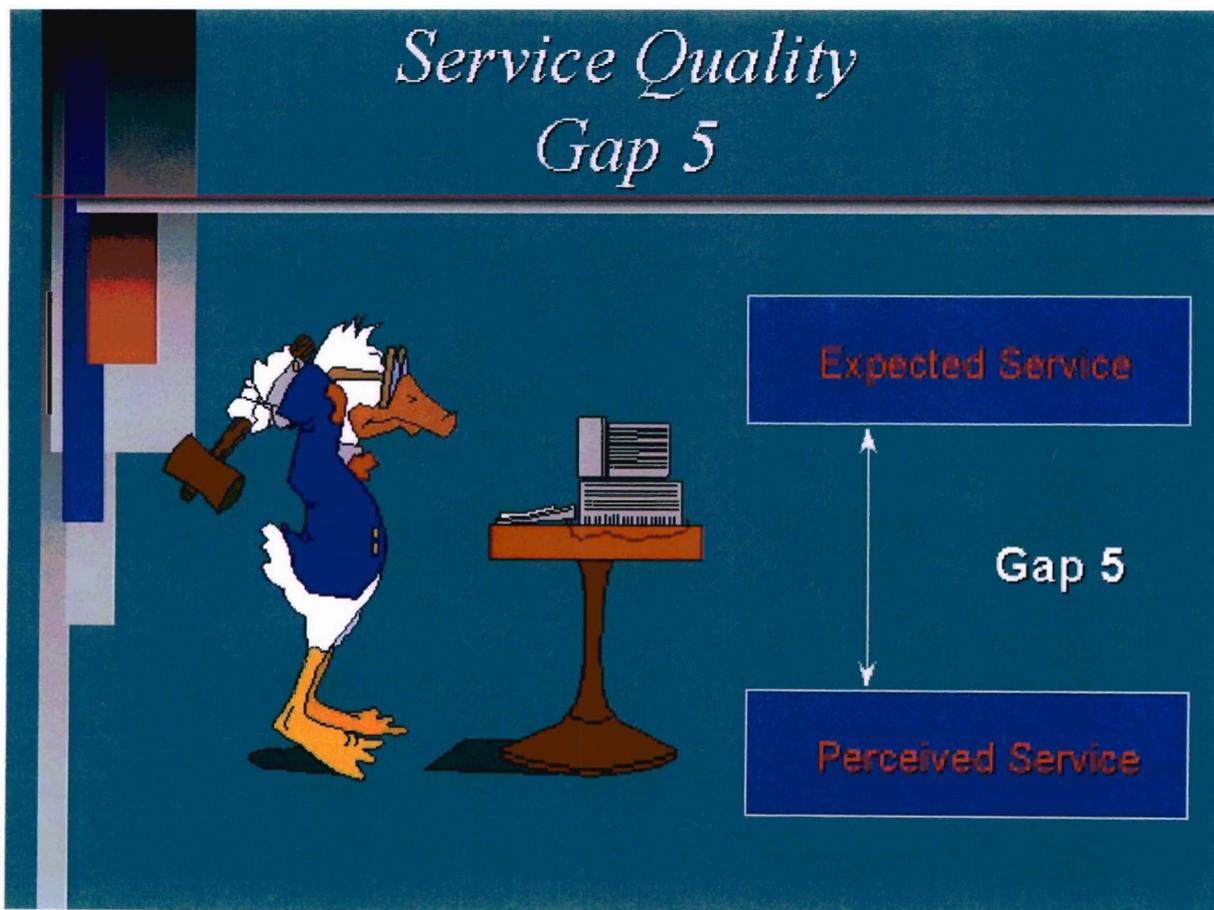
It identifies five which could be used to explain the reason for possible differentials.

*Gap 1: Gap between consumer expectations and management perception*  
Management may think that they know what consumers want and proceed to deliver this when in fact consumers may expect something quite different

*Gap 2: Gap between management perception and service quality specification*  
Management may not set quality specifications or may not set them clearly. Alternatively, management may set clear quality specifications but these may not be achievable.

*Gap 3: Gap between service quality specifications and service delivery*  
Unforeseen problems or poor management can lead to a service provider failing to meet service quality specifications. This may be due to human error but also mechanical breakdown of facilitating or support goods.

*Gap 4: Gap between service delivery and external communications*  
There may be dissatisfaction with a service due to the excessively heightened expectations developed through the service provider's communications efforts. Dissatisfaction occurs where actual delivery does not meet up to expectations held out in a company's communications.



*Gap 5: Gap between perceived service and expected service.* This gap occurs as a result of one or more of the previous gaps.

## 2.5.9 Practical Application of the Gaps

These gaps are explained graphically (Figure 2.1.) in a practical application as applied in a restaurant below :

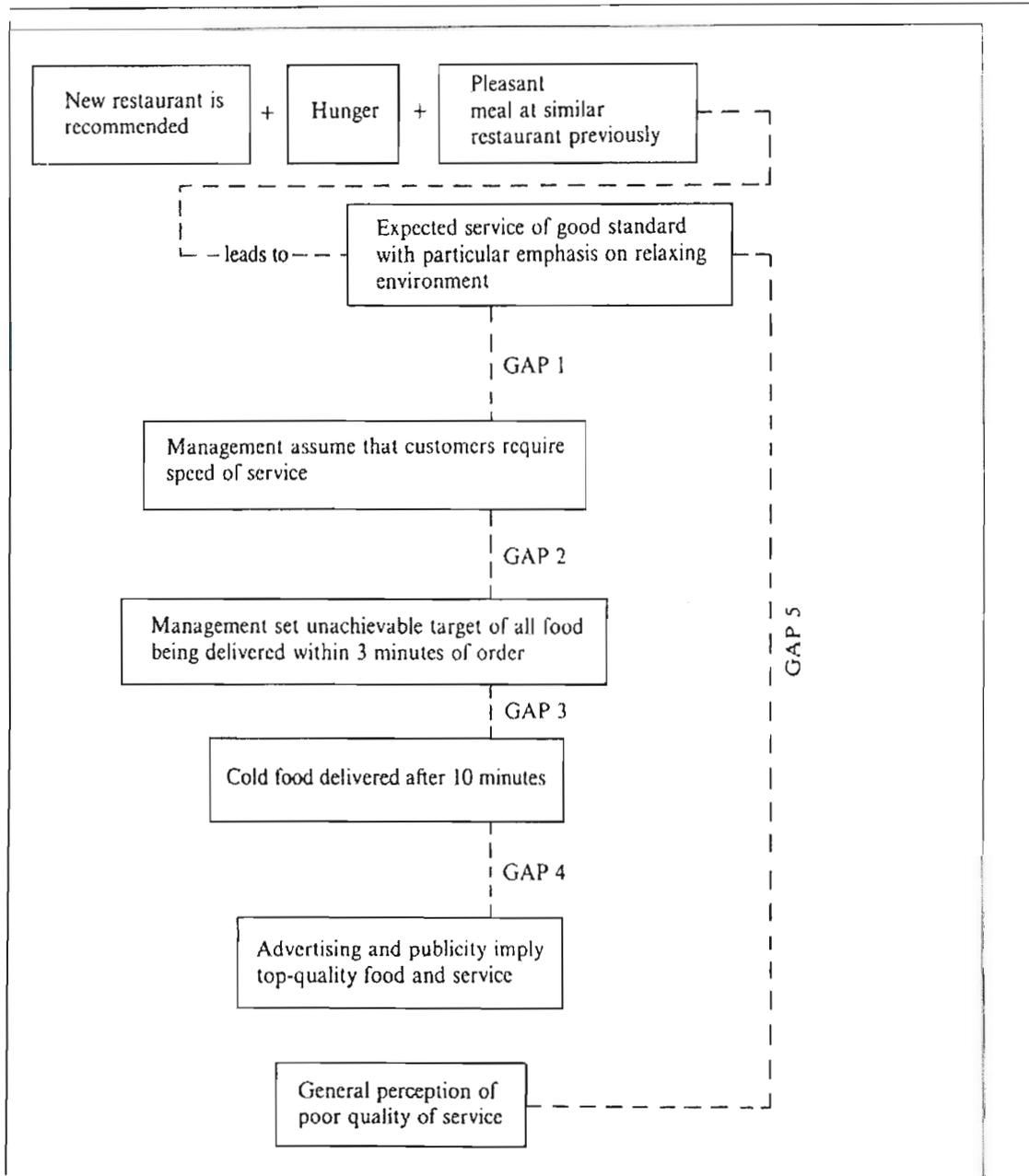


Figure 2.1 Sources of divergence between service quality expectation and delivery (Source: Modified from Parasuraman et al (1993) 'A Conceptual Model of Service Quality and its Implications for Future Research', Journal of Marketing, Fall)

The gaps model as illustrated in 2.1 is useful as it allows management to

make an analytical assessment of the causes of poor service quality. If the first gaps are great, the task of bridging the subsequent gaps becomes greater, and indeed it could be said that in such circumstances quality service can only be achieved by good luck rather than good management.

### 2.5.10 Zones of Tolerance

According to Odayar (2003) much recent attention has been given to the processes by which customers' expectations of service quality are formed. Parasuraman, Zeithaml and Berry (1993) have proposed that three levels of expectations can be defined against which quality is assessed; the desired level of service, reflecting what the customer wants; the adequate service level, defined as the standard that customers are willing to accept; and the predicted service level - that which they believe is most likely to actually occur. This has led to the idea that *zones of tolerance* may exist in consumers' perceptions of service quality. If perceptions fall below the desired level of service, this may still be acceptable as long as it does not fall below expectations based on an adequate level of service. In other words, rather than a service either meeting or failing a consumers' quality expectations, there is an intermediate zone of tolerance (Figure 2.2).

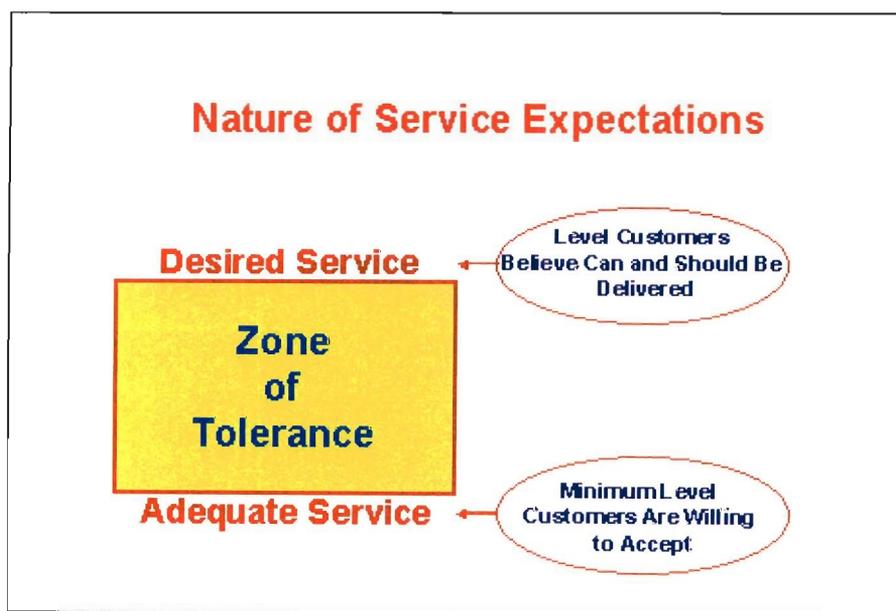


Figure 2.2 Zone of Tolerance Source: Zeithaml, Berry and Parasuraman(1993) "The Nature and Determinants of Customer Expectations of Service" , *Journal of the Academy of Marketing Science*, Vol 21, No 1

What this study will attempt to do is establish a 95% confidence interval about the levels of expectations and calculate whether the perceptions do in fact fall within these intervals. This should report on the significant levels of difference between perceptions and expectations. To apply the concepts of zones of tolerance the questionnaire would need to be adopted in this way. This could be a future application for Caltex Oil SA.

## **2.6 RELIABILITY AND VALIDITY**

All measuring instruments need to be both reliable and valid. The benefit of using the Servqual methodology questionnaire as a template is that it has been proven to be both reliable and valid within the industries that it has been applied. Reliability of the measuring instrument has been validated using the Cronbach coefficient alpha as a measure of internal consistency and as long as each dimension has an alpha value greater than 0.6 then the measuring instrument is proven to be internally consistent. The literature advises applying this approach to the newly adapted questionnaire also.

The validity of the questionnaire and the dimensions that make it up have been validated using factor analysis and the literature applies this extensively.

## **2.7 THE ADAPTED SERVQUAL MEASURING INSTRUMENT**

According to Parasuraman, Zeithaml and Berry (Volume 64, Number 1, 1998), the following questions should be asked in the SERVQUAL measuring instrument. The measuring instrument is divided up into two halves, the first half quantifying the level of expectations of the service and the second half using exactly the same statements quantifying the level of perceptions of the very same service.

- ✓ They should have up-to-date equipment
- ✓ Their physical facilities should be visually appealing,
- ✓ Their employees should be well dressed and appear neat.
- ✓ The appearance of the physical facilities of these firms should be in keeping with, the type of services provided.
- ✓ When these firms promise to do something by a certain time, they should do so.
- ✓ When customers have problems, these firms should be sympathetic and reassuring,
- ✓ These firms should be dependable.
- ✓ They should provide their services at the time they promise to do so.
- ✓ They should keep their records accurately.
- ✓ They shouldn't be expected to tell customers exactly when services will be performed
- ✓ It is not realistic for customers to expect prompt service from employees of these firms.
- ✓ The employees don't always have to be willing to help customers.
- ✓ It is okay if they are too busy to respond to customer requests promptly.
- ✓ Customers should be able to trust employees of these firms.
- ✓ Customers should be able to feel confident in their transactions with these firms' employees.
- ✓ Their employees should be polite,
- ✓ Their employees should get adequate support from these firms to do their jobs well.
- ✓ These firms should not be expected to give customers individual attention.
- ✓ Employees of these firms cannot be expected to give customers personal attention.
- ✓ It is unrealistic to expect employees to know what the needs of their customers are.

- ✓ It is unrealistic to expect these firms to have their customers' best interests at heart.
- ✓ They shouldn't be expected to have operating hours convenient to all their customers.

A seven-point scale ranging from "Strongly Agree" (7) to "Strongly Disagree" (1), with no verbal labels for the intermediate scale points (i.e. 2 through 6), accompanies each statement. An example of Servqual is used below.

## **2.8 SERVQUAL A TYPICAL APPLICATION**

The following questionnaire is a typical application of the SERVQUAL survey questionnaire applied here to the hotel sector (based on Gabbie and O'Neill , 'SERVQUAL and the Northern Ireland sector : a comparative study ' , *Managing Service Quality* , Vol . 7 (1) , 1997 , pp 43 –49)

This questionnaire is available for perusal in Appendix A.

## **2.9 CRITICISMS OF SERVQUAL**

As it is always going to be a difficult science to measure any abstract construct, there are many critiques of SERVQUAL. Although an adapted form of servqual has been used in the research, there are potential shortcomings of this very same model, which are discussed further.

### **2.9.1 Shortcomings of ServQual**

Parasuraman et al. (1988:P 30-31) state: 'it [the model] provides a basic skeleton... when necessary, can be adapted or supplemented to fit the characteristics or specific research needs of a particular organization'.

A key difference with respect to the SERVQUAL instrument is the extent to which researchers have adhered to the 22-item format. Most researchers,

even while commending SERVQUAL for its face and/or content validity, have added to, deleted from or amended the item content so as to make the questionnaire more relevant to a specific service situation. This raises the question as to what extent the proposed 22-item scale offers a generic measure.

However, it must be noted that considerable number of researchers has failed to identify the five underlying dimensions. Carman (1990) identified a greater number of dimensions and others have highlighted the multifaceted nature of services.

### **2.9.2 An extension of the model by Carman ( 1990)**

Carman (1990) proposed an extension of the work by Parasuraman et al. (1988). He replicated the SERVQUAL model in four diverse service industries. The purpose was to investigate six questions related to the SERVQUAL scale:

- ✓ The extent to which the number of dimensions of service quality can be generalised to all settings
- ✓ Robustness of the wording of the SERVQUAL items
- ✓ Service situations with multiple service functions and the role of product quality in bundled retail service offerings
- ✓ Validity of analysing the differences between expectations and perceptions
- ✓ Necessity of administering the expectations battery
- ✓ Relationship between expectations and importance.

Carman (1990) found the dimensions to be 'useful and generally persuasive'. Although the model adequately satisfies the first two questions, researchers will need to make some changes in adapting the instrument to a particular setting. Substantial changes in adapting the instrument will be required with respect to questions 3 through 6 (Carman 1990).

Carman's research shows that in using the SERVQUAL model caution should be exercised in reducing the original ten dimensions to five. In all settings it would be necessary to alter the wording of some of the individual SERVQUAL items in order to make the item more appropriate to the setting. Some dimensions should have additional items added to those in the original article.

Carman(1990) suggests the following:

- Importance weights should be included in the measures of service quality.
- The contribution of individual SERVQUAL items to the identified dimensions appears to vary across industries.

### **2.9.3 Practical issues and the timing of administering SERVQUAL**

The major shortcoming of the SERVQUAL model as identified by Carman (1990) is that data on consumers' expectations of the service they are about to receive, is collected presumably as they come in and then asked similar questions on consumers' perceptions of the service received, as they leave. Propagators of SERVQUAL recommend finding the difference between the perceptions and expectations and using this value in the quantitative analysis. Carman argues that this procedure is impractical, nor is it the best analytical procedure and suggests alternatives.

Another study conducted by Clow & Vorhies (1993) found that the simultaneous measurement of consumer expectations and evaluation of service quality led to biased measures of expectations. Expectations continue to play an important role following the consumption experience. For dissatisfied consumers, the gap between expectations and experience gets larger. For satisfied consumers, the gap becomes smaller. For accurate measures of service quality, consumer expectations should be measured before the service experience and evaluation of the service after the patronage occurs (Clow & Vorhies 1993).

#### **2.9.4 Criticisms of the Expectations scale**

The method used to calculate the gap between consumers' expectations and perceptions as a measure of service quality has given credence to two issues.

Firstly, Teas (1993) questions the meaning of the expectations measure. He suggests that a substantial portion of the variance in the expectations scale is due to differences in interpretations of the question rather than to the variance in respondents' attitudes. In a study conducted by Smith (1995) the revised expectations measure (i.e. from 'should' to 'excellent companies will') appeared to have little advantage over the original scale. The mean score for the expectations scale was 6.401. She noted that of the 29 items the lowest mean score was 5.13. These high scores for the expectations scale are likely to result in negative P-E scores, which affects both the diagnostic utility of the measure and the underlying conceptual interpretation' (Smith 1995).

The second consideration is whether the expectations battery should be administered at all. Smith (1995) noted that several researchers neglected to measure expectations and several others highlighted the independent effects of perceptions of, consumer evaluations of satisfaction or quality (Carman 1990; Bolton & Drew 1991 a; Cronin & Taylor 1992). Consequently, the

usefulness of the adoption of the disconfirmation paradigm was brought into question.

Cronin & Taylor (1992, 1994) questioned the five dimensions of the SERVQUAL model by arguing that the disconfirmation-based paradigm of the model is flawed. They also provided empirical evidence that service quality should be measured as an attitude.

Although there have been numerous criticisms against Servqual , none of the critiques have been able to develop a better customer satisfaction measuring tool.

### **2.9.5 Managerial implications and recommendations**

Managers are advised to carefully consider which issues are important to service quality in their specific environments and to modify the SERVQUAL scale as needed. The non-difference-score version of the scale can serve as a useful starting point for these modifications. Cronin & Taylor (1992, 1994) have suggested a performance-based measure of service as an improved means of measuring the service quality construct. They have consistently argued that managers should not include consumer expectations in measures of service quality, although expectations can impart valuable information 'if their unique effect on purchase behaviours and performance perceptions are conceptualised properly'.

### **2.9.6 Setting Quality Standards**

A precise specification of service standards serves as a valuable function in communicating the standard of quality which consumers can expect. It also serves to communicate the standards which are expected of employees and the organisation. While the manner in which an organization goes about promoting itself may give a general impression as to what level of quality it

seeks to deliver, more specific standards can be stated in a number of ways that will be discussed .

As a starting point, an organization can rely on its nature of business as a basis for determining the level of service to be delivered to customers. These act to protect customers against excessively poor service rather than being used to proactively promote high standards of excellence. When booking a car in for a service, there is not much information concerning the quality of the offering, only the qualifications of the mechanics.

Mission Statements go beyond the minimum levels of business terms by stating the standards of performance that the organization aims to achieve in its dealings with customers. In this way, fast food retailers usually publish charters, which specify in general terms the manner in which their services will be conducted and complaints handled.

Specific guarantees of service performance are sometimes offered, especially in respect of service outcomes. As an example, Scooters Pizza guarantee to deliver within a specified time and offer the pizza free if they fall below that standard. Many of the companies now offer compensation payments if certain specified services are not delivered correctly.

Increasingly, service organizations set their service guarantees with reference to benchmarks established by best practice companies within their sector, or in a completely different sector. Sometimes, guarantees concentrate on the manner in which a service is produced rather than specifically on final outcomes. While there can be great benefits from publicising specific guaranteed performance standards to customers, failure to perform could result in heavy compensation claims, or claims for misleading advertising. Many highly specific targets are therefore restricted to internal use where their function is to motivate and control staff rather than to provide guarantees to potential customers.

Many services organisations belong to a professional association and incorporate the association's code into their own service offering. Codes of conduct adopted by members of professional associations specify minimum standards below which service provision should not fall. The code of conduct provides a reassurance to customers, and also serves as a statement to employees about the minimum standards that are expected of them.

### **2.9.7 ISO 9001 Standard**

ISO 9001 has become quite a good marketing strategy as consumers are generally unaware how this accreditation is awarded. A company operating to ISO 9001 does not guarantee a high level of quality for its service. ISO 9001 is granted to organisations that can show that they have in place management systems for ensuring a *consistent* standard of quality - whether this itself is high or low is largely a subjective judgement. Although this standard was initially adopted by manufacturing industries, it has subsequently found significant use among service companies, including education, leisure centres and building contractors. Increasingly, industrial purchasers of services are seeking the reassurance that its' suppliers are ISO 9001 registered.

### **2.10 WHY IS SERVICE QUALITY SO IMPORTANT**

A strong advocate of service quality speaks out on his web site on the internet. The web site is located at the following domain address [www.mikefaith.com](http://www.mikefaith.com) . A few of the excerpts for his web site are discussed.

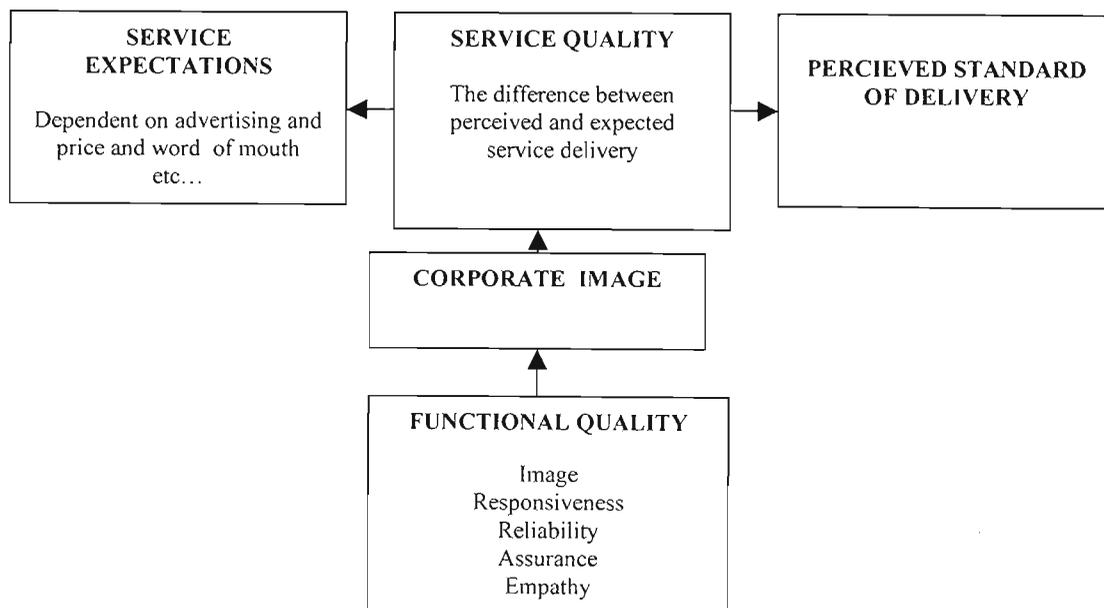
At the ripe old age of nearly 40, I find myself living half way round the world from where I grew up, running a company. Yep, that's my big passion in life. It's not the product themselves, despite my love for them, it's the business model we've built around them. In six years we've grown the business from

nothing to an estimated \$16 million in sales in 2004, all by delivering incredible customer service. Customer service is my real passion. I hate bad customer service and I love customer service above and beyond.

Tom Peters once addressed the argument that you can't build a business on customer service as your differentiator because anyone can do it. He countered that, in fact, you can use customer service as a differentiator, because the truth is anyone CAN'T do it. It's very hard, if not impossible, to replicate great customer service in an existing organization that doesn't have it. Only with a leader who is a customer service fanatic can you even have a remote chance of doing it.

As the requests to present or speak about customer service to other organizations have grown over the years, so has my passion to deliver what I believe is an important message. It's not only the right thing to do—making customers happy by treating them right—it's also the right thing to do for the bottom line of a business.

## 2.11 GRAPHICAL MODEL ILLUSTRATING APPLICATION OF THE SERVICE QUALITY THEORY



## **2.12 SUMMARY**

Service quality is can provide useful insight into the fuels retail industry and help organizations differentiate their services. Surprisingly very little research has been done in this industry, thus a study of how service quality is conceptualised, measured and applied to modern business was essential.

It has been widely accepted that SERVQUAL is the most advanced tool available in measuring this abstract construct. SERVQUAL has had its fair share of criticisms, although none of these critiques has been able to provide a more comprehensive “customer satisfaction” measuring instrument. There is sufficient literature available on how one should go about adapting Servqual to their particular industry – these points were enacted on during the construction of the Questionnaire.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY AND DESIGN**

#### **3.1 INTRODUCTION**

Having identified the importance and reason for this research and having also described a background of research in the area of service quality, a study will be conducted focusing on identifying and evaluating the levels of customer satisfaction with respect to the clients of Caltex Oil SA.

#### **3.2 THE PROBLEM STATEMENT**

What are customer satisfaction levels within Caltex Oil SA. An analysis of this problem will be done by conducting a survey in order to implement a quality assurance program towards improving the levels of service to the clients of Caltex SA.

#### **3.3 THE OBJECTIVES OF THE STUDY**

##### **3.3.1 Objective 1**

To adopt the appropriate measurement scale to measure customer satisfaction within Caltex Oil SA.

##### **3.3.2 Objective 2**

To measure the levels of customer satisfaction within Caltex Oil SA.

##### **3.3.3 Objective 3**

To make recommendations towards improving the levels of service and make contributions toward a quality assurance program within Caltex Oil SA.

### **3.4 THE HYPOTHESES OF THE STUDY**

#### **3.4.1 Hypothesis 1**

Customer expectation levels are greater than customer perception levels across all items. within Caltex Oil SA.

#### **3.4.2 Hypothesis 2**

Customer expectation levels are greater than customer perception levels across all dimensions by age. within Caltex Oil SA.

#### **3.4.3 Hypothesis 3**

Customer expectation levels are not greater than customer perception levels across all dimensions by gender. within Caltex Oil SA.

#### **3.4.4 Hypothesis 4**

Customer expectation levels are not greater than customer perception levels across all dimensions by distance within Caltex Oil SA.

### **3.5 SAMPLE SIZE AND SAMPLING TECHNIQUE**

The sampling technique used will be a combination of random and convenience sampling. The Service Stations were chosen using convenience sampling, convenient to the researcher as he serviced the Durban North area and only the service stations which possessed car washes. The customers at the nominated service stations who planned to have a car wash (this would give them ample time to complete the questionnaire) were then chosen randomly obviously taking into account their willingness to cooperate.

Six Service Stations in the Durban North area were chosen to take part in the study. From each of these a random sample of 20 customers was chosen. This sample size yielded 120 questionnaires for analysis.

### **3.6 DELIMITATIONS**

The study is delimited to the Durban North suburb of the Durban Metro within Kwazulu Natal .

### **3.7 ASSUMPTIONS**

The study needs to assume that the population statistics provided by the specific Service Station are accurate. The study also needs to assume that the Measuring instrument is valid, that the interviewer is well trained, and that the respondents respond truthfully.

### **3.8 THE RESEARCH DESIGN AND METHODOLOGY**

This form of Research Design includes primary data which is mostly quantitative in the form of a cross sectional analytical intercept survey. Ideally this research should include a longitudinal study involving the present survey, a treatment post the survey attempting to improve the levels of customer satisfaction and then a follow up survey to see if the customer satisfaction levels have improved. This study, however, will focus on the data from the present survey.

This research prefers to use the more dominant quantitative approach as it is more structured, controlled and easier to analyse. The concepts of validity and reliability will also be tested for. Internal Validity will be checked against the review of the related literature (i. e: the accuracy of the measurement scale, namely the adapted "Servqual" instrument), and face validity will be checked using the feedback obtained from focus groups held with a few corporate executives. Choosing a very representative, non-bias sample of the population will ensure external validity. Internal Consistency as a form of

Reliability testing will be applied using the results from the Cronbach coefficient alphas. The Cronbach coefficient measures the mean of all split – half coefficients. To further enhance the reliability of the research the questionnaire will be well designed and the interviewer will be well trained.

Internal validity will be enhanced by allowing customers to fill in the questionnaire while they are waiting for a car wash. In addition the questionnaire will ensure good flow to improve the validity of the measuring instrument. It will include an introductory section, a demographic section consisting mostly of categorical variables, a main body consisting of two parts. The first part will measure the expectations of customers toward the service of a service station and the second part will measure the perceptions of the customers toward the service experienced at their Caltex service station. Both sections will ask questions in a similar fashion. As per the literature search Customer Satisfaction will be broken down into five sub dimensions namely tangibles, responsiveness, reliability, assurance and empathy but this will also be adapted to the Market pulse audit. Each of these sub areas will compose of approximately five to six questions. All questions will be worded using the correct methodologies and most questions will be measured using the likeart scale.

Questions will be worded avoiding the common problem areas namely :

- a) The questions will not be leading.
- b) The questions will be clear and simple and understandable
- c) The questionnaire will not be long especially as this is an intercept survey.
- d) The questions will only ask one thing at a time.
- e) The questions will not be vague
- f) Questions and Questionnaire structure will be adapted to both SERVQUAL and the related literature on the oil Industry.

It should be note that the template on which this questionnaire is based namely "Servqual" has proven in numerous studies to be both reliable and valid.

The data, therefore will mostly be primary data and the authenticity of such data will be assured through using a well trained interviewer and also by obtaining "by in " from the respondents by enforcing the point that honest answers may benefit the respondents in the long run and by offering each respondent a gift from Caltex.

The population of users will be all customers of nominated Service Stations. The sampling technique applied will be a combination of sorts. Convenience sampling will be applied in choosing our nominated service stations. Random sampling will be applied in choosing the days of the week and times of each day. A combination of both convenience and probability sampling will be applied in choosing the sample of 20 clients per each of the nominated six service stations.

All statistical analysis will be conducted using the SPSS (version 11.5) software suite. This Statistical software program is manufactured by SPSS Inc , 444N . Michigan Avenue , Chicago , Illinois , USA.

The statistical analysis will include various descriptive statistics such as frequency tables and the appropriate graphical illustrations such as bar and pie charts and histograms. Measures of central location such as arithmetic means and various measures of dispersion such as range, minimum and maximum values and standard deviations will also be calculated and applied where appropriate.

To measure the levels of customer satisfaction overall and per dimension and per other areas of interest, the results for perceptions and expectations need

to be calculated for each customer and then the gaps between both expectations and perceptions need to be calculated and analysed. Cronbach coefficient alpha will also be run for various reliability and validity testing.

Zones of Tolerance will also be calculated on behalf of the customer i.e : the study will build 95% confidence intervals for population mean expectations per dimension. Hypothesis tests will then be run to test if the population perception means fall within these calculated confidence intervals and to test if the various dimensions possess significantly different means across both expectations and perceptions. Based on the results of such analysis recommendations will be made to Caltex with regards quality assurance.

### **3.9 THE DATA DESIGN AND COLLECTION**

The population was defined as all Caltex customers within the Durban Metro geographical territory. A few Caltex service stations were nominated to take part in the study. The questionnaires were dropped off with the retailers who then handed them out to the respondents while they were getting their car washed. This technique was deemed appropriate due to the length of the questionnaire. Questionnaires were then returned to the retailer on completion and finally picked up for capturing and analysis.

#### **3.9.1 The Questionnaire as Adapted to the Petroleum Industry**

The original SERQUAL measuring instrument was adapted taking into account the theory of the original dimensions making up customer satisfaction, in some cases deleting certain questions and in others adding questions per dimension. Additional dimensions were added based on the present South African climate eg: Safety and Security. Question content was designed around input from marketing management at Caltex and the internationally acclaimed Market Pulse Audit. The study ended up with a 21-

item questionnaire instead of the original 22 as developed by SERVQUAL. A Section C was also added to the questionnaire to provide for additional information which was felt necessary. The additional questions as well as the adapted questions all took into account factors that affect service quality in this industry.

Our 5 dimensions for the adapted questionnaire were made up as follows:

Tangibles	Question 1 – Question 6
Reliability	Question 7 - Question 9
Responsiveness	Question 10 – Question 12
Assurance	Question 13 - Question 16
Empathy	Question 17 – Question 20

The question content and layout from the original “Servqual” was modified as follows :

A demographic section was added into the questionnaire to enable customer profile analysis.

Question 2 was split into 2 separate questions to namely question 2 and 3 to measure the physical facilities of the forecourt and c store separately.

Question 4 was split into 2 separate questions to namely question 5 and 6 to measure the materials associated with the service for the forecourt and c store separately.

Questions 5 to 9 which consisted of 5 questions were changed significantly to focus more on the reliability of the product, which in the adapted questionnaire was included in questions 7 through to 9 in the context of reliability in the petroleum industry.

Questions 10 and 13 were collapsed into question 11 to satisfy customer – service provider supplier interaction dynamics.

Question 19 was left out because the service station industry generally operates on a 24 hour basis and thus this question does not create any differentiation.

Question 20 changed its wording from “personal attention” to “priority attention in the event of emergencies” as all customers to service stations already receive personal attention but it is important that customers are acknowledged on arrival even though petrol attendants may be busy.

Question 21 was added to include the aspect of safety and security, a present concern throughout the retail industry in South Africa. The question is as follows :

“Clients at an excellent service station will feel safe from crime”

The whole of Section C including the following questions :

I believe that an ATM machine is necessary at my Caltex service station.

I believe that a pay phone is necessary at my Caltex service station.

I believe that a foodcourt area is necessary at my Caltex service station.

I believe that name tags for the staff are necessary at my Caltex service station.

I believe that my Caltex service station should accept all forms of Payment methods acceptable by law.

Section C will also ask a few questions which measures additional features which Caltex SA would like to know the level of importance thereof to customers.

The data, therefore will all be primary data and the authenticity of such data will be assured through using a well trained interviewer and also obtaining “by in “ from the respondents by highlighting the fact that truthful answers may benefit the respondents in the long run.

### **3.10 VARIOUS TECHNIQUES APPLIED IN RESEARCHING SERVICE QUALITY AT CALTEX.**

Mystery shoppers are used by Caltex Oil in the form of an independent company, Market Pulse, to carry out both covert and overt audits of all its franchised retail facilities. Market Pulse provides the corporate with detailed reports of the audits on a web - based programme. Retailers are also able to view their scores on an access basis using passwords. Scores can be compared against previous audits to identify trends as well as against other service stations on particular aspects if need be. Market Pulse also has a toll free call centre to deal with queries that retailers may have. Apart from customer service, stock weights and general appearance of the facility are also scored.

The audits are conducted monthly and there are reward structures built into the programme for the retailer and the staff member who displayed and exceeded the “mystery customer’s” expectations. Should the retailer challenge any score or particular question in the audit, he has to do so through his Caltex Representative (Business Consultant). The retailer follows a process applying for an exemption, which must be approved by the Business Consultant for it to be removed from the audit. The auditors are well trained, and the template is well designed so that there are no grey areas and this assists with consistency throughout the network.

Analysing customer transactions could provide Caltex with valuable customer insight, however, the sheer number of transactions that are processed at each service station per day makes this type of analysis unmanageable.

Although ongoing customer surveys as a rule is not applied at Caltex a few service stations have taken it upon themselves to conduct a form of customer survey. An example of one such survey is outlined.

096993

# Help measure our success

Having put our *Energy in Action* to the test, please take a few seconds to circle the appropriate stars. This will help us to ensure that you get the star service you deserve. To thank you for your time, we'd like to present you with a handy keyring.

## How do you rate our star service?

Speed



Efficiency



Professionalism



Comments:

---

---

Name and tel no:

---

---

Town:

---

Name of petrol attendant:

---



Energy in Action CALTEX

Customer panels have not been deemed to be appropriate in the petroleum industry as regular customers will have insufficient technical knowledge to allow for meaning full comparative analyses.

To the knowledge of the researcher Caltex Oil does not do any form of ongoing customer perception surveys.

Caltex Oil uses employee research systems more for internal management processes rather than customer focus. This is lacking and vehicles to address this problem need to be put in place.

Obviously researchers can learn from and adapt where necessary from similar industry studies. In the case of Caltex Oil there are very few similar industries other than comparing the convenience store to other fast food outlets.

Caltex Oil international applied benchmarking by comparing each region to the overall average performance but again only within internal management processes and not customer driven.

Tracking the complaints of customers provides an invaluable source of problem diagnostics. Caltex Oil provides the facilities for such a service, although the customer care line itself is hardly marketed and very few calls are ever received, as such this infrastructure is presently a white elephant and the service needs to be revisited.

### **3.8 PRESENT TECHNIQUES APPLIED IN QUALITY CONTROL AT CALTEX**

Caltex Oil presently conducts the " Market Pulse Audit" which focuses on Service Station Quality Control. The main attributes of the audit are highlighted below and the complete audit although confidential is available for inspection on request. From inspection of the points below and the Servqual measuring instrument, it can be seen there is a marginal overlap between the two instruments although there are numerous factors in Servqual that are not

introduced , again from the customers point of view of service quality. It is for this reason that both survey approaches were used in adapting the suggested adapted Servqual approach for Caltex Oil, which is reflected in Appendix B.

### **3.8.1 Main Attributes of the “Market Pulse Audit”**

1. Buckets must be black in colour.
2. There must be clean soapy water in all windscreen washer buckets.
3. Must have squeegee and water. Squeegee must be in good condition.
4. there must be one, black, watering can for every pump island.
5. Watering can must be full
6. There should be one paper towel available for every two pump islands.
7. Rubbish bins must be clean
8. Pumps must be clean, clear, free of grease and unauthorised signage.
9. Pumps must only display Caltex authorised brands
10. Operational Pumps/pump islands must be well maintained.
- 11.Canopy and canopy columns/stanchions/pillars should be clean.
- 12.Canopy lights should be working
- 13.Clean Forecourt should be free of major spills and rubbish.
- 14.Display must be clean and free of dust and oil spills
- 15.Forecourt staff uniforms must be clean and tidy
- 16.Name badge must be the standard pin or magnet type badge with a silver background.
- 17.Air hose must be working, and neatly coiled if not being used.
- 18.The Garden Sign must be clean and in good repair.

19. Gardens/pot plants must be clean, tidy and free of litter.
20. If the rubbish area is within customer view, it must be clean, tidy and well maintained.
21. The store must display a sign at the door advising customers of in-store facilities.
22. Toilet and sink areas must be clean and well maintained.
23. ATM Machines must be kept clean.
24. Pay phones must be kept clean.
25. The store front glass windows must be clean
26. Equipment in the C Store must be clean.
27. Ceiling lights in the C Store must be working
28. Do all shelves have the correct stock weight.
29. Do all items have a price label and the correct price.
30. Is there any expired stock.

### **3.9 THE SERVQUAL QUESTIONNAIRE AS ADAPTED TO THE PETROLEUM INDUSTRY**

The latest available literature in conjunction with service quality presently applied at Caltex were used in developing the final measuring instrument. This instrument is portrayed in Appendix B.

### **3.10 STATISTICAL ANALYSIS**

The analysis will run various descriptive statistics on the demographic data such as frequency tables and will also draft the appropriate graphical illustrations where necessary such as bar and pie charts and histograms .

Arithmetic means and standard deviations will also be calculated where appropriate.

To measure the levels of customer satisfaction for a service, the results for perceptions and expectations need to be calculated for each customer. The gaps between both expectations and perceptions need to be calculated and Analyzed overall and by each demographic. We will also run various reliability and validity tests using the Cronbach coefficient alpha. The gaps as highlighted below will be isolated and elaborated on in Chapter 5 of this study as they are extremely helpful to management for decision making purposes .

1. *Gap 1: Gap between consumer expectations and management perception*  
Management may think that they know what consumers want and proceed to deliver this when in fact consumers may expect something quite different.
2. *Gap 2: Gap between management perception and service quality specification*  
Management may not set quality specifications or may not set them clearly. Alternatively, management may set clear quality specifications but these may not be achievable.
3. *Gap 3: Gap between service quality specifications and service delivery*  
Unforeseen problems or poor management can lead to a service provider failing to meet service quality specifications. This may be due to human error but also mechanical breakdown of facilitating or support goods.
4. *Gap 4: Gap between service delivery and external communications*  
There may be dissatisfaction with a service due to the excessively heightened expectations developed through the service provider's communications efforts. Dissatisfaction occurs where actual delivery does not meet up to expectations held out in a company's communications.

- 3 *Gap 5: Gap between perceived service and expected service.* This gap occurs as a result of one or more of the previous gaps.

The study will also use an inferential testing technique known as confidence intervals to estimate a few of our population parameters. These confident intervals will be established at a 95% confidences interval.

The various Statistical Techniques described are elaborated on below:

The concepts of descriptive statistics that will be applied in this study are simple and need not be explained, however, the study will explain the “Cronbach Coefficient Alpha” and Hypothesis testing in more detail.

### **3.10.1 “Cronbach Coefficient Alpha”**

Cronbach Alpha is a modified form of Split Half Reliability testing. In this later method a single test is divided into two parts in such a manner that they may be regarded as two parallel test halves. If they are indeed parallel, the correlation between them will provide an estimate of the parallel-forms reliability of either of the test halves (instead of the entire test). There are several ways in which a test may be divided into two halves. For example, in the case of a 30-item test, the first 15 could form one half and the last 15, the other half. For several reasons, the most popular way would be to take the 15 off-numbered items and the 15 even-numbered items as the two test halves.

In the case of a 10-item test, there are altogether 126 different pairs of test halves. As the number of items in the test increases, the total number of splits increases geometrically.

To the extent that some splits do not meet the assumption on which the split-half coefficient is based, this coefficient will tend to vary from one split to the next. Intuitively it makes sense to maintain that the mean of all these split-half coefficients will provide a better estimate of the reliability of the test than any single split alone. Cronbach (1951) developed the following equation for the mean split-half reliability coefficient (based on the less restrictive assumption), a quantity which he called coefficient alpha;

$$\text{Coefficient alpha} = \left( \frac{J}{J-1} \right) \left( 1 - \frac{\text{sum of the items variances}}{\text{variance of the total test}} \right)$$

Where J stands for the total number of items in the test. Thus, if the variance of a five-item test equals 1,00 and the five variances are 0,16, 0,13, 0,16, 0,22 and 0,21

$$\begin{aligned} \text{Coefficient alpha} &= \left( \frac{5}{5-1} \right) \left( 1 - \frac{0,88}{1} \right) \\ &= 0,15 \end{aligned}$$

By using this formula, the mean split-half reliability coefficient can thus be obtained directly, that is, without first computing all possible split-half coefficients.

### 3.10.2 "PAIRED T-TESTS"

Paired T-Test

$$\begin{aligned} H_0 &: \mu_1 = \mu_2 \\ H_1 &: \mu_1 \neq \mu_2 \end{aligned}$$

$$\alpha = 0.05$$

Note:  $\alpha$  = probability of rejecting  $H_0$  when is true (Type 1: error)

The test is two tailed.

The test statistic is :

$$T \text{ Test Statistic} = \frac{\sqrt{(n-1)\Sigma d}}{\sqrt{n\Sigma d^2 - (\Sigma d)^2}}$$

where d = the difference between the 2 columns.  
And n = the number of pairs.

We get the tabulated value from T Tables .

Note : The p – value = The probability of H<sub>0</sub> being true .

If the p-value is <  $\alpha = 0.05$  we reject H<sub>0</sub>

All statistical will be conducted using the SPSS ( version 9) software suite.  
This Statistical software program is manufactured by SPSS Inc , 444N .  
Michigan Avenue , Chicago , Illinois , USA.

### 3.11 SUMMARY

This research dissertation is aimed at identifying the key factors that impact on the levels of service at Caltex, developing a measuring instrument to evaluate service quality and making recommend what actions are necessary to improve the levels of service.

Service Quality is clearly a complex construct, which cannot be satisfactorily measured by a series of ad-hoc studies. This, and the increasing importance of quality as a means of gaining competitive advantage has seen the emergence of comprehensive programs to research customers *expectations* and *perceptions* of service quality. The most widely used adopted approach thus far has been suggested by Parasuraman, Zietmaml and Berry (1985) who have developed the Service Quality “Servqual” methodology. The Servqual is a multi-item scale for measuring consumer perceptions of service quality.

This measuring instrument has been adapted and applied to Caltex Service Stations. A convenience sample of customers across the Durban area were asked to complete the questionnaire and the results are tabulated in Chapter 4. The statistical techniques used in this analysis included various descriptive and inferential processes, the former including various measures of central location and dispersion and numerous tables and graphs, whereas the inferential techniques used were the Cronbach Alpha Coefficient (which assisted in both reliability and validity testing) and the confidence interval analysis.

## CHAPTER 4

### RESULTS OF STATISTICAL ANALYSIS

#### 4.1 INTRODUCTION

One sample was drawn from the defined target population which was defined as the greater Durban North Region as defined by Caltex Oil SA. From this area 5 service stations with car wash facilities were chosen.

#### 4.2 DATA COLLECTION

The methodologies employed in data collection namely sample size and sampling techniques are important in assisting a representative sample of the population. The techniques adopted are discussed.

##### 4.2.1 Sample Size

A total of 100 respondents was chosen, and these were based on a quota system including 20 from each service station.

##### 4.2.2 Sampling Technique

The service stations were chosen based on judgment sampling as the researcher felt it wise to ask people to fill in a questionnaire while they were waiting for their car to be washed. In addition each respondent was incentivised via a Caltex T-Shirt if the questionnaire was in fact filled in. The respondents within each station were chosen based on convenience sampling, as whoever arrived to receive a car wash and was prepared to fill in a questionnaire, was chosen as a respondent.

Although the above techniques applied non-probability sampling techniques and ideally we would have liked to have used a more scientific approach, namely a probability sampling technique free from bias, we were due to the

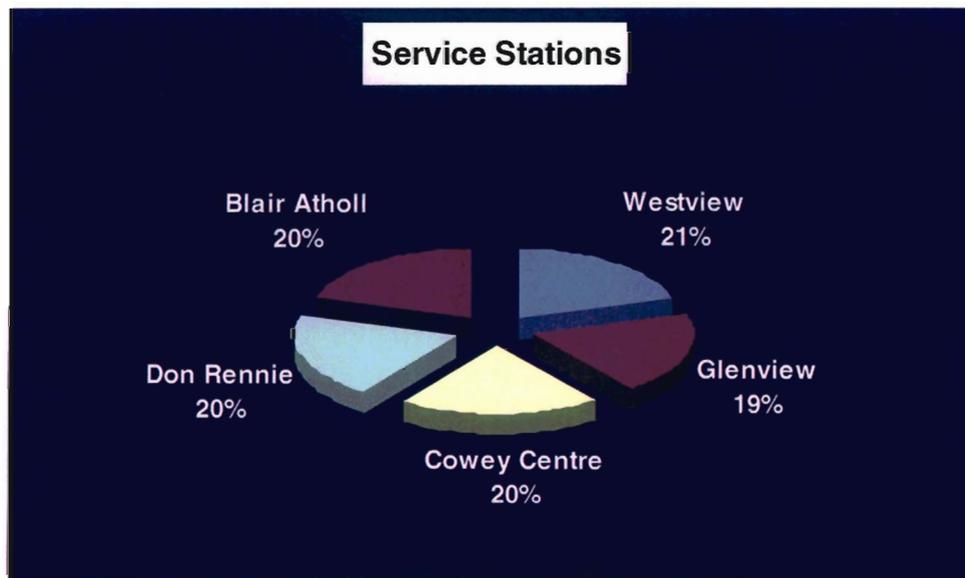
nature of the project limited by both time and budget .Nonetheless for the purposes of this thesis we assumed the sample to be representative of the population group and drew inferences accordingly.

### 4.3 STATEMENT OF RESULTS

The statement of results follows :

Initially this study describes the various **descriptive demographic statistics** that make up our sample group. This data is summarized at the end of the graphics displayed below.

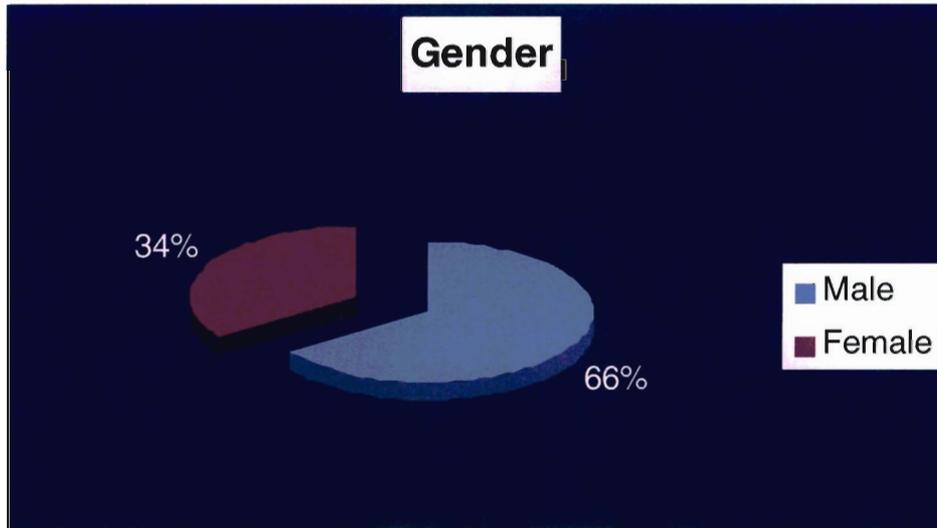
The Statistical Analysis is broken up into two sections namely the Descriptive Statistics followed up by the Inferential Statistics. The descriptive statistics for the Demographics are illustrated in figure 4.1 to 4.7.



**Figure 4.1 Sample Segmentation of Service Stations.**

Statistics for Pie Chart above: Westview=20, Glenview=19, Cowey Centre=20, Don Rennie=20 and Blair Atholl=20.

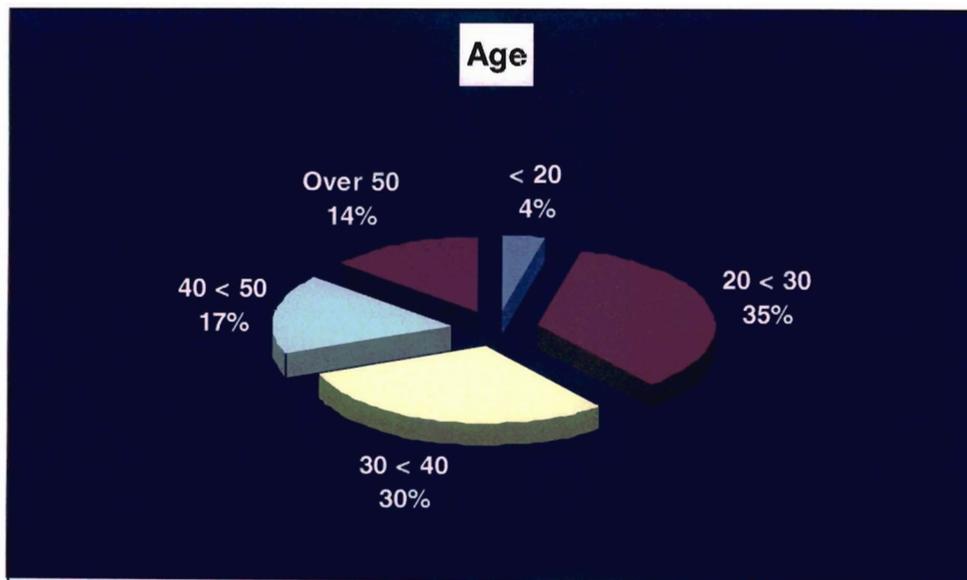
All service stations were provided with the same number of questionnaires. Only 19 questionnaires were captured from Glenview due to a damaged questionnaire.



**Figure 4.2 Sample Segmentation by Gender.**

Statistics for Pie Chart above: Males=61, Females=32 (Missing = 6 )

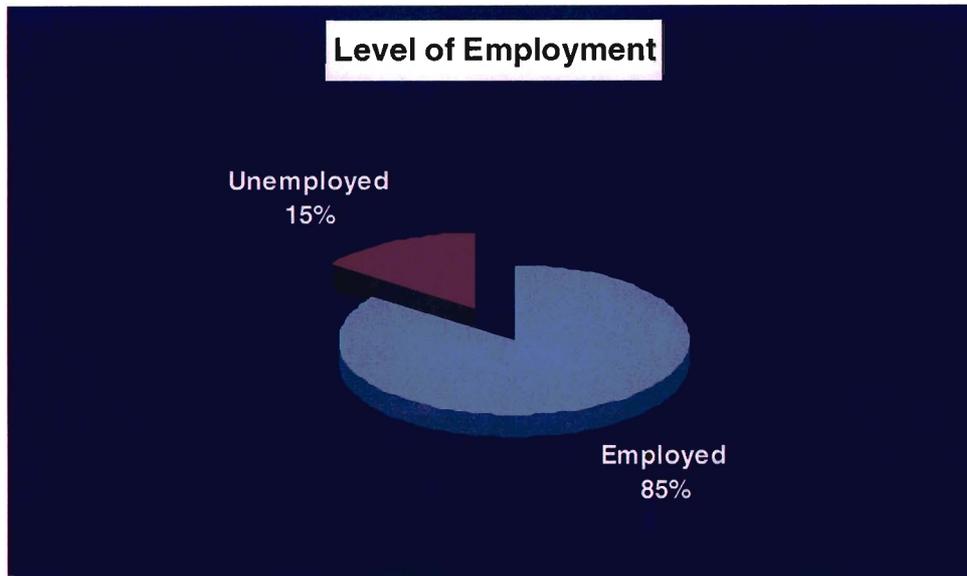
Sixty six percent of the respondents were male and the remaining 34% were female which is almost in line with the national demographic split of fuel consumers.



**Figure 4.3 Sample Segmentation by Age.**

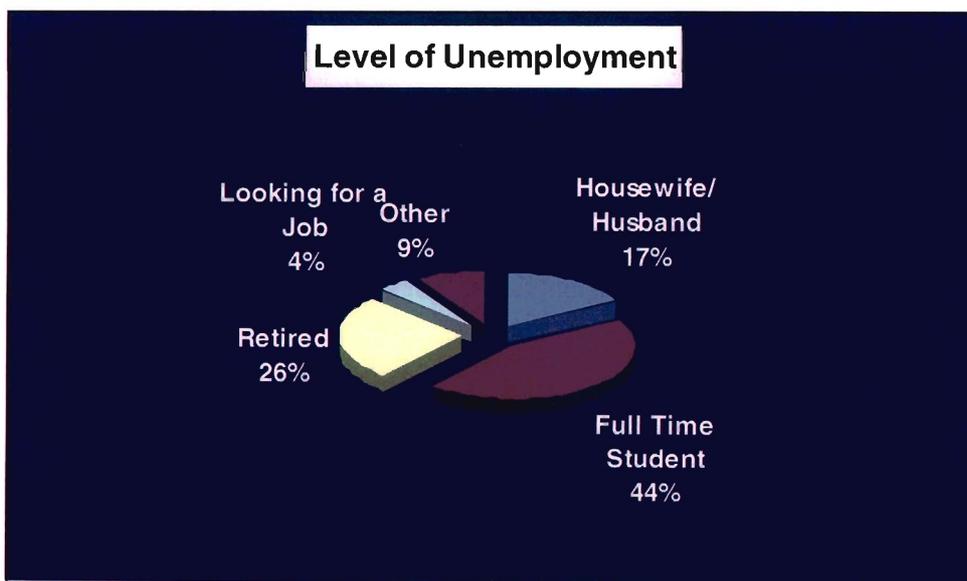
Statistics for Pie Chart above: 20< = 4, 20<30 = 34, 30<40 = 29, 40<50 = 17 and Over 50 = 14 (Missing = 1)

The age group of consumers was spread over a large spectrum with 75% of consumers being between 20 and 40 years.



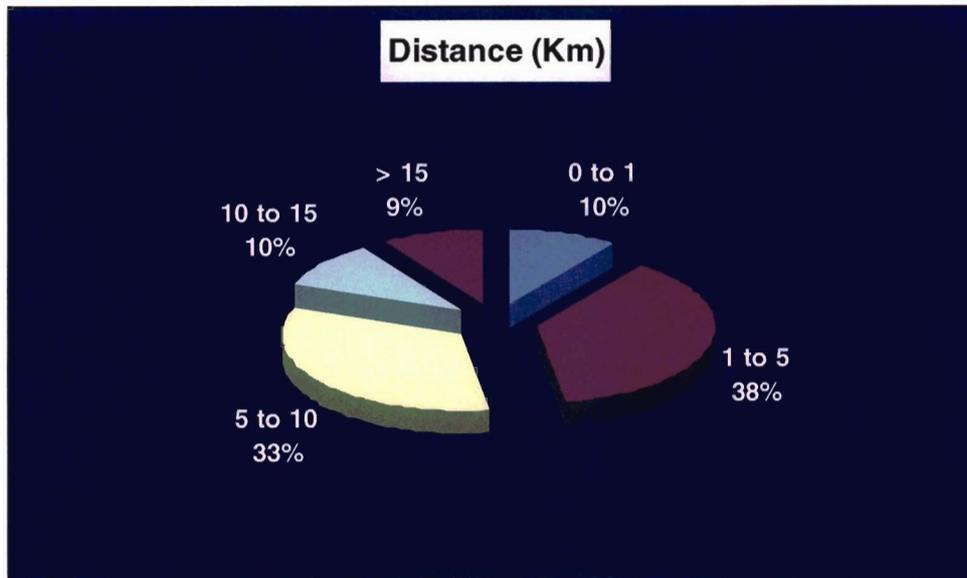
**Figure 4.4 Sample Segmentation by Level Of Employment.**  
 Statistics for Pie Chart above: Unemployed = 13, Employed = 76  
 (Missing = 10)

As expected 85% of respondents were employed due to the locality of service stations which were positioned within the higher LSM bands.



**Figure 4.5 Sample Segmentation by Level Of Unemployment.**  
 Statistics for Pie Chart above: Housewife/husband = 4, Full time student = 10,  
 Retired = 6, Looking for a job = 1, Other = 2  
 (Missing = 76 )

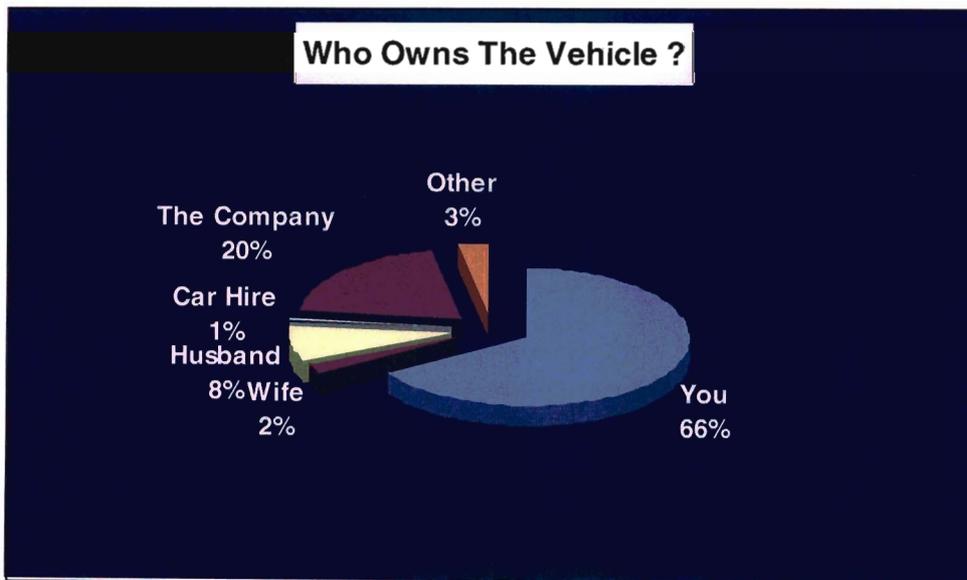
Again only 4% of respondents were actively pursuing employment, again reflective of the LSM band of this area.



**Figure 4.6 Sample Segmentation by Distance.**

Statistics for Pie Chart above: 0 to 1 = 10, 1 to 5 = 36, 5 to 10 = 33, 10 to 15 = 10, >15 = 9 (Missing = 1 )

As expected 81% of respondents live within a 10km radius of the service station.



**Figure 4.7 Sample Segmentation by Vehicle Ownership.**

Statistics for Pie Chart above: You = 64, You Wife = 2, Your Husband = 8, Your Company = 20, Car Hire = 1, Other = 3 (Missing = 1 )

Due to the high levels of employment of the sample group 86% of respondents either owned their own vehicle or the vehicle was owned by the company.

From the reported data it can be seen that all five stations are evenly distributed bar Glenview which removed one respondent due to an inadequately filled in questionnaire. The data set consisted of a predominantly Male group which encompassed 66% of the sample. The age group of the sample set was fairly evenly distributed. Level of unemployment was at only 15% with most of the unemployed being Housewives, full time students or retired persons. Only 4% of the sample were actively pursuing a job. This highlights the economic prosperity of the region as the recently released national figures from SA Statistics puts the national unemployment average of the economically active population in the region of 48%. 81% of the sample group live within 10 km of the service station enforcing the belief that location and convenience are important factors to the clients when choosing a filling station. 86% of ownership either is categorized as you or the company also emphasizing the financial independence and empowerment of this regional group.

The descriptive statistics for the main body of the questionnaires are highlighted in table 4.1.

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
E / Customer Satisfaction	90	3.47	7.00	6.5585	.59210
P / Customer Satisfaction	87	3.06	7.00	5.7613	1.03317
Valid N (listwise)	81				

**Table 4.1 Overall Customer Expectation and Perception Satisfaction Mean scores.**

As can be seen from the overall results in table 4.1, the level of customer expectation of service is higher (mean=6.56) than the level of customer perception of service (mean = 5.76). The results per dimension in terms of customer expectations and perceptions are recorded in the following tables.

## EXPECTATIONS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
E / Responsiveness	95	2.33	7.00	6.5825	.71948
E / Reliability	97	2.00	7.00	6.5670	.77454
E / Security	98	1.00	7.00	6.5510	1.14983
E / Assurance	96	3.50	7.00	6.5208	.68313
E / Image	95	4.67	7.00	6.5158	.60781
E / Empathy	98	1.50	7.00	6.4464	.88315
Valid N (listwise)	90				

Table 4.2 Overall Customer Expectation Satisfaction Dimension Mean scores.

## PERCEPTIONS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
P / Reliability	97	2.33	7.00	6.1031	.93214
P / Image	94	3.17	7.00	5.8209	.99888
P / Assurance	95	2.50	7.00	5.7816	1.15215
P / Empathy	93	1.75	7.00	5.7258	1.23087
P / Responsiveness	95	2.00	7.00	5.7053	1.25653
P / Security	95	1.00	7.00	5.6316	1.64416
Valid N (listwise)	87				

Table 4.3 Overall Customer Perception Satisfaction Dimension Mean scores.

From the results in both table 4.2 and 4.3 it can be seen that in all dimensions customer expectations are greater than customer perceptions. This supports the researchers view. These gaps between each dimension are visually quantified and portrayed in figure 4.8.

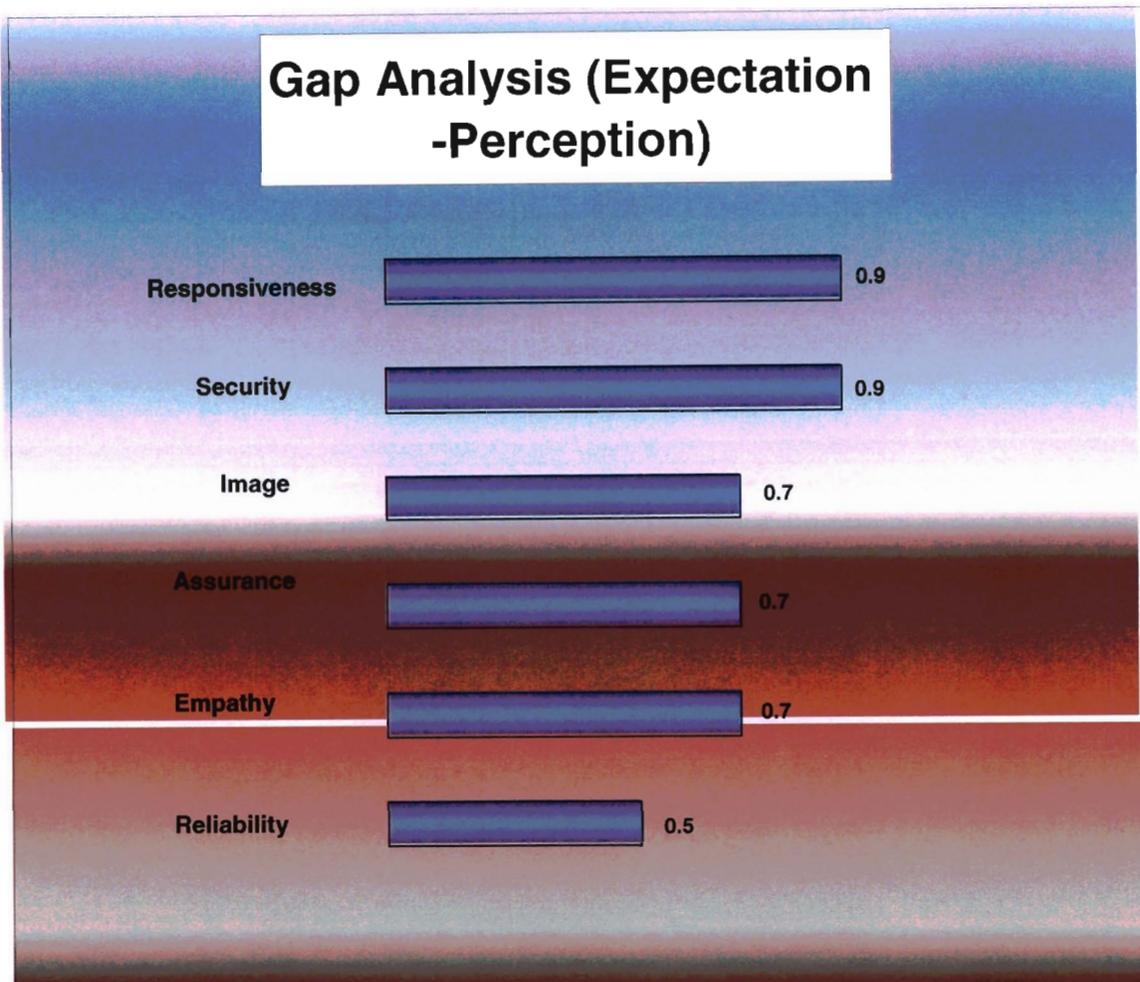


Figure 4.8 Expectation minus Perception Dimension Mean Gaps.

As can be seen in figure 4.8 the biggest 2 gaps are responsiveness and security. Also all the gaps are positive indicating that the expectations of customers across all dimensions is far greater than their perceptions of service at Caltex SA Oil, therefore work needs to be done across all dimensions starting with the ones where the gaps are the largest.

The tables that follow analyse each dimension separately by the questions that make up that dimension especially focusing on the gaps between expectations minus perceptions. The questions themselves are listed per dimension in tables 4.4 through to table 4.15 (Those in bold are above the

overall sample mean difference (expectation minus perception) of 0.67) :

## Responsiveness

### Expectations

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
A12	98	2.00	7.00	6.6224	.80610
A10	96	2.00	7.00	6.6042	.74663
A11	97	1.00	7.00	6.4845	1.05192
Valid N (listwise)	95				

Table 4.4 Overall Customer Perception Satisfaction Dimension Mean scores.

### Perceptions

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B10	98	1.00	7.00	5.8776	1.31027
B12	97	1.00	7.00	5.7938	1.35353
B11	97	1.00	7.00	5.4433	1.62640
Valid N (listwise)	95				

TABLE 4.5 OVERALL CUSTOMER PERCEPTION SATISFACTION DIMENSION MEAN SCORES.

Gaps:

**Question 11 = 1.04**

**Question 12 = 0.83.**

**Question 10 = 0.72**

- (10) An excellent service station will provide prompt service
- (11) Staff at an excellent service station when busy, will acknowledge a customer.
- (12) Staff at an excellent service station will always be willing to help a customer

From the findings in table 4.4 and 4.5 it can be seen that all items(questions) reflect a positive difference between expectations minus perceptions. In addition to being positive the questions are also placed in bold font as they all reflect larger gaps than the overall average of 0.67. This indicates that the

responsiveness dimension overall is a problem and that customers expect better levels of responsiveness that they are receiving from the Caltex service stations.

## Security

### Expectations

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
E / Security	98	1.00	7.00	6.5510	1.14983
Valid N (listwise)	98				

Table 4.6 Customer Expectation Satisfaction Mean scores for Security questions.

### Perceptions

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
P / Security	95	1.00	7.00	5.6316	1.64416
Valid N (listwise)	95				

Table 4.7 Customer Perception Satisfaction Mean scores for Security questions.

Gaps:

### **Question 21 = 0.92.**

(21) Clients at an excellent service station will feel safe from crime

From the findings in table 4.6 and 4.7 it can be seen that item 21 reflects a positive difference between expectations minus perceptions. In addition to being positive the question is placed in bold font as it reflects a larger gap than the overall average of 0.67. This indicates that the security dimension is a problem and that customers expect better levels of security than they are receiving from the Caltex service stations. One constructive criticism from this study is that more questions concerning security should be added by any future research in this domain.

## Image

### Expectations

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
A4	98	5.00	7.00	6.6122	.65224
A3	96	2.00	7.00	6.5625	.90394
A2	98	1.00	7.00	6.5102	.97647
A6	98	3.00	7.00	6.4388	.90891
A5	97	1.00	7.00	6.4021	1.05731
A1	98	1.00	7.00	6.3980	1.08162
Valid N (listwise)	95				

Table 4.8 Customer Expectation Satisfaction Mean scores for Image questions.

### Perceptions

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B4	99	1.00	7.00	5.9495	1.12824
B2	99	2.00	7.00	5.8788	1.17171
B5	95	1.00	7.00	5.8000	1.31764
B3	97	1.00	7.00	5.7938	1.20708
B6	98	1.00	7.00	5.7653	1.31448
B1	98	1.00	7.00	5.7653	1.14695
Valid N (listwise)	94				

TABLE 4.9 CUSTOMER PERCEPTION SATISFACTION MEAN SCORES FOR IMAGE QUESTIONS.

### Gaps:

#### **Question 3 = 0.77**

Question 6 = 0.67

Question 1 = 0.63.

Question 2 = 0.63.

Question 4 = 0.61.

Question 5 = 0.6.

- (1) An excellent service station should have neat looking pumps , air gauges etc...
- (2) The physical facilities, e.g. buildings, signs, lighting of the Forecourt, at an excellent Service Station will be visually appealing
- (3) The physical facilities, e.g. signs, lighting , layout of the convenience store at an excellent Service Station will be visually appealing

- (4) The staff of a Service Station will appear neat , e.g. uniform, name tags , grooming etc.
- (5) The stock eg: the oil can displays in the Forecourt of an excellent Service Station will be visually appealing.
- (6) The stock eg: confectionaries , beverage , cool dinks and chips in the convenience store of an excellent Service Station will be visually appealing.

From the findings in table 4.8 and 4.9 it can be seen that all items(questions) reflect a positive difference between expectations minus perceptions. In addition to being positive certain questions are also placed in bold font as they all reflect larger gaps than the overall average of 0.67. This indicates that the image dimension is a problem and that customers expect a better image than they are receiving from the Caltex service stations. If Caltex is to constructively address this problem they need to initially focus on the largest gap concerns which in this case is reflected by item 3 namely the improvement in the physical facilities as a starting point.

**Assurance**

**Expectations**

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
A14	96	2.00	7.00	6.6146	.92189
A16	99	2.00	7.00	6.5051	.81283
A13	98	2.00	7.00	6.4592	1.00687
A15	99	1.00	7.00	6.4343	.98106
Valid N (listwise)	96				

**TABLE 4.10 CUSTOMER EXPECTATION SATISFACTION MEAN SCORES FOR ASSURANCE QUESTIONS.**

**Perceptions**

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
B14	98	3.00	7.00	6.0816	1.04214
B15	97	1.00	7.00	5.7216	1.44872
B13	97	1.00	7.00	5.6804	1.35820
B16	96	1.00	7.00	5.6563	1.37518
Valid N (listwise)	95				

**TABLE 4.11 CUSTOMER PERCEPTION SATISFACTION MEAN SCORES FOR ASSURANCE questions.**

Gaps:

**Question 16 = 0.84.**

**Question 13 = 0.78.**

**Question 15 = 0.71**

Question 14 = 0.53.

- (13) The behaviour of staff at an excellent service station will instill confidence in a client
- (14) Clients of an excellent service station will feel safe in their dealings eg: shelves are fully stocked , the correct amount of petrol is clocked up and charged for etc...
- (15) Staff at an excellent service station will be consistently courteous with clients
- (16) Staff at an excellent service station will have the knowledge to answer a clients requests

From the findings in table 4.10 and 4.11 it can be seen that all items(questions) reflect a positive difference between expectations minus perceptions. In addition to being positive certain questions are also placed in bold font as they all reflect larger gaps than the overall average of 0.67. This indicates that the assurance dimension is a problem and that customers expect a better level of assurance than they are receiving from the Caltex service stations. If Caltex is to constructively address this problem they need to initially focus on the largest gap concerns which in this case is reflected by item 13,15 and 16 namely the improvement in the levels of service delivery by staff.

## Empathy

### Expectations

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
A18	99	2.00	7.00	6.5354	.87264
A19	99	1.00	7.00	6.4646	1.01331
A20	99	1.00	7.00	6.4040	1.10582
A17	98	1.00	7.00	6.3980	1.08162
Valid N (listwise)	98				

**Table 4.12 Customer Expectation Satisfaction Mean scores for Empathy questions.**

## Perceptions

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B18	94	1.00	7.00	5.7553	1.34153
B20	94	1.00	7.00	5.7447	1.41373
B17	97	1.00	7.00	5.6598	1.45693
B19	95	1.00	7.00	5.6526	1.42745
Valid N (listwise)	93				

Table 4.13 Customer Perception Satisfaction Mean scores for Empathy questions.

Gaps:

**Question 19 = 0.81**

**Question 18 = 0.78.**

**Question 17 = 0.74.**

Question 20 =0.66.

- (17) Staff at an excellent service station will give clients individualized attention
- (18) An excellent service station will have staff who give its client priority attention in the event of emergencies/queries
- (19) An excellent service station will have the clients best interests at heart
- (20) The staff of an excellent service station will understand the specific needs of a client

From the findings in table 4.12 and 4.13 it can be seen that all items(questions) reflect a positive difference between expectations minus perceptions. In addition to being positive certain questions are also placed in bold font as they all reflect larger gaps than the overall average of 0.67. This indicates that the empathy dimension is a problem and that customers expect a better level of empathy than they are receiving from the Caltex service stations. If Caltex is to constructively address this problem they need to initially focus on the largest gap concerns which in this case is reflected by item 17,18 and 19 namely the improvement in the levels of personalized service delivery by staff.

## Reliability

### Expectations

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
A8	97	2.00	7.00	6.6804	.83599
A7	98	2.00	7.00	6.6224	.79321
A9	98	1.00	7.00	6.3776	1.17986
Valid N (listwise)	97				

**TABLE 4.14 CUSTOMER EXPECTATION SATISFACTION MEAN SCORES FOR RELIABILITY QUESTIONS.**

### Perceptions

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B8	97	2.00	7.00	6.2577	1.08280
B7	98	2.00	7.00	6.2041	1.10257
B9	99	1.00	7.00	5.7475	1.35785
Valid N (listwise)	97				

**TABLE 4.15 CUSTOMER PERCEPTION SATISFACTION MEAN SCORES FOR RELIABILITY QUESTIONS.**

### Gaps:

Question 9 = 0.63

Question 7 = 0.42.

Question 8 = 0.42.

- (7) I can rely on the quality of fuel supplied by an excellent service station
- (8) I can rely on the quality of oil supplied by an excellent service station .
- (9) An excellent service station will perform error free service

From the findings in table 4.14 and 4.15 it can be seen that all items(questions) reflect a positive difference between expectations minus perceptions. This indicates that the reliability dimension is a problem and that customers expect a better level of reliability than they are receiving from the

Caltex service stations. This dimension is not as serious as the other five dimensions as the gaps are not as large, however, the differences are all still positive and need attention from the service station owners.

**Total Mean Gap = 0.67 and those in the top half have been highlighted in bold .**

The question then remains, are these differences significant. Due to the sample size in each case being over 30, the central limit theorem applies and we are able to use a parametric hypothesis test, namely the paired T-Test, the results of which are indicated in Table 4.16.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	A11 - B11	1.0313	1.63805	.16718	.6993	1.3632	6.168	95	.000
Pair 2	A12 - B12	.7708	1.43988	.14696	.4791	1.0626	5.245	95	.000
Pair 3	A10 - B10	.7368	1.40069	.14371	.4515	1.0222	5.127	94	.000
Pair 4	E / Security - P / Security	.8723	1.80938	.18662	.5017	1.2429	4.674	93	.000
Pair 5	A3 - B3	.7604	1.35914	.13872	.4850	1.0358	5.482	95	.000
Pair 6	A16 - B16	.8333	1.53326	.15649	.5227	1.1440	5.325	95	.000
Pair 7	A13 - B13	.7813	1.63645	.16702	.4497	1.1128	4.678	95	.000
Pair 8	A15 - B15	.7216	1.55953	.15835	.4073	1.0360	4.557	96	.000
Pair 9	A18 - B18	.8191	1.26969	.13096	.5591	1.0792	6.255	93	.000
Pair 10	A19 - B19	.7895	1.31193	.13460	.5222	1.0567	5.865	94	.000
Pair 11	A17 - B17	.7604	1.36686	.13950	.4835	1.0374	5.451	95	.000

**Table 4.16 Paired T-Tests (Expectation Satisfaction means compared to Perception Satisfaction means – Top half of differences)**

As can be seen from Table 4.16 , all differences in sample means are positive and since the p value (last column) is less than 0.05 (significance level), the null hypothesis (Hypothesis 1) in all cases is rejected indicating that the mean expectation satisfaction value is significantly greater than the mean perception satisfaction value at a 5% significance level. Not only does this apply for the top half of differences but it also applies to all the bottom half of differences as can be seen from the table 4.17 .

**Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 A1 - B1	.5773	1.36805	.13890	.3016	.8530	4.156	96	.000
Pair 2 A2 - B2	.6020	1.49045	.15056	.3032	.9009	3.999	97	.000
Pair 3 A4 - B4	.6429	1.19492	.12071	.4033	.8824	5.326	97	.000
Pair 4 A5 - B5	.5957	1.41664	.14612	.3056	.8859	4.077	93	.000
Pair 5 A6 - B6	.6735	1.40526	.14195	.3917	.9552	4.744	97	.000
Pair 6 A7 - B7	.3711	.86986	.08832	.1958	.5464	4.202	96	.000
Pair 7 A8 - B8	.4271	.80452	.08211	.2641	.5901	5.201	95	.000
Pair 8 A9 - B9	.5816	1.48479	.14999	.2840	.8793	3.878	97	.000
Pair 9 A14 - B14	.5158	1.05046	.10778	.3018	.7298	4.786	94	.000
Pair 10 A20 - B20	.6489	1.50774	.15551	.3401	.9578	4.173	93	.000

**Table 4.17 Paired T-Tests (Expectation Satisfaction means compared to Perception Satisfaction means – Bottom half of differences)**

A further analysis is also conducted to check if the expectation mean satisfaction scores are significantly different to the perception mean satisfaction scores by gender by age and by distance(Hypotheses 2,3 and 4). These analyses are portrayed below. Again in terms of gender, the central limit theorem applies as both sample sizes are greater than 30 and the appropriate parametric test, namely the independent T-Test is applied .

**BY GENDER**

**Group Statistics**

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
Diff Image	1.00	55	.7455	1.07528	.14499
	2.00	31	.6720	.98459	.17684
Diff Reliability	1.00	58	.5230	.87884	.11540
	2.00	32	.4063	.65437	.11568
Diff Responsiveness	1.00	55	.9515	1.24791	.16827
	2.00	32	.8646	1.31944	.23325
Diff Assurance	1.00	55	.8545	1.17131	.15794
	2.00	31	.6613	.86974	.15621
Diff Empathy	1.00	55	.8955	1.15639	.15593
	2.00	31	.7016	.90466	.16248

**Table 4.18 The descriptive statistics on the mean dimension differences (Expectation – Perception) by Gender**

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Diff Image	Equal variances assumed	.808	.371	.313	84	.755	.0734	.23442	-.39277	.53959
	Equal variances not assumed			.321	67.057	.749	.0734	.22868	-.38303	.52985
Diff Reliability	Equal variances assumed	2.270	.135	.657	88	.513	.1167	.17769	-.23638	.46986
	Equal variances not assumed			.714	80.203	.477	.1167	.16340	-.20842	.44189
Diff Responsiveness	Equal variances assumed	.517	.474	.307	85	.760	.0869	.28335	-.47645	.65032
	Equal variances not assumed			.302	62.020	.763	.0869	.28761	-.48798	.66185
Diff Assurance	Equal variances assumed	2.344	.129	.802	84	.425	.1933	.24107	-.28614	.67265
	Equal variances not assumed			.870	77.622	.387	.1933	.22214	-.24903	.63554
Diff Empathy	Equal variances assumed	.695	.407	.804	84	.424	.1938	.24105	-.28551	.67319
	Equal variances not assumed			.861	75.246	.392	.1938	.22520	-.25475	.64243

**Table 4.19 Independent T-Tests on the mean dimension differences (Expectation – Perception) by Gender**

As can be seen from the results the level of differences across both genders are not significantly different (Hypothesis 3) as all p values (5<sup>th</sup> to last column in Table 4.19 ) are not less than 0.05.

**BY AGE**

In the case of this dimension not all sample sizes are greater than 30, therefore a test for non-normality is first conducted. This test is the Kolmogorov Test statistics, the results of which are displayed below by age and by dimension.

One-Sample Kolmogorov-Smirnov Test

AGE			Diff Customer Satisfaction	Diff Image	Diff Reliability	Diff Responsiveness	Diff Assurance	Diff Empathy
1.00	N		3	4	4	4	4	3
	Normal Parameters <sup>a,b</sup>	Mean	.6157	.4583	.6667	.7500	.4375	.7500
		Std. Deviation	1.28908	.87533	1.18634	1.19799	.89849	1.52069
	Most Extreme Differences	Absolute	.350	.231	.250	.234	.333	.356
		Positive	.350	.231	.250	.234	.333	.356
		Negative	-.251	-.183	-.200	-.183	-.222	-.255
	Kolmogorov-Smirnov Z		.607	.462	.500	.469	.665	.616
	Asymp. Sig. (2-tailed)		.855	.983	.964	.981	.768	.842
2.00	N		28	32	32	32	30	30
	Normal Parameters <sup>a,b</sup>	Mean	.7059	.7240	.4583	.7292	.5083	.6000
		Std. Deviation	.78679	.79154	.84561	1.03501	.89895	.78400
	Most Extreme Differences	Absolute	.234	.132	.153	.274	.247	.178
		Positive	.234	.132	.153	.274	.247	.178
		Negative	-.135	-.086	-.143	-.121	-.166	-.108
	Kolmogorov-Smirnov Z		1.240	.745	.864	1.550	1.355	.975
	Asymp. Sig. (2-tailed)		.092	.635	.445	.016	.051	.298
3.00	N		26	28	29	28	29	29
	Normal Parameters <sup>a,b</sup>	Mean	.8462	.5476	.3448	1.0595	1.0690	1.0172
		Std. Deviation	.88214	.91833	.63297	1.46300	1.34114	1.30064
	Most Extreme Differences	Absolute	.187	.197	.259	.226	.180	.172
		Positive	.187	.197	.259	.226	.180	.172
		Negative	-.096	-.133	-.155	-.171	-.121	-.148
	Kolmogorov-Smirnov Z		.953	1.040	1.394	1.195	.970	.925
	Asymp. Sig. (2-tailed)		.324	.229	.041	.115	.303	.359
4.00	N		14	17	17	15	15	16
	Normal Parameters <sup>a,b</sup>	Mean	.8681	1.1176	.5882	1.2667	.7000	.8594
		Std. Deviation	.95219	1.23711	.86224	1.43206	.99193	1.10668
	Most Extreme Differences	Absolute	.233	.149	.164	.209	.120	.190
		Positive	.233	.149	.164	.209	.093	.190
		Negative	-.129	-.091	-.084	-.132	-.120	-.110
	Kolmogorov-Smirnov Z		.870	.613	.677	.811	.465	.759
	Asymp. Sig. (2-tailed)		.435	.846	.749	.526	.982	.612
5.00	N		9	10	13	12	13	13
	Normal Parameters <sup>a,b</sup>	Mean	.4090	.3833	.5128	.4444	.4231	.6731
		Std. Deviation	1.19265	1.54170	.88835	1.21716	1.09156	.92074
	Most Extreme Differences	Absolute	.220	.227	.257	.226	.241	.207
		Positive	.220	.227	.257	.226	.241	.207
		Negative	-.156	-.202	-.205	-.191	-.195	-.158
	Kolmogorov-Smirnov Z		.659	.718	.925	.782	.869	.748
	Asymp. Sig. (2-tailed)		.777	.681	.359	.573	.436	.631

a. Test distribution is Normal.

b. Calculated from data.

**Table 4.20 Kolmogorov Test Statistics by dimension by age.**

Studying Table 4.20 especially the rows containing the p values which are illustrated as “Asymp.Sig.(2-tailed)”, only the dimensions of reliability and responsiveness show significant departures from normality. Note in reliability the p value of 0.041 for age group 3 and for responsiveness the p value of 0.016 for age group 2. Therefore for the later two dimensions a non parametric approach is used in this analysis, however, for the former

dimensions a parametric approach is used. Firstly the parametric tests are conducted. An Anova test is run per dimension across all age groups, the results are outlined in Table 4.21

**ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Diff Image	Between Groups	4.867	4	1.217	1.158	.335
	Within Groups	90.370	86	1.051		
	Total	95.237	90			
Diff Assurance	Between Groups	6.322	4	1.580	1.303	.275
	Within Groups	104.292	86	1.213		
	Total	110.614	90			
Diff Empathy	Between Groups	2.839	4	.710	.620	.649
	Within Groups	98.361	86	1.144		
	Total	101.199	90			

**Table 4.21 Anova Test Statistics by dimension by age.**

As can be seen all p values last column are not less than 0.05, therefore the null hypothesis(Hypothesis 2) cannot be rejected and there is not sufficient evidence to suggest that a significant difference exists amongst differential levels within the three dimensions above across all age groups.

An non parametric Kruskal Wallis test is run for the other two dimensions across all age groups, the results are outlined in Table 4.22

**Test Statistics<sup>a,b</sup>**

	Diff Reliability	Diff Responsiveness
Chi-Square	1.014	2.639
df	4	4
Asymp. Sig.	.908	.620

a. Kruskal Wallis Test

b. Grouping Variable: AGE

**Table 4.22 Kruskal Wallis Test Statistics by dimension by age.**

Again as can be seen all p values last row are not less than 0.05, therefore the null hypothesis cannot be rejected and there is not sufficient evidence to suggest that a significant difference exists amongst differential levels within the two dimensions above across all age groups.

### **BY DISTANCE**

In the case of this dimension not all sample sizes are greater than 30, therefore a test for non-normality is first conducted. This test is the Kolmogorov Test statistics, the results of which are displayed in table 4.3 by age by dimension.

One-Sample Kolmogorov-Smirnov Test

DISTANCE			Diff Customer Satisfaction	Diff Image	Diff Reliability	Diff Responsiveness	Diff Assurance	Diff Empathy
1.00	N		8	9	9	9	8	9
	Normal Parameters <sup>a,b</sup>	Mean	.4444	.3519	.1111	.3704	.6250	.3611
		Std. Deviation	.80552	.42853	.52705	1.41857	1.18019	.67443
	Most Extreme Differences	Absolute	.291	.324	.139	.306	.250	.232
		Positive	.291	.231	.139	.306	.250	.232
		Negative	-.181	-.324	-.108	-.232	-.229	-.128
	Kolmogorov-Smirnov Z		.824	.973	.417	.918	.706	.696
	Asymp. Sig. (2-tailed)		.506	.300	.995	.368	.701	.717
2.00	N		29	35	36	35	34	33
	Normal Parameters <sup>a,b</sup>	Mean	.9210	.7762	.5741	1.0190	.8088	.9924
		Std. Deviation	1.01976	1.26216	.94486	1.17697	1.18874	1.33681
	Most Extreme Differences	Absolute	.211	.135	.216	.206	.167	.208
		Positive	.211	.135	.211	.206	.167	.208
		Negative	-.111	-.098	-.216	-.136	-.130	-.138
	Kolmogorov-Smirnov Z		1.136	.796	1.297	1.217	.973	1.197
	Asymp. Sig. (2-tailed)		.151	.550	.069	.104	.301	.114
3.00	N		28	31	32	30	30	31
	Normal Parameters <sup>a,b</sup>	Mean	.6131	.6505	.4896	.9444	.6250	.6613
		Std. Deviation	.68353	.84695	.71834	1.28976	.78715	.79987
	Most Extreme Differences	Absolute	.212	.142	.190	.219	.183	.180
		Positive	.212	.142	.190	.219	.183	.180
		Negative	-.107	-.103	-.105	-.161	-.114	-.095
	Kolmogorov-Smirnov Z		1.124	.791	1.073	1.197	1.003	1.004
	Asymp. Sig. (2-tailed)		.160	.559	.200	.114	.267	.266
4.00	N		10	10	10	10	10	10
	Normal Parameters <sup>a,b</sup>	Mean	1.0236	.8833	.5667	1.1667	1.0500	1.2750
		Std. Deviation	1.18634	1.29111	.90335	1.71594	1.64907	1.05046
	Most Extreme Differences	Absolute	.147	.216	.202	.115	.182	.170
		Positive	.097	.216	.140	.115	.182	.170
		Negative	-.147	-.147	-.202	-.115	-.162	-.155
	Kolmogorov-Smirnov Z		.464	.685	.639	.362	.576	.537
	Asymp. Sig. (2-tailed)		.983	.737	.809	.999	.894	.936
5.00	N		5	6	8	7	9	8
	Normal Parameters <sup>a,b</sup>	Mean	.3556	.5000	.1667	.1905	.3056	.3750
		Std. Deviation	.64450	.77460	.25198	.46576	1.00606	.75593
	Most Extreme Differences	Absolute	.339	.407	.371	.373	.286	.316
		Positive	.339	.407	.371	.373	.286	.316
		Negative	-.291	-.259	-.254	-.198	-.179	-.204
	Kolmogorov-Smirnov Z		.759	.998	1.049	.987	.858	.893
	Asymp. Sig. (2-tailed)		.612	.272	.221	.284	.453	.403

a. Test distribution is Normal.

b. Calculated from data.

**Table 4.23 Kolmogorov Test Statistics by dimension by distance.**

Studying Table 4.23 , especially the rows containing the p values which are illustrated as “Asymp.Sig.(2-tailed)”, no dimensions show significant departures from normality . as all p values are greater than 0.05. Therefore the appropriate parametric tests are conducted.

An Anova test is run per dimension across all distance categories, the results are outlined in Table 4.24.

**ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Diff Image	Between Groups	1.925	4	.481	.435	.783
	Within Groups	95.155	86	1.106		
	Total	97.081	90			
Diff Reliabilty	Between Groups	2.390	4	.597	.939	.445
	Within Groups	57.255	90	.636		
	Total	59.644	94			
Diff Responsiveness	Between Groups	7.288	4	1.822	1.125	.350
	Within Groups	139.240	86	1.619		
	Total	146.527	90			
Diff Assurance	Between Groups	3.235	4	.809	.650	.628
	Within Groups	106.923	86	1.243		
	Total	110.158	90			
Diff Empathy	Between Groups	7.250	4	1.812	1.659	.167
	Within Groups	93.949	86	1.092		
	Total	101.199	90			

**Table 4.24 Anova Test Statistics by dimension by distance.**

As can be seen all p values last column are not less than 0.05, therefore the null hypothesis(Hypothesis 4) cannot be rejected and there is not sufficient evidence to suggest that a significant difference exists amongst differential levels within all the dimensions above across all distance categories.

#### **4.4 INTERNAL CONSISTENCY METHOD**

The simplest measure of internal consistency is split-half reliability . The coefficient CronBach Alpha is the appropriate statistic to analyze this . This technique yields the average of all possible split half coefficients resulting from different ways of splitting all scale items. The data were tested for reliability using this technique :

This coefficient varies from 0 to 1 and a value of less than 0.6 generally indicates unsatisfactory internal consistency .

## Reliability Testing

<b>CRONBACH</b>		
<b>ALPHA</b>		
<b>RELIABILITY</b>		
<b>TESTING</b>	<b>Expectations</b>	<b>Perceptions</b>
<b>Tangibles</b>	0.79	0.91
<b>Reliability</b>	0.75	0.76
<b>Responsiveness</b>	0.79	0.86
<b>Assurance</b>	0.80	0.90
<b>Empathy</b>	0.88	0.92
<b>Overall Customer Satisfaction</b>	0.93	0.96

**Table 4.25 Reliability Testing – Cronbach Alpha Coefficients.**

All coefficient values are greater than 0.6 indicating satisfactory internal consistency .

### **4.5 SUMMARY**

The descriptive statistics used namely frequency distribution tables, measures of central location and measures of dispersion and the inferential analyses used such as paired t-tests, tests for normality of data (kolmogorov smirnov test statistic), Anova and kruskall wallis tests will be dissected and discussed in the Conclusions and Recommendations section in Chapter 5.

## **CHAPTER 5**

### **RECOMMENDATIONS AND CONCLUSIONS**

#### **5.1 INTRODUCTION**

The findings from the survey and literature research are discussed on each area of the findings and recommendations are made accordingly.

#### **5.2 RELIABILITY AND VALIDITY OF MEASURING INSTRUMENT**

The Servqual measuring instrument as adapted to the petroleum industry (using the Market Pulse Audit and input from a focus group of senior executives) has proven to be a reliable measuring instrument in terms of internal consistency for both expectation and perception dimensions and the overall expectation and perception scales. This is validated by the various Cronbach coefficient Alpha values per dimension which are all a lot larger than 0.6 as can be seen in table 4.25.

The measuring instrument experienced no problems during the pilot phase of the project indicating that the questions used together with the questionnaire layout itself were well understood. This improves the internal validity of the study. Also very important this allows the questionnaire to be used by Caltex Oil S.A in the future as in its present form and structure it has proven to be both reliable and valid.

#### **5.3 GENERAL STATISTICAL INFORMATION**

The data set consisted of a predominantly affluent group of respondents. Also 81% of the sample group live within 10 km of the service station enforcing the belief that location and convenience are important factors to the clients when

choosing a filling station. 86% of ownership either is categorized as you or the company also emphasizing the financial independence and empowerment of this regional group.

In conclusion the statistics point to significant differences between population means from all dimensions across both the expectation and perception groups. This is highlighted by the results in both tables 4.16 and table 4.17. All p values are less than 0.05 (significance level), therefore the null hypothesis in all cases is rejected indicating that the mean expectation satisfaction value is significantly greater than the mean perception satisfaction value at a 5% significance level across all dimensions. Not only does this apply for the top half of differences but it also applies to all the bottom half of differences as can be seen from the table 4.17.

Also the stats show that these differences in means are not accounted for by gender differences(table 4.19) or age differences (tables 4.21 and 4.22) or even distance differences (table4.24) No p values in these above cases are less than 0.05. , therefore the null hypothesis cannot be rejected and there is not sufficient evidence to suggest that significant difference exists amongst within these various demographics of gender, age and distance .

#### **5.4 RESPONSIVENESS**

The questions listed below all had mean differences of expectation minus perception levels above the overall average mean difference of 0.67 and as such should be noted as the more important problem areas to be addressed in any follow up programs. A discussion of the questions areas and any other constructive ideas follows :

- (10) An excellent service station will provide prompt service
- (11) Staff at an excellent service station when busy, will  
acknowledge a customer.

(12) Staff at an excellent service station will always be willing  
to help a customer

Increasingly, customers want their needs met with greater speed and efficiency and all organisations are geared toward this global challenge. However, due to government regulation of the petroleum industry, new technology such as self - dispensing pumps are not found in South Africa. It is for this reason that there is such a heavy dependence on staff to deliver the organisations message through their interaction with customers. As I have stated at the outset, service is the only distinguishing factor that can set one service station apart from another.

Although, Customer Service Attendants (CSA) employed by Franchisee's of Caltex Oil SA have to now complete a standardised training programme (Train To Connect), not enough emphasis is placed on responsiveness. They are trained to acknowledge a customer when he drives onto the forecourt but the emphasis is on the actual service interaction. This issue is further complicated by the fact that the Market Pulse Audit may not occur during a peak period of the day thus when the auditor drives onto the forecourt he may be greeted by the staff as they may not have other vehicles to attend to. Thus the audit will record this as a positive but the reality during peak times may be very different.

Although many Service Stations employ Forecourt Supervisors, I believe that this job description is very poorly understood. A forecourt supervisor should not be an attendant. During peak times, a supervisor should be easily identifiable on the forecourt and he should be positioned so that he can direct customers toward pumps as they become available. He should also greet all customers and this need not be verbal but gestures would also suffice. This would leave the CSA's free to get on with delivering the service faster and more efficiently. Currently, if a CSA is busy attending to one car and also

trying to acknowledge another customer, this may leave room for error in service delivery.

This leads me to conclude that the traditional role of a Forecourt Supervisor needs to be redefined. This employee must be seen as more of a "Forecourt Relations Officer", a marketing representative of the service station rather than as a CSA. His main responsibilities should include acknowledging customers, informing them of the "specials" in the convenience store, directing them to pumps when they become available and generally creating goodwill between the customer and the service station.

Customer Service Attendants should be free to concentrate on error - free service delivery. This will speed up the process, as the current customer they are serving will have their undivided attention. Although the refuelling of a vehicle may seem like a menial task to the general public, an error such as the incorrect grade of fuel or the incorrect lubricant could have expensive repercussions for the service station as well as damage the oil company's reputation.

Once again the point of differentiation in the service station industry in South Africa is service. The purchase of fuel is a "grudge purchase" as the benefits of the transaction is not immediately realised by the customer. Thus, customer retention (loyalty) in this industry is very small. The idea therefore, is to attempt to individualise service delivery. Greeting customers by name, second - guessing their requirements and awaiting confirmation, and, meeting their needs beyond their expectations are all examples of how this could be achieved. This will be far too much for the CSA's to achieve and the need for a dedicated "relations officer" becomes more apparent.

Further, it is important to consider the implications of service as a differentiator in a deregulated market. In Britain, large supermarket chains own many service stations. To entice customers to these supermarkets, their

core function, they use the price of fuel – often selling it at cost or as “give-aways” for purchases exceeding a certain amount. In South Africa, Raymond Ackerman, has made no secret of his desire for a deregulated fuel market. This naturally leads one to conclude that he will launch a brand attached to his Pick n Pay chain stores. Smaller service stations will find it extremely difficult to compete against this marketing giant and will be forced to close. It is my belief however, that a smaller service station with exceptional service delivery will be able to survive as customers may continue to patronise this establishment.

## **5.5 SECURITY**

The questions listed below all had mean differences of expectation minus perception levels above the overall average mean difference of 0.67 and as such should be noted as the more important problem areas to be addressed in any follow up programs. A discussion of the questions areas and any other constructive ideas follows:

(21) Clients at an excellent service station will feel safe from crime

Although there was only one question with regards to security, the response that customers do not feel safe is a cause for concern. Crime in South Africa and its effect on various industries has reached staggering proportions. Over the past few years, service stations have been seen as “soft targets” due to the nature of the business and the large amounts of cash that is on the premises. The industry as a whole has implemented measures to curb these often-violent crimes. Caltex Oil SA has installed CCTV systems as well as “drop – safes” at all company owned retail sites. Further, Caltex Oil SA insists as per the Franchise Agreement that all retailers use a cash-in-transit company to transport cash from the retail sites.

All these measures are commendable but they do not make a visible statement to customers addressing their concern about security. These measures are to protect the interests of the management of the site or are useful in apprehending and convicting perpetrators post event. The question for Caltex Oil SA is how to make customers feel safe at our forecourts.

Many private security companies use service stations as a “stand off” point with their vehicles and their employees on the forecourt ready to respond to an emergency in the surrounding vicinity. This is normally an informal agreement between the retailer and the security company in exchange for some free service eg. free coffee or carwash for the security guards. This agreement should be formalised between Caltex Oil SA and security companies that patrol an area in the vicinity of one of their service stations. This serves to create a visible security presence on the forecourt and should make customers feel safer when visiting the facility.

Although some sites employ a full-time security guard crime statistics show that it is preferable that he is unarmed. In most cases, the security guards firearm is used during the crime. By observation, I have noticed that the current security guards instil no confidence as they merely sit in the convenience store trying to catch shoplifters. They need to be on the forecourt as well and can also assist in preventing crime by acknowledging all who enter the forecourt. It is the visible presence of these security guards that can give our retail sites a marketing advantage. To this end, Caltex Oil SA needs to have structured training programmes for security guards working on retail sites.

Lighting is another consideration when it comes to security, especially at night. Due to the size of the canopy, the structure of the convenience store, and, the mere size of a retail facility, will create “dark spots.” This needs to be identified and the actual and the perceived risk to customers must be addressed. It is important to note that there may be issues that do not pose a

real risk to customers from a security analyst's perspective, but, from a marketing perspective the risk can be very real. If customers do not feel safe, they will take their business somewhere else.

As crime prevention and customer security continues to be such a huge part of the business landscape in South Africa, in-depth research from a customer perspective can provide Caltex Oil SA with a competitive advantage.

## **5.6 IMAGE**

The questions listed below all had mean differences of expectation minus perception levels above the overall average mean difference of 0.67 and as such should be noted as the more important problem areas to be addressed in any follow up programs. A discussion of the questions areas and any other constructive ideas follows :

- (3) The physical facilities, e.g. signs, lighting , layout of the convenience store at an excellent Service Station will be visually appealing

Although the expectation / perception gap regarding image is not as pronounced as responsiveness and security, the areas of convenience store offering and forecourt equipment needs to be discussed further.

Merchandise displayed in the convenience store is done according to planograms as stipulated by Caltex Oil SA. These displays take into account the most effective selling positions for certain items. It also serves to standardise the offering across the Caltex network. Conformity to the display is audited by Market Pulse and also checked by the Caltex Business Consultant on his call to the site. Expiry dates of products are also checked. One possible reason for the expectation / perception gap regarding these displays could be lighting. The service stations that participated in the survey

are in vicinities where customers are spoilt for choice when it comes to convenience offerings. Many of these sites compete directly with Spar, Woolworths Foods and Pick n Pay stores.

These convenience offerings use heuristics (colour, lighting, music) to create a perception that is more appealing than Caltex convenience stores. It is an area that Caltex Oil SA needs to research further. The problem is further complicated by the size and choice that these stores offer as opposed to Caltex.

Forecourt equipment, especially pumps or dispensers are extremely expensive to upgrade or replace with newer looking models. The most visible parts are covers (decals) that can be changed on a cyclic basis instead of when they are faded. Pump changes should only be carried out (if not for maintenance reasons) only when there is a new entrant in the area that is putting competitive pressures on the Caltex site.

## **5.7 ASSURANCE**

The questions listed below all had mean differences of expectation minus perception levels above the overall average mean difference of 0.67 and as such should be noted as the more important problem areas to be addressed in any follow up programs. A discussion of the questions areas and any other constructive ideas follows :

- (13) The behaviour of staff at an excellent service station will instill confidence in a client
- (15) Staff at an excellent service station will be consistently courteous with clients
- (16) Staff at an excellent service station will have the knowledge to answer a clients requests

Although the Train To Connect training programme for Customer Service Attendants does address other areas of the job, the product knowledge module has to be redesigned for the academic abilities of the CSA's. South Africa has the largest number of functionally illiterate school graduating students (matriculants) and many of them are employed as CSA's at service stations. The product knowledge module needs to be a practical course with ongoing refresher courses.

## **5.8 EMPATHY**

The questions listed below all had mean differences of expectation minus perception levels above the overall average mean difference of 0.67 and as such should be noted as the more important problem areas to be addressed in any follow up programs. A discussion of the questions areas and any other constructive ideas follows :

- (17) Staff at an excellent service station will give clients individualized attention
- (18) An excellent service station will have staff who give its client priority attention in the event of emergencies/queries
- (19) An excellent service station will have the clients best interests at heart
- (20) The staff of an excellent service station will understand the specific needs of a client

It is indeed concerning that some Caltex customers believe that Customer Service Attendants (CSA) do not have their best interests at heart. There have been complaints in the past that customers requiring a smaller value of products and services felt marginalized. They were either not offered the full service (checking oil, water and tyres) or felt the attitude of the CSA to be resentful. This sort of behaviour by employees and management at a service station must be eradicated immediately. Word-of-mouth advertising, good or

bad, has the greatest impact on customers. If one customer has a bad experience, by personalizing the issue, others (determined by his social or professional associations) become sympathetic toward his cause. This sort of negative brand association can affect the Caltex network as a whole.

When a customer has a problem, more often than not, the CSA refers it to management. When problems arise, it must be seen as a chance for service recovery, an opportunity for the service station to distinguish itself from the competition. For this to occur there must be controlled empowerment of staff. If given the responsibility and the opportunity, the CSA will be able to resolve the customer's problem without the intervention of management.

## **5.9 RELIABILITY**

The questions listed below all had mean differences of expectation minus perception levels above the overall average mean difference of 0.67 and as such should be noted as the more important problem areas to be addressed in any follow up programs. A discussion of the questions areas and any other constructive ideas follows :

Error free service is the aim of every business, and the only way this can be achieved is through proper recruitment of staff and continuous training. Procedures for recruitment at CSA level needs to be formalized by Caltex Oil S.A. and as stated earlier, the emphasis should be on employing a "marketer" rather than previous experience. Although the Train To Connect programme has been implemented at most Caltex sites, this was done as a "top-down" approach rather than a genuine effort by the retailer to up-skill his staff.

As an international brand, the integrity of Caltex products is guaranteed. However, the reason for some customers perception that they are not confident with Caltex products could stem from our current advertising campaigns. Shell, continuously exploits their association with Ferrari as the

cornerstone of their campaigns. Engen does the same using their “unleaded dynamic 97”. BP has chosen the environmentally friendly stand with their “cleaner fuels” promotions. Caltex however, tries to create a brand association. We have stopped advertising the features and technical benefits of our products. As vehicles become more sophisticated, customers want to know how using your products’ affects the performance of their vehicles. We are not getting this message across to them.

#### **5.10 SUMMARY**

Although the points noted above can have a significant impact on customer’s perceptions of service, it must be noted that Caltex still maintains second spot in terms of market share in the Durban Magisterial District. Engen has the largest market share however they have more retail sites than Caltex. Shell also has more retail sites, yet they are still behind in share of market. This proves that Caltex sites are far more effective than shell. Caltex policy of “sweating their assets” seems to be working in the short term, but this also leads to greater maintenance costs and constant upgrades due to overuse.

With the introduction of Sasol into the retail scene, and, their merger with Engen, a formidable giant in the industry has been created. In order to keep pace, all competitors have to search for a distinguishable advantage in order to retain and attract customers. Technical differences of products are virtually non – existent as all major players spend large amounts on research and development. The only differentiating avenue that is left is customer service.

Security remains a concern, as highlighted by this study, but it has an effect on all spheres of business in South Africa. Although the petroleum industry, as a whole, is trying to address this issue, the pace of change is far too slow. A possible point of differentiation for Caltex could be security. A further study is required to identify the gaps concerning security and possible, financially viable solutions need to be generated from a customer’s point of view.

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## APPENDIX A

### SERVQUAL QUESTIONNAIRE AS APPLIED IN THE HOTEL INDISTRY

Please complete Part A by indicating your expectations of hotels *in general*. Then complete Part B indicating your perceptions of this hotel *in particular*. Please answer on a scale from 1 (strongly disagree with the statement) to 7 (strongly agree).

#### [PART A]

Directions: please complete the following questionnaire pertaining to service quality. If you feel the features mentioned in each statement are essential in your judgment of the hotel, please circle 7. However if you feel the features mentioned are of little importance. please circle number 1.

- |  | Strongly Disagree         | Strongly Agree |
|--|---------------------------|----------------|
| (1) An excellent hotel will have modern looking equipment, e.g. dining facility; bar facility, crockery, cutlery, etc.                         | 1...2...3...4...5...6...7 |                |
| (2) The physical facilities, e.g. buildings, signs, dining room decor, lighting, carpet etc., at an excellent hotel will be visually appealing | 1...2...3...4...5...6...7 |                |
| (3) Staff at an excellent hotel will appear neat, e.g. uniform, grooming etc.  | 1...2...3...4...5...6...7 |                |
| (4) Materials associated with the service, e.g. pamphlets, statements, table wine, serviettes will be visually appealing in an excellent hotel | 1...2...3...4...5...6...7 |                |
| (5) When an excellent hotel promises to do something by a certain time, it will do so  | 1...2...3...4...5...6...7 |                |

- |      |   |                           |
|------|---|---------------------------|
| (6)  | When patrons have a problem, an excellent hotel will show genuine interest in solving it, e.g. an error in a bill | 1...2...3...4...5...6...7 |
| (7)  | An excellent hotel will perform service right the first time  | 1...2...3...4...5...6...7 |
| (8)  | An excellent hotel will provide its services at the time it promises to do so                                     | 1...2...3...4...5...6...7 |
| (9)  | An excellent hotel will insist on error-free service  | 1...2...3...4...5...6...7 |
| (10) | Staff at an excellent hotel will tell patrons exactly when services will be performed                             | 1...2...3...4...5...6...7 |
| (11) | Staff at an excellent hotel will give prompt service to patrons   | 1...2...3...4...5...6...7 |
| (12) | Staff at an excellent hotel will always be willing to help patrons  | 1...2...3...4...5...6...7 |
| (13) | Staff at an excellent hotel will never be too busy to respond   | 1...2...3...4...5...6...7 |
| (14) | The behaviour of staff at an excellent hotel will instill confidence in patrons                                   | 1...2...3...4...5...6...7 |
| (15) | Patrons of an excellent hotel will feel safe in their transactions  | 1...2...3...4...5...6...7 |
| (16) | Staff at an excellent hotel will be consistently courteous with patrons   | 1...2...3...4...5...6...7 |
| (17) | Staff at an excellent hotel will have the knowledge to answer patrons' requests                                   | 1...2...3...4...5...6...7 |
| (18) | Staff at an excellent hotel will give patrons individualized attention  | 1...2...3...4...5...6...7 |
| (19) | An excellent hotel will have opening hours convenient to all of its patrons                                       | 1...2...3...4...5...6...7 |
| (20) | An excellent hotel will have staff who give its patrons personal attention  | 1...2...3...4...5...6...7 |

- (21) An excellent hotel will have the patrons' best interests at heart 1...2...3...4...5...6...,7
- (22) The staff of an excellent hotel will understand the specific needs of their patrons 1...2...3...4...5...6...,7

**[PART B]**

- (1) The hotel has modern looking equipment 1...2...3...4...5...6...,7
- (2) The physical facilities at the hotel are visually appealing 1...2...3...4...5...6...,7
- (3) Staff at the hotel appear neat 1...2...3...4...5...6...,7
- (4) Materials associated with the service are visually appealing 1...2...3...4...5...6...,7
- (5) When the hotel promised to do something by a certain time, it did it 1...2...3...4...5...6...,7
- (6) When patrons have problems, the hotel shows a genuine interest in solving them 1...2...3...4...5...6...,7
- (7) The hotel performs the service right the first time 1...2...3...4...5...6...,7
- (8) The hotel provides its services at the time it promises to do so 1...2...3...4...5...6...,7
- (9) The hotel insists on error-free service 1...2...3...4...5...6...,7
- (10) Staff at the hotel were able to tell patrons exactly when services would be performed 1...2...3...4...5...6...,7
- (11) Staff at the hotel give prompt service to the patrons 1...2...3...4...5...6...,7
- (12) Staff at the hotel are always willing to help patrons 1...2...3...4...5...6...,7
- (13) Staff of the hotel are never too busy to respond to patrons 1...2...3...4...5...6...,7
- (15) Patrons of the hotel feel safe in their transactions 1...2...3...4...5...6...,7

- |      |   |                           |
|------|---|---------------------------|
| (16) | Staff of the hotel are consistently courteous with patrons            | 1...2...3...4...5...6..,7 |
| (17) | Staff of the hotel have the knowledge to answer patrons               | 1...2...3...4...5...6..,7 |
| (18) | The hotel gives patrons individualized attention                      | 1...2...3...4...5...6..,7 |
| (19) | The hotel has opening hours convenient to all of its patrons          | 1...2...3...4...5...6..,7 |
| (20) | The hotel has staff who give its patrons personalized attention       | 1...2...3...4...5...6..,7 |
| (21) | The hotel has the patrons best interests at heart                     | 1...2...3...4...5...6..,7 |
| (22) | The staff of the hotel understand the specific needs of their patrons | 1...2...3...4...5...6..,7 |

## APPENDIX B

Dear Customer

The questionnaire, once completed is completely confidential and the information supplied is kept anonymous. Respondents will be protected when information is analyzed. Please note that there are no correct or wrong responses to the items or questions in the questionnaire. Please complete the questionnaire as honest and as accurate as possible. Note also that through your responses you will be making a valuable contribution to the study and the understanding of the service levels of Caltex Oil SA. Thank you for your cooperation.

Please tick the relative category of response for each questioning Section A i.e: you should only have one tick per question.

## SERVQUAL QUESTIONNAIRE

### SECTION A

#### Gender

Male	Female
------	--------

#### Age

20 <	20 < 30	30 < 40	40 < 50	Over 50
------	---------	---------	---------	---------

#### Level Of Employment

Unemployed	Employed
------------	----------

If Unemployed then answer part 2 of this question below

Housewife/ Househusband	Full Time Student	Retired	Looking for a job	Other
----------------------------	----------------------	---------	----------------------	-------

**Approximately what distance do you live from this Service Station (in Km)**

0 1	1 5	5 10	10 15	15
-----	-----	------	-------	----

**Who owns the vehicle?**

You	Your Wife	Your Husband	Your Company	A Car hire Comapny	Other
-----	-----------	-----------------	-----------------	-----------------------	-------

### SECTION B

Please complete Part A by indicating your expectations of "a service station" in general. Then complete Part B indicating your perceptions of "Caltex" in particular. Please answer on a scale from 1 (strongly disagree with the statement) to 7 (strongly agree).

#### [PART A] YOUR EXPECTATIONS OF WHAT A SERVICE STATION SHOULD DO

Directions: please complete the following questionnaire pertaining to service quality. If you feel the features mentioned in each statement are essential in your judgment of a service station, please circle 7. However if you feel the features mentioned are of little importance, please circle number 1.

	Strongly Disagree	Strongly Agree
(1) An excellent service station should have neat looking pumps , air gauges etc...	1...2...3...4...5...6...7	
(2) The physical facilities, e.g. buildings, signs, lighting of the Forecourt, at an excellent Service Station will be visually appealing	1...2...3...4...5...6...7	
(3) The physical facilities, e.g. signs, lighting , layout of the convenience store at an excellent Service Station will be visually appealing	1...2...3...4...5...6...7	
(4) The staff of a Service Station will appear neat , e.g. uniform, name tags , grooming etc.	1...2...3...4...5...6...7	
(5) The stock eg: the oil can displays in the Forecourt of an excellent Service Station will be visually appealing.	1...2...3...4...5...6...7	
(6) The stock eg: confectionaries , beverage , cool dinks and chips in the convenience store of an excellent Service Station will be visually appealing.	1...2...3...4...5...6...7	
(7) I can rely on the quality of fuel supplied by an excellent service station	1...2...3...4...5...6...7	
(8) I can rely on the quality of oil supplied by an excellent service station .	1...2...3...4...5...6...7	
(9) An excellent service station will perform error free service	1...2...3...4...5...6...7	
(10) An excellent service station will provide prompt service	1...2...3...4...5...6...7	
(11) Staff at an excellent service station when busy , will acknowledge a customer.	1...2...3...4...5...6...7	
(12) Staff at an excellent service station will always be willing to help a customer	1...2...3...4...5...6...7	
(13) The behaviour of staff at an excellent service station will instill confidence in a client	1...2...3...4...5...6...7	
(14) Clients of an excellent service station will feel safe in their dealings eg: shelves are fully stocked , the correct amount of petrol is clocked up and charged for etc...	1...2...3...4...5...6...7	
(15) Staff at an excellent service station will be consistently courteous with clients	1...2...3...4...5...6...7	
(16) Staff at an excellent service station will have the knowledge to answer a clients requests	1...2...3...4...5...6...7	
(17) Staff at an excellent service station will give clients individualized attention	1...2...3...4...5...6...7	
(18) An excellent service station will have staff who give its client priority attention in the event of emergencies/queries	1...2...3...4...5...6...7	

- |      |  |                           |
|------|--|---------------------------|
| (19) | An excellent service station will have the clients best interests at heart               | 1...2...3...4...5...6...7 |
| (20) | The staff of an excellent service station will understand the specific needs of a client | 1...2...3...4...5...6...7 |
| (21) | Clients at an excellent service station will feel safe from crime                        | 1...2...3...4...5...6...7 |

**[PART B] YOUR PERCEPTIONS OF WHAT YOUR CALTEX SERVICE STATION**

- |      | Strongly Disagree  | Strongly Agree            |
|------|--|---------------------------|
| (1)  | My Caltex service station does have neat pumps , air gauges etc...   | 1...2...3...4...5...6...7 |
| (2)  | The physical facilities of the Forecourt at my Caltex Service Station are visually appealing   | 1...2...3...4...5...6...7 |
| (3)  | The physical facilities of the convenience store at my Caltex Service Station are visually appealing   | 1...2...3...4...5...6...7 |
| (4)  | The staff of my Caltex Service Station are neat.   | 1...2...3...4...5...6...7 |
| (5)  | The stock eg : oil can displays of my Caltex Service Station are visually appealing  | 1...2...3...4...5...6...7 |
| (6)  | The stock eg: confectionaries , beverage , cool dinks and chips in the convenience store of my Caltex Service Station is visually appealing. | 1...2...3...4...5...6...7 |
| (7)  | I can rely on the quality of fuel supplied by my Caltex service station  | 1...2...3...4...5...6...7 |
| (8)  | I can rely on the quality of oil supplied by my Caltex service station .   | 1...2...3...4...5...6...7 |
| (9)  | My Caltex service station performs error free service  | 1...2...3...4...5...6...7 |
| (10) | My Caltex service station provides prompt service  | 1...2...3...4...5...6...7 |
| (11) | My Caltex service station has staff that when busy , will always acknowledge me.   | 1...2...3...4...5...6...7 |
| (12) | My Caltex service station has staff who are always willing to help   | 1...2...3...4...5...6...7 |
| (13) | My Caltex service station has staff who instill confidence in me   | 1...2...3...4...5...6...7 |
| (14) | I feel safe in my dealings with my Caltex service station  | 1...2...3...4...5...6...7 |
| (15) | My Caltex service station has staff who are consistently courteous   | 1...2...3...4...5...6...7 |
| (16) | My Caltex service station has staff who are very knowledgeable   | 1...2...3...4...5...6...7 |

- |      |   |                           |
|------|---|---------------------------|
| (17) | The staff at my Caltex service station give me individualized attention                                 | 1...2...3...4...5...6...7 |
| (18) | My Caltex service station has staff who give me priority attention in the event of emergencies/queries. | 1...2...3...4...5...6...7 |
| (19) | My Caltex service station has my best interests at heart  | 1...2...3...4...5...6...7 |
| (20) | The staff of my Caltex service station understand my specific needs                                     | 1...2...3...4...5...6...7 |
| (21) | I feel safe from crime at my Caltex service station   | 1...2...3...4...5...6...7 |

**SECTION C**

Strongly Disagree      Strongly Agree

- |  |                           |
|--|---------------------------|
| I believe that an ATM machine is necessary at my Caltex service station.                               | 1...2...3...4...5...6...7 |
| I believe that a pay phone is necessary at my Caltex service station.                                  | 1...2...3...4...5...6...7 |
| I believe that a foodcourt area is necessary at my Caltex service station.                             | 1...2...3...4...5...6...7 |
| I believe that name tags for the staff are necessary at my Caltex service station.                     | 1...2...3...4...5...6...7 |
| I believe that my Caltex service station should accept all forms of Payment methods acceptable by law. | 1...2...3...4...5...6...7 |

Please add any other constructive comments you may have on how we could improve our service you , our customer.

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**END OF QUESTIONNAIRE**