INTERNAL CUSTOMER SERVICE

IN SASOL TECHNOLOGY: ACCOUNTABILITY AND PRODUCTIVITY OF ADMINISTRATIVE SUPPORT IN THE RESEARCH AND DEVELOPMENT ENVIRONMENT

Pelonomi Banana Patricia Lillian Mohomane

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by

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DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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1 CORINTHIANS 15:10

But by God's grace I am what I am, and the grace that he gave me was not without effect. On the contrary, I have worked harder than any of the other apostles, although it was not really my own doing but God's grace working with me.

1 BAKORINTHE 15:10

Empa ke ka mohau wa Modimo ke leng seo ke keng sona; mme mohau wa wona ho nna ha o a ka wa eba lefeela; empa, ke ba fetisitse bohle hole ka ho sebetsa; empa e seng nna, e leng mohau wa Modimo o ho nna.

INTERNAL CUSTOMER SERVICE IN SASOL TECHNOLOGY: ACCOUNTABILITY AND PRODUCTIVITY OF ADMINISTRATIVE SUPPORT IN THE RESEARCH AND DEVELOPMENT ENVIRONMENT

ABSTRACT

The buzzwords in South African business today is quality service and customer satisfaction. Service quality is an important determinant of customer satisfaction. It is therefore important to measure customer satisfaction and to solicit internal customers perceptions on service received. This research was primarily undertaken to evaluate the quality of services rendered by administrators to Sasol Technology R&D employees. The research is supported by a detailed study of quality and customer service.

An adapted internal service quality scale (INSERVQUAL) was used to measure service quality. A thirty item scale was developed, for the empirical study. The instrument was then subjected to a scale purification process through exploratory factor analysis. Both the expectation and perception elements were used in measuring service quality. The five dimensions of service quality namely Accessibility and Tangibility, Assurance, Empathy, Reliability and Responsiveness were identified as internal service quality dimensions. Aspects of Accessibility and Tangibility were incorporated as a single dimension in this study. A six- point Likert scale was used in the questionnaire. The low end of the scale represented a negative response, whilst the high end represented a positive response.

With a response rate of 63% from internal customers, the researcher was able to provide evidence that service quality dimensions may influence an employee's perception of the administrators' service quality.

The finding in this study also suggests the need for further research to examine customers' expectations in other related services as well as in different culture contexts. The testing of the modified internal customer model of internal marketing developed and described in this study indicates that Access, Assurance, Empathy, Reliability and Responsiveness dimensions may be a useful approach to enhancing service quality.

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INTRODUCTION AND PROBLEM STATEMENT

1.1 INTRODUCTION

Sasol Technology Research and Development (R&D) is the Sasol Group's business partner in the fields of research and development, technology and innovation, engineering and project management. The company fulfils a strategic role by assisting Sasol businesses worldwide to pursue growth and continuous improvement opportunities and to promote a competitive advantage through appropriate technology solutions and services (Anon, 2003:2).

Sasol Technology R&D employs 519 personnel members. It has one of the strongest concentrations of science and engineering doctorates in the synfuels and allied petrochemical fields. More than 74 R&D employees have a doctorate in science or engineering, and many of them are recognised as leading authorities in their respective fields (Anon, 2002:14). (Figure 1).

Sasol Technology's primary areas of R&D are the following.

- Coal and gasification.
- Fischer-Tropsch process technology.
- Applied catalysis.
- Synthesis gas conversion for novel applications.
- Product development, especially for higher-value chemicals.
- Process development and Separation processes.
- Water technology and biotechnology.
- Ecotoxicology and related environmental research disciplines.

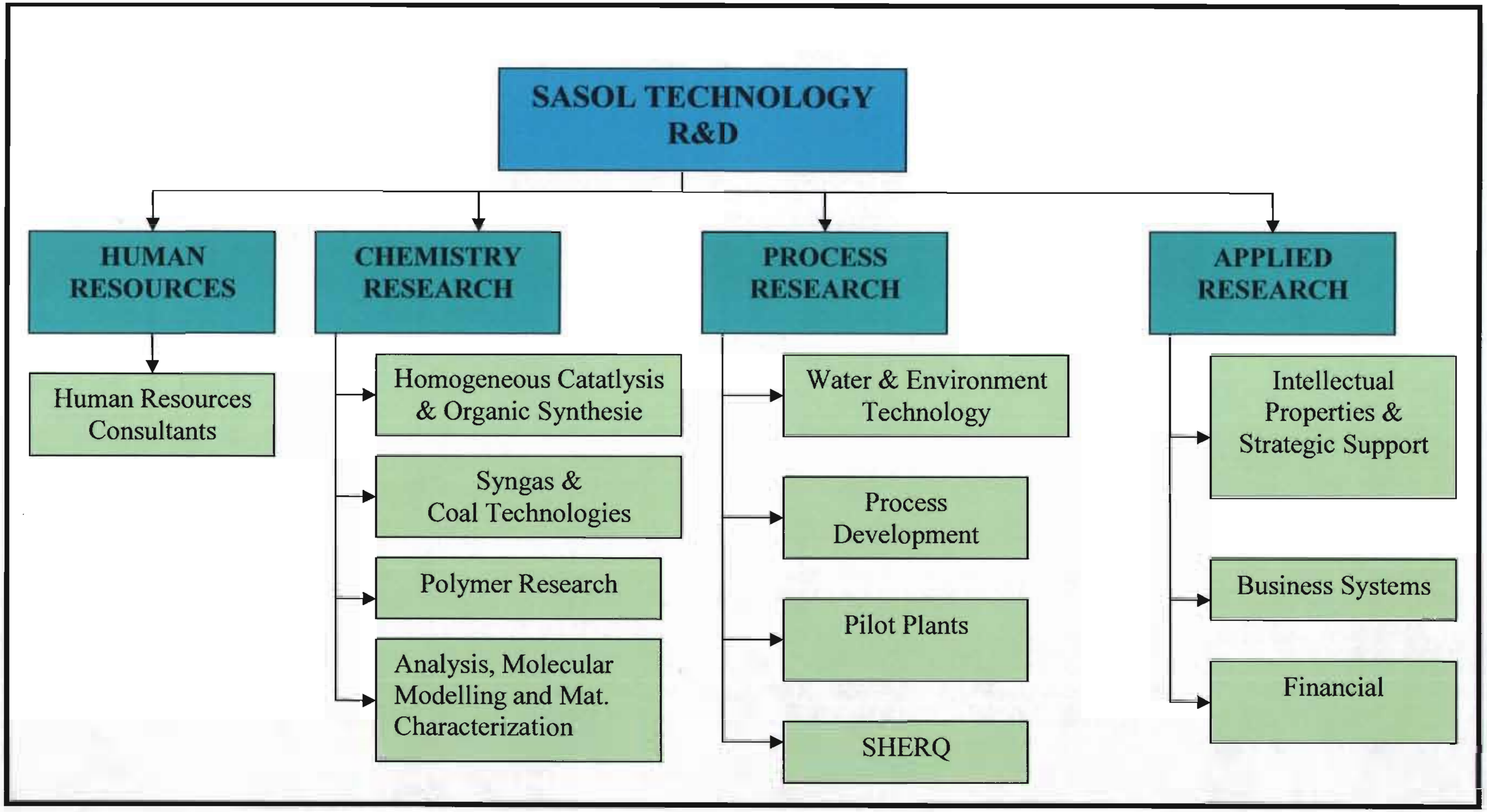


FIGURE 1 SASOL TECHNOLOGY R&D STRUCTURE

Source: Sasol Facts 2003:2

Sasol Technology maintains ongoing technological and academic alliances and relations with many universities and research organisations in South Africa, the USA and Europe. In January 2002, for example, Sasol announced its formation of an alliance in Scotland with the University of St Andrews through its School of Chemistry. The Sasol Technology Research Laboratory at St Andrews undertakes specialised investigation in the field of homogenous catalysis.

Within the business unit in Sasolburg, a small group of people renders administrative services such as issuing stationery, reprography and printing, transport, handling of mail, contracts and purchases. R&D employees rely heavily on the administrators for their daily office needs. Thus it is important for the group, to meet these needs optimally. For instance, when a sample has to be transported for analysis, it should reach its destination within a specified period of time, otherwise the sample could be deactivated.

Further, when a presentation or conference takes place, it is the administrators' responsibility to ensure that resources are available and that they are of a high standard. Performance measurement is a key element (Gerver, 2001:16), because the administrators should perform optimally and accurately, particularly when outsourced vendors are involved.

The administrators may be challenged by the fact, that they have to keep R&D employees content. The goal of the administrators, is to deliver precisely according to the needs of R&D employees, to communicate with vendors, and to make sure that products and services are delivered timeously.

As a business discipline concerned with the creation, communication and delivery of values, modern marketing has long recognised the importance of understanding how and why customers make use of administrative services, since only by understanding how value is achieved, can services be designed and presented in such a way as to attract customers (Gabbott & Hogg, 1998:23).

It is important for administrators to identify ways to effectively manage contact employees, ensuring that their attitudes and behaviours are conducive to delivery of quality services (Hartline & Ferrell, 1996:60), and in doing so, it becomes crucial that organizations adopt suitable internal programs aimed at customers (Lings, 2002:406).

Early attempts to incorporate an internal focus of marketing to complement the external focus, arose in the services marketing literature. For example, Booms and Bitner (1981:46) presented an expanded marketing mix operationalization of services marketing which incorporates three additional elements, complementing the traditional four elements of the marketing mix, that services marketers should focus on people, process and physical evidence.

By including people as additional services marketing mix elements, Booms and Bitner (1981:47), make explicit the need for services marketers to focus internally on employees, as well as externally on customers and competitors (Lings, 2002:406). Booms and Bitner's (1981:48) 'process' element of the services marketing mix also offers an internal focus concentrating on the service delivery process of the firm.

Kotler (1994:48) proposed a services marketing triangle, which represents a triad of marketing relationships on which administrators should focus their attention. These are as follows.

- The relationship between the administrators and R&D employees (internal marketing).
- The relationship between customers and the employees (interactive marketing).
- The relationship between the customer and the company (external marketing).

The relationship between administrators and R&D employees represents an internal focus of a business unit (Booms & Bitner, 1981:50).

R&D employees are the administrators' internal customers. Just like external customers, internal customers also deserve outstanding services, and the administrators are charged with responding to the needs of those internal customers.

According to George (1990:69), servicing internal customers involves educating, sharing information and helping others meet their needs.

A number of commentators recognize the importance of service as an important characteristic of any product offering, and the service element of products is suggested to be the single most important factor in determining long-run market life (Doyle, 1994:100).

Kotler (2000:425) defines a service as any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied up to a physical product.

Intrixicably linked to a service, is customer services. Customer services can be defined as all the "…features, acts and information that augment the administrators' ability to realize the potential value of the service they provide to the R&D department" (Boothe, 1990:69). Definitions of service quality, on the other hand, focus on meeting customers' needs and requirements, and how well the service delivered, matches the customers' expectations. The most relevant approach in defining and measuring service quality, is the user-based approach, i.e. from the customer's perspective (Woodruffe, 1995:105).

Bertrand, (1989:44) also concurs, that quality of service is determined by the consumers' perception and not by the perceptions of the providers of service. It is crucial that customer requirements are determined and service delivery and outcomes are designed to meet these requirements.

Service quality, therefore, depends on employee behaviour, especially the behaviour of administrators, who deal directly with customers. According to the theory of internal marketing, services are largely performed by people during human interaction (Stauss, 1995:64).

To create a service and customer-oriented culture among employees, administrators are increasingly trying to adopt the concept of internal marketing. Internal marketing is thought to be the best approach in order to establish a service orientation as a departmental imperative (George, 1990:65).

Berry (1981:33) defines internal marketing as "...viewing employees as internal customers, viewing jobs as internal products that satisfy the needs and wants of these internal customers while addressing the objectives of the organization".

Internal marketing identifies internal customers and suppliers along the value-adding chain of the company, and has been proposed as a means of managing the quality of these internal interactions so that quality builds into every step of the service delivery process (Lings, 1999:2).

Stauss and Schulze (1990:150) also maintain that internal marketing refers to the management of exchange processes with internal members and assert, that one of the challenges of internal marketing, is to generate information about those things of value that are exchanged, specifically what the employee seeks from the job, what they are prepared to give up to get it and what competitors are offering in terms of employment.

Lings (2002:409) recognises, that generating and understanding information about the internal exchange, will allow employers to formulate appropriate responses to the internal market and to make internal products (jobs) more attractive to potential and existing employees than is the case with competitors' jobs. By undertaking such a program, organizations will satisfy employees and motivate them to perform better in the service encounter with the external customer, and in doing so, increase customer satisfaction (Sasser & Arbeit, 1976:61).

1.2 PROBLEM STATEMENT

The R&D administrators face the challenge of rendering quality customer service in and to an R&D environment, because it is important that the daily office needs of the employees are been satisfied. R&D employees often depend on internal services provided by administrators: therefore quality of internal services is critical to R&D employee satisfaction.

Each time an internal customer comes into contact with an administrator, a satisfaction test takes place. Both administrators and customers bring sets of expectations with them. The customer decides whether the service meets or exceeds expectations. The customer becomes disappointed, angry, and likely to find some way to get along without administrators' services, while the administrators acknowledge that customer expectations are not met. The administrator becomes frustrated and unmotivated because he or she feels unable to meet the expectations.

McDermott and Emerson (1991:63) outline, that customers have a variety of expectations that generally relate to the quality of service they receive. This includes the following.

- Adequate resources. Adequate resources are those resources necessary to meet commitments, plus any extraordinary and unforeseen needs that arise.

- Responsiveness. Responsiveness relates to a long-term needs and having services available that will allow them to meet their objectives. In the short term, they expect you to respond quickly and effectively to unforeseen needs.
- Reliability. Customers expect to receive consistent service every time.
- Flexibility. Customers expect administrators to be flexible when particular circumstances may require deviations from policy in order to meet their needs.
- Recovery from problems. Internal customers expect administrators to come up with solutions to any problems that occur and to do whatever is necessary to correct these problems.
- Accountability. The administrators must accept responsibility for all commitments made to internal customers.
- Empathy and understanding. All customers expect administrators to be understanding. Administrators should understand the particulars of the expectations and pressures the customer faces.
- Interpersonal skills. Customers expect service to be delivered in a highly professional manner. High-quality interactions can smooth over expectations that have not been met and further the goal of providing outstanding internal customer service.

If customers' expectations of service quality are not met, a mutually satisfying relationship between the administrators and the R&D employees is hardly possible.

For service providers that wish to solicit their customers' perceptions and use that information to make fact-based decisions regarding performance improvement, they must educate customers about the service they perform, the results delivered, and the joint opportunities for improvement (Forst, 2002:5).

In addition, to provide a product or service to a customer, the customer's input is often required, which can be provided in a high-quality and timely manner.

Internal service providers and administrators may find it difficult to cooperate with internal customers, due to the following.

- Internal customers do not view themselves as customers, because they have little choice about where to go for services they provide for free.
- Administrators have difficulty meeting their needs because internal customers continuously change their requirements.
- Personality conflicts sometimes interfere with customer service.
- Lastly, internal customer service has to be a two-way approach in order for it to be beneficial for both parties.

1.3 OBJECTIVES OF THE STUDY

1.3.1 Primary objective

The purpose of the study is to evaluate the quality of services rendered by administrators to Sasol Technology R&D employees.

In order to achieve this primary objective, the following theoretical and empirical objectives are set for the study.

1.3.2 Theoretical objectives

- To investigate from literature the nature of services, customer service and service quality.
- To conduct a literature review on internal marketing and the nature of internal customer services.

1.3.3 Empirical objectives

- To identify key dimensions that are important to internal customers in internal service quality evaluation.
- To identify priorities for improvement (PFI's) in an attempt to improve the quality of internal services provided by administrators.
- To assess the overall level of satisfaction of service among employees in the R&D division.

1.4 RESEARCH QUESTIONS

Based on the problem statement the following research questions are posed:-

- What are the key dimensions commonly used by internal customers in the evaluation internal of service quality?
- Are the dimensions the same when compared to measuring external service quality?
- Do the employees in the administrative section of the organization meet or exceeds internal customers' expectations?
- What areas can be identified as priorities for improvement by administrators?

1.5 RESEARCH METHODOLOGY

The research method consists of a literature study, followed by an empirical investigation.

1.5.1 Literature review

A literature study was undertaken on customer service, customer satisfaction, service quality and internal marketing. This includes textbooks on customer service and marketing, journal articles, and the Internet.

1.5.2 Empirical study

- **Research design**

In this study quantitative research was used. The survey method was used to collect data. This method was chosen because of its ease of administration within the R&D department. The advantage of this survey is, that it is least expensive of all survey method (Zikmund, 2000:200).

- **Target population and sampling**

Sasol Technology Research and Development in Sasolburg employs 519 personnel members. The sample of 400 employees was randomly selected from approximately 519 Research and Development employees who regularly make use of administration services. Simple random sampling was used because of uniqueness, in that all elements in the population have a known equal chance of being included in the sample (Martins, Loubser & van Wyk, 2002:257).

- **Data collection method**

A structured questionnaire was used to collect data. The questionnaires were mailed to regular users of the R&D administrative services. The questionnaire comprised questions that measured on a six-point Likert scale, ranging from "falls far short of my expectations" to "exceeds my expectations".

- **Data analysis**

Responses were statistically analysed by using frequency distributions, descriptive statistics, the Cronbach Alpha Reliability Analysis, factor analysis and correlations. The SPSS (version 11.0 for windows) was used to analyse the data.

1.6 DEFINITIONS AND TERMINOLOGY

Terms, definitions and concepts used in this study, are outlined below.

Service

A service is an activity or series of activities of more or less an intangible nature that normally, but not necessarily, take place in interactions between the customer and the service employee (Gabbott & Hogg, 1998:21).

Internal Marketing

Internal marketing encompasses viewing employees as internal customers and viewing jobs as internal products that satisfy the needs and wants of internal customers while addressing the objectives of the organization (Berry, 1981:33).

Customer service

Customer service constitutes a set of activities and programmes responsible not only to provide for the needs of each customer, but also to resolve any problems encountered, in such a way, as to enhance customer satisfaction (Rogers, Clow & Kash, 1994:17).

Internal suppliers

These are administrators who view job offerings as products and their employees as customers (Sasser & Arbeit, 1976:65).

Service quality

Service quality focuses on how to meet or exceed the external customer's expectations, and views service quality as a measure of how the delivered service level matches consumers' expectations (Kang, James & Alexandris, 2002:280).

Quality

Quality is a satisfactory conformance to specifications and design, such that, the product or service gives satisfaction, dependable service and reliability (Parry, 1973:15).

INTSERVQUAL

INTSERVQUAL is the model that evaluates the dimensions, and their relationships and determines service quality among internal customers and internal suppliers within large service organisations (Frost & Kumar, 2000:358).

Intangibility

Intangibility of a service which means it cannot be seen, tasted, felt, heard or smelt (Smith, 1990:10).

Perishability

Perishability of a service which means it cannot be stored such as physical goods, but have to be produced on demand (McColl-Kennedy, 2003:9).

Heterogeneity

Services are always unique, it only exists once, and is never exactly repeated. There is limited scope for standardization of services (Woodruffe, 1995:19).

Inseparability

Services are typically produced and consumed at the same time, with customer participation in the process (Payne, 1993:7).

Validity

A measuring instrument is valid when it measures what it is supposed to measure. The instrument is valid to the extent that its measurement is free from systematic error (bias) (Hair, Bush & Ortinau, 2003:276).

Reliability

A measuring instrument is reliable when the results it delivers, are consistent. The instrument is reliable, to the extent that its measurement is free from non-systematic or random error (Martins *et al.*, 2002:190).

Factor Analysis

This is a general name denoting a class of procedures primarily used for data reduction and summarization (Malhotra, 2004:560).

Internal customer

An internal customer is the employee who receives and uses the output from another employee or area within the company (Barsky, 1998:58).

1.7 SYNOPSIS

The study of internal service quality is both important and challenging. Rendering quality service, is the key to success and that is why it is important to understand the concept of service quality and the means to measure and improve internal service quality.

In the next chapter, marketing of services will be highlighted. The characteristics of services and its importance will be discussed. Customer service, service quality and internal marketing, will be outlined.

CHAPTER 2

SERVICES MARKETING

2.1 INTRODUCTION

In the previous chapter, the problem orientation and research objectives were outlined. This chapter focuses on service marketing, service quality, internal marketing and internal service quality.

Service marketing has recently received the attention it rightfully deserves. Service companies constitutes a vital part of the South African economy and the marketing of services, as opposed to physical products. This poses some unique challenges (Du Plessis, Rousseau & Blem 1995:255).

Internal services must operate in the same way as external services to keep a company competitive. As many companies search for ways to compete more effectively in today's markets, managers are giving increased attention to internal services (Vandermerwe & Gilbert, 1989:84).

Internal services are important leverage points and when-well managed, could help corporations to excel, but when badly run, can be destructive (Lings, 1999:453). Rushton and Carson, (1989:16) state, that marketing of services is uniquely different from that of physical goods.

It is generally agreed that services and goods are different. Where there is less agreement about this, is the way in which they differ and the extent to which these differences are relevant and significant from a marketing perspective (Brown, Fisk & Bitner, 1993:78).

The main difference between goods and services is, that goods are produced, whereas services are performed. It is because services are performed, rather than produced, that they have many of the distinguishing characteristics (McDermott & Emerson, 1991:61).

2.2 CHARACTERISTICS OF SERVICES

Service-marketing can be considered as a separate entity. This entity is based on the differences between goods and services marketing and similarities within goods and services marketing. However, as in industry-specific and situation-specific marketing, it should be remembered, that because both goods and services marketing are derived from the one body of general marketing theory, there are also many areas of commonality (Rushton & Carson, 1989:24).

The rationale for a separate treatment of services marketing centers on the existence of number of characteristics of services which are consistently cited in the literature. These include intangibility, inseparability, heterogeneity and perishability (Bateson, 1992:49). Table 1 presents a summary of the references documenting these characteristics.

2.2.1 Intangibility

Services are highly intangible as they take place in a certain time-space; the same service may be different from time to time because of its form not being firm, but requires creation and re-creation of services (Huczkowski, 2003:11).

Intangibility has been defined as "impalpable" and "not corporeal" (Shostack, 1977:74), as "...that which cannot be easily defined, formulated or grasped mentally" (Berry 1980:24) because of the "lack of physical evidence" (Mc Dougall, 1987:426).

According to the Oxford Dictionary of Current English (1996:438), intangibility is that which cannot be touched or seen, which is difficult to define or describe clearly, and that which cannot be easily grasped mentally. Prior research has tended to view intangibility as a single dimension related to the lack of physical evidence (Bebko, 2000:9) or a two-dimensional construct related to the lack of physical evidence and generality in respect of on how general or specific a consumer perceives a particular good or service.

TABLE1: REFERENCES LISTING UNIQUE CHARACTERISTICS OF SERVICES

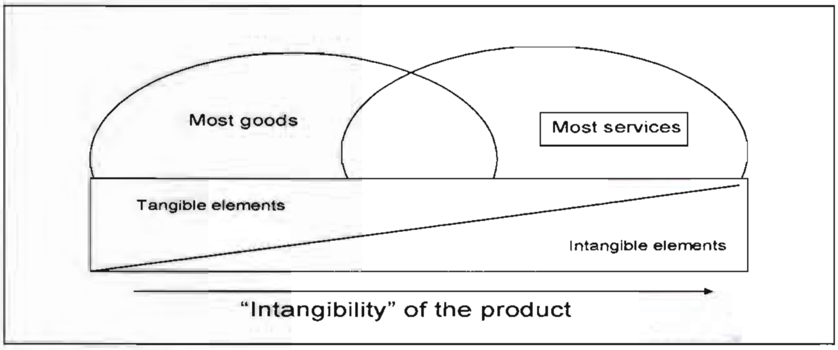
Characteristic Cited	Bateson (1977, 1979)	Bell (1981)	Berry (1975, 1980, 1983)	Bessom and Jackson (1975)	Booms & Bitner (1981, 1982)	Carmen & Langeard (1980)	Davidson (1978)	Davis, Guiltinan, and Jones (1979)	Donnelly (1976, 1980)	Eiglier and Langeard (1975, 1976), Eiglier et al. (1977)	Fisk (1981)	George and Barksdale (1974), George (1977)	Gronroos (1977, 1978, 1979, 1983)	Johnson (1969, 1981)	Judd (1968)	Knisely (1979a, 1979b, 1979c)	Langeard et al. (1981)	Lovelock (1981), Lovelock et al. (1981)	Rathmell (1966, 1974)	Regan (1963)	Sasser (1976, Sasser and Arbeit (1978)	Schlissel (1977)	Shostack (1977a, 1977b)	Thomas (1978)	Uhl & Upah (1980), Upah (1980), Upah and Uhl (1981)	Zeithaml (1981)
Intangibility	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Heterogeneity (Nonstandardization)		√	√	√		√	√			√				√		√	√		√	√	√	√	√	√	√	√
Inseparability of Production and Consumption	√		√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√	√	√	√		√	√
Perishability (Cannot be inventoried)	√	√	√						√							√			√	√	√			√	√	

Source: Bateson, 1990:49

Research suggests that the intangibility construct encompasses three dimensions: physical intangibility, generality, and mental intangibility (Smith, 1990:27). The physical dimension represents the extent to which a good cannot be touched or seen; it is inaccessible to the sense and lacks physical presence. The generality dimension refers to the customer's difficulty in precisely defining or describing a particular good. Flipo (1988:289) argued, that the word "tangible" is often used as a synonym for "precise".

Making a tangible promise, for instance, implies saying precisely what one commits oneself to do. Mental intangibility reflects the fact, that a product can be physically tangible, but difficult to grasp mentally. According to McDougall and Snetsinger (1990:27), physical tangibility does not ensure a clear, mentally tangible representation of an object, especially if the evaluator lacks experience with that object.

To reduce uncertainty, buyers will look for signs or evidence of the service quality (Kotler, 2000:429). They draw inferences about the quality from the place, people, equipment, communication material, symbols and price that they see. According to Rushton and Carson (1989:26), all products are a combination of tangible and intangible characteristics. What differs, is the relative proportion of each. Figure 2 shows, that products based on services, tend to have more intangible characteristics.



Source: Rushton & Carson, 1989:28

FIGURE 2: PRODUCT INTANGIBILITY

Whilst the importance of product benefits in service marketing is acknowledged (Rushton & Carson, 1989:27), the extent to which a product is intangible also matters because of -

- its direct influence on customers,
- the way it affects the marketing of products benefits, and
- the direct impact it has on marketing techniques and practices.

These influences are discussed in detail in the section that follows.

- **Influence on customers**

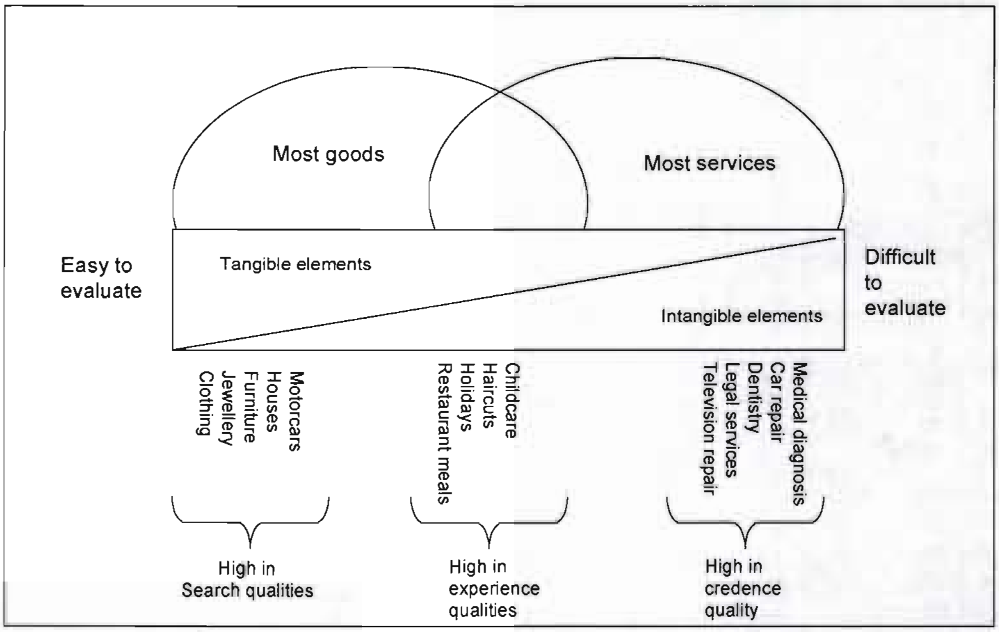
It is more difficult for a customer to grasp the idea of a product that is physically intangible – that is, a service other than a product, that has a physical presence, for example, goods. Hence a product that is physically intangible, also tends to be mentally intangible. Furthermore, intangibility makes a product difficult to evaluate before and after purchase and use. Zeithaml (cited in Rushton and Carson, 1989:26) argues, that this issue has been examined with reference to three types of product qualities: search qualities, experience qualities and credence qualities.

According to Rushton and Carson (1989:26), search qualities are attributes which a consumer can see, feel or touch prior to the purchase of a product. Experience qualities are attributes such as taste, that can be discerned after purchase or during consumption. Credence qualities are attributes which consumers may find impossible to evaluate, even after purchase and consumption; perhaps because they do not have the knowledge or skills to do so. Because experience and credence qualities dominate in intangible service products, it has been argued, that the evaluation process used by consumers, is different to that used with tangible products in which search qualities dominate. Moreover, evaluation based on experience and credence qualities, is more difficult than evaluation based on search qualities.

The submission is, therefore, that the very nature of the product (that is the extent to which it is tangible or intangible) is a major influence on the way in which it is evaluated by customers (Figure 3).

□ Marketing the benefits

Since the features of a product can be both tangible and intangible, so to can the benefits conveyed by the product be to the consumer. Figure 3 reflects mainly tangible products which can yield intangible benefits and likewise, mainly tangible products (services) can yield tangible as well as intangible benefits. For example, Kodak provides buyers of films the satisfaction of preserving memories, of capturing them for all time. Kodak says little about the superior luminescence of the photographs produced by their films. Thus, more often than not, when goods are marketed, the focus is placed firmly on the intangible benefits and that is what attracts the customers.



Source: Rushton & Carson, 1989:31

FIGURE 3: INTANGIBILITY AND CUSTOMER EVALUATION

- **Marketing Techniques**

There are many ways in which a product's intangibility has a direct impact on marketing techniques. For example, the need to know the product, is generally regarded as a prerequisite to effective marketing. For tangible products, getting to know the product and making product comparisons, are usually easy. Getting to know an intangible product, is more difficult.

The tools used to evaluate a tangible product are inappropriate, because there is no "thing" to physically examine. With regard to tangible products, it is possible to prescribe a colour and size of the product and also set tolerance levels outside of which the product can be rejected.

With intangible products, it is difficult to set predetermined tolerance levels. Another fundamental difference universally cited by various authors (Bateson, 1992:115; Berry, 1980:24) is inseparability.

2.2.2 Inseparability

By inseparability, it is meant that the service is simultaneously delivered and consumed (Wolak, Kalafatis & Harris, 1998:26). Services often cannot be separated from the person of the seller. A corollary of this is, that creating or performing the service, may occur at the same time as full or partial consumption of it. Goods are produced and consumed simultaneously (Smith, 1990:27) and it is believed to enable consumers to affect or shape the performance and quality of the service (Wolak *et al.*, 1998:26).

This therefore implies the importance of the service process itself, described by Grönroos (1984:37) as "the functional dimension", in delivering quality service: "Quality of service is inseparable from the quality of the service provider". Grönroos

(1984:38) emphasises the need for internal marketing within services companies, *i.e.* applying the philosophy and practices of marketing to the people that serve the external customer so that-

- the best possible people can be employed and retained, and
- they will do the best possible work.

2.2.3 Heterogeneity

Heterogeneity reflects the potential for high variability in service delivery. This is a problem for services with a high labour content, as the service performance is delivered by different people and the performance of people can vary from day to day (Wolak *et al.*, 1998:26).

Onkvisit and Shaw (1991:4) consider heterogeneity to offer the opportunity to provide a degree of flexibility and customisation of the service. Wyckham, Fitzroy and Mandry (1975:59) suggest, that heterogeneity can be introduced as a benefit and point of differentiation. Gabbott and Hogg (1998:28) state, that heterogeneity is a function of human involvement in the delivery and consumption process. It refers to the fact that services are delivered by individuals and therefore, each service encounter will be different by virtue of the participants, the time of performance or the circumstances.

As a consequence, each purchaser is likely to receive a different service experience. Whereas, in the case of goods, it is possible to standardise the product and guarantee replication of the same product over time; which is not possible in services. This has implications for service management as well as for consumers.

According to Du Plessis *et al.* (1995:258), heterogeneity manifests itself in a number of ways. The quality of service performance varies from one service company to another. Hotels differ in the level of service they provide to guests. The quality of service performance may also vary from one service performer to another. South African Airways may use its most experienced pilots on international flights and the same level of performance can thus not be maintained on local flights.

Another factor is, that the quality of service performance varies for the same service performer from one situation to another. An administrator may not be as willing to do something extraordinary for a customer on a Friday afternoon just before closing time as what may have been the case on a Tuesday morning.

2.2.4 Perishability

The fourth characteristic of services highlighted in literature, is perishability. In general, services cannot be stored and carried forward to a future time period (Rathmell, 1966:32). Onkvisit and Shaw (1991:6) suggest, that services are time-dependent and time-important, which make them very perishable.

Wolak *et al.*, (1998:26) claim, that the "...issue of perishability is primarily the concern of the service producer" and that the consumer becomes aware of the issue only when there is insufficient supply and they have to wait for the service.

Unlike goods, the consumer cannot store services and the absence of the ability to build and maintain stocks of the product, means that sudden demand cannot be accommodated in the same way as goods, *i.e.* the consumer cannot stockpile service against a possible need in the future (Gabbott & Hogg, 1998:29).

Kelley, Donnelly and Skinner (1990:320) make the observation, that in certain circumstances the consumer may decide to delay consumption, but not to consume more in advance of the requirements. For the purchaser of services the time at which a person chooses to use the service may be critical to its performance and therefore, to the consumer's experience. For example, the experience of using public transport is different from other times of the day in the rush hour. Consumption is inextricably linked to the presence of other consumers and their presence can influence the service outcome.

Service perishability also means, that an unhappy customer has limited access to recourse in the case of poor service. A consumer who is dissatisfied with a haircut cannot have the hair replaced. An air traveller who does not receive a special meal he or she ordered on a flight, can hardly claim a refund. At the same time, a service provider may also have limited recourse in the event of non-payment. Often, once a service has been rendered, it cannot be repossessed. Furthermore, excess capacity or profitably utilised, is lost forever. For example, empty seats on an aircraft that goes to waste as soon as the flight takes off (Du Plessis *et al.*, 1995:257).

Literature suggests, that each unique characteristic of services leads to specific problems for service marketers and necessitates special strategies for dealing with them. Table 2 summarizes the problems which frequently stem from each of the four service characteristics. Table 3 lists the marketing strategies to overcome these problems as suggested in the literature.

Having differentiated services marketing from goods marketing, it is essential to understand the importance of services.

TABLE 2: UNIQUE SERVICE FEATURES AND RESULTING MARKETING PROBLEMS

Unique Service Features	Resulting Marketing Problems	Selected References Citing Problems
Intangibility	1. Services cannot be stored 2. Cannot protect 3. Cannot readily display or communicate services 4. Prices are difficult to set	Bateson (1977), Berry (1980), Langeard *et al.*, (1981), Sasser (1976) Eiglier and Langeard (1975,1976), Judd (1968) Rathmell (1974 Dearden(1978), Lovelock (1981), Thomas (1978)
Inseparability	1. Consumer involved in production 2. Other consumers involved in production 3. Centralized mass production of services difficult	Booms and Nyquist (1981), Bateson (1977), George (1977), Gronroos (1978) Sasser *et al.*, (1978), Upah (1980)
Heterogeneity	1. Standardization and quality control difficult to achieve	Berry (1980), Booms and Bitner (1981)
Perishability	1. Services cannot be inventoried	Bateson (1977), Sasser (1976)

Source: Bateson, 1992:50

TABLE 3: SUGGESTED MARKETING STRATEGIES PROBLEMS STEMMING FROM UNIQUE SERVICE FEATURES

Unique Service Features	Resulting Marketing to Solve Problems	References Citing Problems
Intangibility	1. Stress tangible cues	Berry (1980), Booms and Bitner (1982), George and Berry (1981), Shostack (1977a)
	2. Use personal sources more than nonpersonal sources	Donnelly (1980), Johnson (1969)
	3. Simulate or stimulate word-of-mouth	Davis, Guiltinan, and Jones (1979), George and Berry (1981)
	4. Create strong organizational image	Judd (1968), Knisely (1979a), Thomas (1978), Uhl and Upah (1980)
	5. Use cost accounting to help set prices	Beard and Hoyle (1976), Dearden (1978)
	6. Engage in post-purchase	Bessom and Jackson (1975), Fisk (1981), Zeithaml (1981)
Inseparability	1. Emphasize selection and training of public contact personnel	Berry (1981), Davidson (1978), George (1977), Gronroos (1978)
	2. Manage consumers	Lovelock (1981)
	3. Use multisite locations	Carman and Langeard (1980), Langeard *et al.*, (1981), Upah (1980)
Heterogeneity	1. Industrialize service	Levitt (1972,1976)
	2. Customize service	Bell (1981), Berry (1980), Johnson (1981), Regan (1963), Sasser and Arbeit (1978)
Perishability	1. Use strategies to cope with fluctuating demand	Lovelock (1981)
	2. Make simultaneous adjustments in demand and capacity to achieve a closer match between the two	Sasser (1976)

Source: Bateson, 1992:53

2.3 IMPORTANCE OF SERVICES

Services permeate every aspect of our lives. A transportation service is used when travelling to and from work, restaurants services to feed people, and hotels to put roofs over our heads. At home we rely on services such as electricity and telephones; at work we need postal, courier and maintenance services to keep work places operational (Bateson & Hoffman, 1999:5).

In this process company goals and objectives are interpreted by the company's personnel and, in some instances, by customers as well. The interpretation determines how people view their role in the service production process (Brown, Gummesson, Edvardsson & Gustavsson, 1991:321).

According to Wellington (1995:19), when buying goods such as a photo copying machine, one often still relies on services to keep them running and repairing them when they break down. Service allows customers to budget time and money. Mattsson (1994:48) states, that it is often difficult for service contact employees to really get to know if their customers' expectations have been met. Expectations may often be higher than anticipated.

Kotler's (2000:107) observes, that the "...importance of physical products lies not so much in owning them as in obtaining the services they render", whilst Rust (1998:109) argues, that "...most goods business view themselves primarily as services, with the good being an important part of the service. Superior customer service requires more than just a few "pockets of excellence". Customer services become reality only when the customer feels it.

Customer service is further elaborated in the next section.

2.4 CUSTOMER SERVICE

People used to think of customer service as being an extra, something taken into account after price, quality and personal preferences were considered. Not anymore. Customer service has become part of what people buy or request and is often inseparable from the product or service itself (Barsky, 1998:11). For example, in services that require frequent interactions with customers in terms of answering queries, taking orders, and responding to complaints, a new professionalized management function is emerging, that is, customer service (Lovelock, 1984:8). This new wave of thinking, nationally and internationally, is that customer service is the interrelationship between all persons involved with the company, external and internal. It is no longer the job of a particular person to take care of customers. Customer service covers every function. Everyone in the department either serves an internal customer or they serve someone who serves an external customer. Therefore, customer service is the job of every one in the company (Moreo, 1996:4).

Gabbott & Hogg (1998:104) outlines customer service assignments as follows.

- Doing ordinary things extraordinarily well
- Going beyond what is expected
- Adding value and integrity to every customer
- Being at your best with every customer
- Discovering new ways to delight those you serve
- Surprising yourself with how much you can do.

All customers have different needs, and it is essential for administrators to meet these different demands. Cram (2001:21) describes factors that a customer seeks from its internal supplier. Together with the service or product sought, they combine to provide superior value to the customer. These factors are discussed below.

- Reliable performance

  Dependability is a fundamental benefit sought by customers. It is the starting point of a relationship. Regardless of the exhortations in the management text to exceed expectations, most customers would willingly settle for having their expectations met, provided this occurred every time.

- Trust

  When entering a commercial relationship with a company, a customer feels that there should be a level of mutual trust. Customers should have confidence in their internal suppliers for good service. They should trust that whatever they have requested, they shall get. It is also expected from the supplier to communicate with customers to build up trust.

- Accessibility

  The customer must to be able to contact the supplier at reasonable times. This may be for services, products or simply for information about products or services already obtained.

- Service and assistance

  The standard and speed of service are consistent customer issues. It is the defining moment in a relationship. When a purchase has been made; there is a critical incident where help is required. If it is forthcoming, then the value of the relationship will be demonstrated.

- Education

  The customer acknowledges the expertise of the supplier and hopes to gain the benefit of this through considerate guidance and advice. A good supplier guides customers. Customers appreciate being kept informed where the communication is relevant to them and appropriately timed.

- Preference

  Customers often have an innate sense of fairness, and when they are aware of the significant scale of their purchases, they aspire towards preferential treatment based on their value. They like to see recognition extended to a real appreciation of worth compared with what other customers were served.

- Assurance

  Be sure to keep promises. If a supplier promises to call back with information, they should call back. If they say they will give a message to another employee, be sure that the message is passed to the relevant person. It is far better to underpromise and overdeliver than to overpromise and underdeliver.

Inextricably linked to customer services, is the quality of services provided and service expectations of internal market segments (Brooks, Lings & Botschem, 1999:53). A discussion of service quality follows.

2.5 SERVICE QUALITY

Service quality is generally visualised as the sum of customer perceptions of the service experience. Thus many researchers have attempted to assess quality by inviting customers to rate their perceptions of a given service on scaled questionnaires (John & Tyas, 1997:474). Quality can be defined only in customer terms. Service is when customer has needs, expectations and his or her requirements are met or exceeded (Cheales, 1994:11).

Service quality is the foundation of service marketing. Serve quality is about performing the service dependably and accurately. When a company performs a service carelessy, when it makes avoidable mistakes, when it fails to deliver on alluring promises made to attract customers, it shakes the customers' confidence in its capabilities and undermines its chances of earning a reputation for service excellence.

From the customers' perspective, the proof of a service is its flawless performance (Berry & Parasuraman, 1991:15).

The focus of service quality measurement has principally been based on asking customers to rate their expectations and their perceptions of the service they receive from different companies (Caruana & Pitt 1997:604). Lewis and Booms (1983:100) were perhaps one of the first to define service quality as a measure of how well the service level delivered, matches the customers' expectations.

Dhurup (2003:66) argues, that "...receiving a high level of service is important to consumers but understanding how to evaluate the service quality received, is more difficult. Two consumers receiving what appears to be the exactly the same service may evaluate the quality of their service differently. One customer may feel that the service was good while the other may feel the service was performed poorly. For many services, the customer is required to contribute information or effort before the service transaction can be consummated."

To deliver a consistent set of satisfying experiences that can build into an evaluation of high quality, requires that the entire organization be focused on the task. The needs of the consumer must be understood in detail, and so must the operational constraints under which the firm operates.

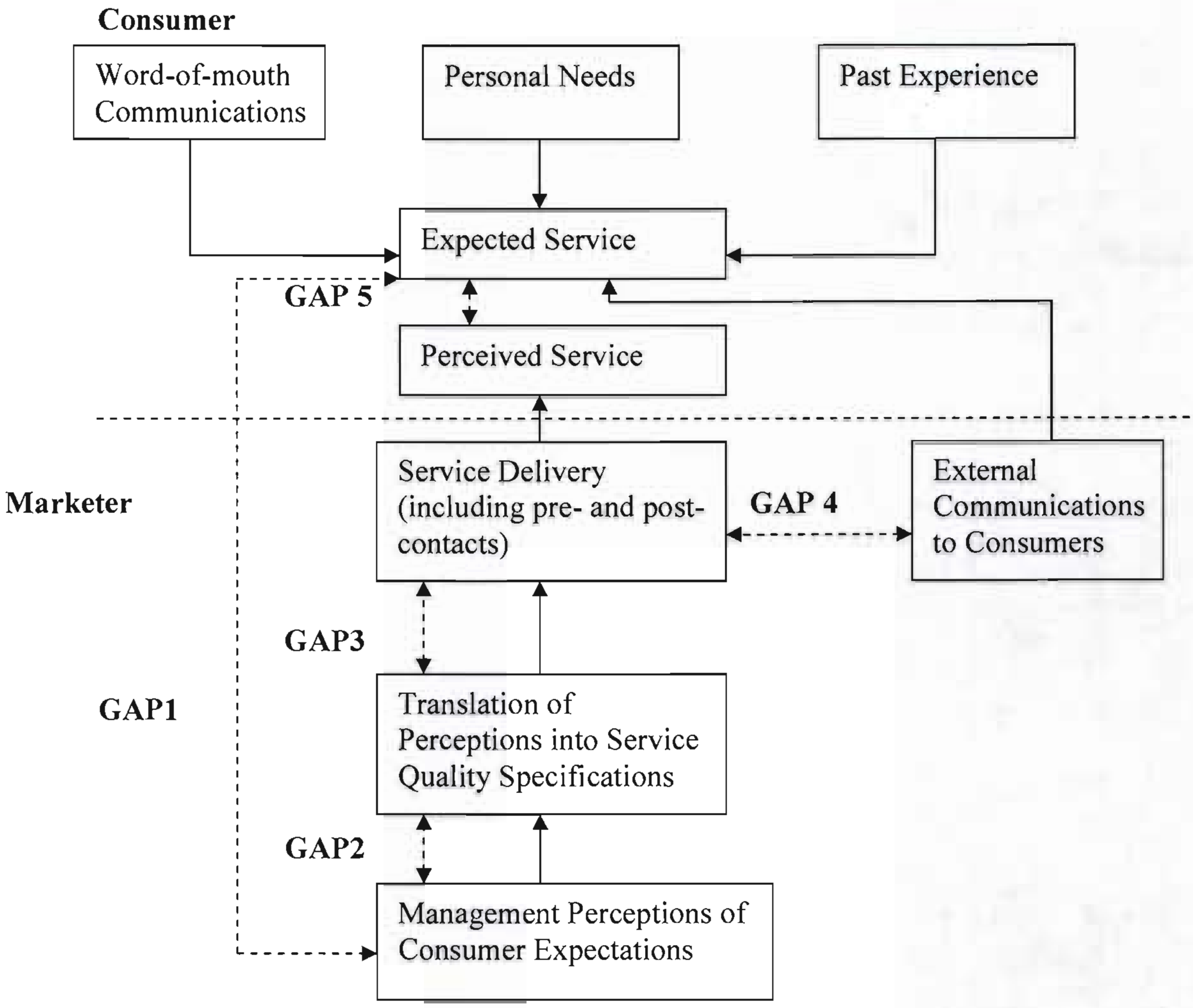
There are obviously many difficulties inherent in evaluating service quality. In the first place, perceptions of quality tend to rely on a repeated comparison of the customer's expectation about a particular service, compared with the actual performance of that service (Johns, 1999:960). If a service, no matter how good, fails repeatedly to meet a customer's expectations, then the customer will perceive that service to be of poor quality. Secondly, unlike goods markets in which customers evaluate the finished product alone, in services the customer evaluates the process of the service, as well as its outcome. A customer visiting a hairdresser, for example, will evaluate service not only on the basis of whether one likes the haircut, but also on whether the hairdresser has been friendly and competent.

In 1984, Parasuraman, Zeithaml, and Berry made a substantial contribution to our understanding of the concept of service quality and the factors that influence it, by identifying four "gaps" occurring in an organization that can cause quality problems (Carman, 1990:33).

The service quality process can be described in terms of the gap between expectations and perceptions on the part of management, employees and customers, as shown in Figure 4. The most important gap is between customers' expectation of service and their perception of the service actually delivered. The goal of a service firm must be to close the gap or at least narrow it as far as possible. However, it should be remembered that the focus here is on the cumulative attitudes towards a firm assembled by the consumer from a number of successful or unsuccessful service experiences.

Before a firm can close this gap, however, there are four other gaps that also need to be closed or narrowed.

- Gap 1: Difference between what consumers expect of a service and what management perceives consumers expect.
- Gap 2: Difference between what management perceives consumers expect and the quality specifications set for service delivery.
- Gap 3: Difference between the quality specifications set for service delivery and the actual quality of service delivery.
- Gap 4: Difference between the actual quality of service delivery and the quality of service delivery described in the firm's external communications.



Source: Frost and Kumar, 2000:367

FIGURE 4: CONCEPTUAL MODEL OF SERVICE QUALITY

The most immediate and obvious gap, is usually that between what customers want and what managers think customers want. Briefly, many managers think they know what their customers want but are, in fact, mistaken. For example, banking customers may prefer security to a good rate of interest. Some restaurant customers may prefer quality and taste of food to the arrangement of the tables or the view from the window.

The complexity of the service experience may mean, that the simplistic multi-attribute perspective may not be rich enough to capture all the subtleties. If such a gap occurs a variety of other mistakes tends to follow. The wrong facilities may be provided, the wrong staff may be hired, and wrong training may be given to them. Service may be provided that customers have no use for, whereas the services they do desire, remain absent. Closing this gap, requires very detailed knowledge of what customers desire and building a response to that desire into the service operating systems.

Berry and Parasuraman (1991:4) discuss the management of service quality in three sections.

2.5.1 Doing the service right the first time

Service reliability forms the core of service marketing excellence. It is almost common sense, that reliability is important in delivering quality service. There are, however, five general dimensions which influence a customers' assessment of service quality. Firstly reliability, which is the ability to perform the promised service dependably and accurately. Secondly tangibles which is the appearance of physical facilities, e.g. equipment and personnel. Thirdly responsiveness which is the employees' knowledge and courtesy and ability to convey trust and confidence. Lastly empathy, the provision of caring, and individualized attention to customers.

One of the benefits of performing the service right the first time, is that it contributes significantly to a company's profits by simultaneously improving marketing effectiveness and operating efficiency. Consistent reliability gives a company the chance to build a reputation for service.

In order to avoid service failures, three broad categories of activities are identified. The first is service leadership. Strong leaders for whom perfection is important, are essential for a service strategy centered on reliability. Companies renowned for service reliability, have senior executives who believe that 100% reliability is possible and communicate this belief in the company. They reward error-free service and always strive for improvement. Secondly, service leaders reinforce service reliability through service testing, which involves pre-launch testing, service blueprinting (document which depicts service events and processes in a flow chart) and post-launch testing. The third pillar is an infrastructure for error-free services. This involves company personnel whose attitudes and behavior can deter or improve a company's service reputation and teamwork among employees.

2.5.2 Doing the service right the second time

Despite companies' emphasizing the importance of customer service, many of them do a poor job of correcting poor service, thus leaving customers feeling worse rather than better. Excellent service recovery provides an opportunity to reinforce customer relationships and build customer loyalty. There are three principal stages in excellent service recovery. The first is to identify service problems. This involves monitoring customer complaints using, for example, toll-free telephone numbers, comment cards and suggestion boxes. These should trigger internal action to resolve the complaint and external action to apologize to the customer and inform them that corrective measures are being taken. The company should not rely only on customer complaints, but should conduct customer research. Customers may be more inclined to air grievances if the company is genuinely interested. Thirdly, the service process should be monitored. For example, scrutinizing service blueprints to identify weak points, and to track and analyze past failures systematically. Anticipatory monitoring of the service process will help minimize failures and provide a significant competitive advantage.

The second stage of service recovery, is to resolve the problems effectively. This involves nurturing the people factor by preparing, empowering, facilitating (technology and information) and rewarding employees involved in service recovery.

Amends must also be made for the "hassle" factor. A service problem can be an inconvenience or a burden to customers. Companies must do more than just re-perform the service, they must make the customer feel that he or she has gained more than they gave up going through the recovery process.

The third stage in service recovery, is to learn from the recovery experience. Problem-resolution situations are more than just opportunities to fix flawed services. Such situations provide an opportunity to improve customer service. A company should learn as much as possible from the recovery experience. A problem tracking system should be set up, which obtains information for each instance of service recovery and must be continuously updated to quickly spot potential trouble, as well as new insights for improving service.

2.5.3 Managing and exceeding customer expectations

Customer service expectations exist at two levels. A desired level which reflects the service the customer hopes to receive and the adequate service level which reflects what the customer finds acceptable. Separating these two levels, is the zone of tolerance which is a range of service performance that a customer considers satisfactory.

A performance level below the tolerance zone, will cause customer frustration and decrease customer loyalty. A performance level above the tolerance zone will surprise customers and strengthen their loyalty. The zone of tolerance can vary from customer to customer and transaction to transaction. The greater a dimension importance, the smaller is its zone of tolerance, reflecting less customer willingness to relax service standards. Desired service levels tend to change more slowly and in smaller amounts than do the adequate service level.

According to Berry and Parasuraman (1991:63), managing customer expectations can be divided into three sections. Firstly, ensuring that promises reflect reality. Explicit and implicit service promises should be completely within a company's control. Managing these promises, is a straight-forward approach for managing expectations. However, many service organisations over-promise as to entice customers. Companies will benefit by ensuring that promises to customers reflect actual service. Over-promising undermines customers' tolerance when, for example, insurance customers want their claims paid fast. Companies should focus on the basic service, as opposed to complex promotion programs which are peripheral to the basic service.

Secondly, a premium should be placed on reliability. The indirect benefit of being reliable, is that it fulfils customers' expectations and reduces the need for recovery service. When service problems occur, customers' tolerance zones shrink and adequate and desired service levels rise for both outcome and process dimensions of the recovery service. Strong service testing and an organisational infrastructure for error-free service, as well as being the pillars of support for service reliability, are also vital to managing customer expectations effectively.

Thirdly, communication should take place with customers to create mutual understanding of expectations and concerns in order to encourage tolerance, while it is a good means of managing expectations. Genuine communication which shows caring, widens customers' tolerance zone. Good customer communication is a cornerstone of relationship marketing. Ingredients for effectively communicating with customers and enlarging their tolerance zone, include making company representatives being easily accessible; encouraging customers to contact the company; initiating customer contact and regular follow-up; training employees to be personalized, responsiveness and friendliness and rewarding employees for nurturing customer relationships.

Closely linked to managing and exceeding customer expectations, is the power of unconditional service guarantees. According to Hart (1991:341), many business executives believe, that by definition services simply can't be guaranteed, because they are delivered by human beings who are known to be less predictable than are machines. This does not mean, that customer satisfaction can't be guaranteed. A service guarantee is unconditional (100% satisfaction in every way); easy to understand and communicate (written in simple and concise language); meaningful; easy to invoke; and easy to understand.

A guarantee is a powerful tool – both for marketing service quality and for achieving it, for many reasons. Firstly, is pushes the entire company to focus on customers' definition of good service and not on executives' assumptions. Secondly, it sets clear performance standards, which boost employee data when performance is poor. Thirdly, it forces an organization to examine its entire service-delivery system for possible failure points. Lastly, it builds customer loyalty, sales and market shares (Frost & Kumar, 2000:360).

Perhaps the best way to begin a discussion of service quality is to first attempt to distinguish service quality measurement from customer satisfaction measurement. Most experts agree, that customer satisfaction is a short-term, transaction-specific measure, whereas service quality is an attitude formed by a long-term, overall evaluation of a performance (Bateson & Hoffman, 1999:340).

The two concepts of customer satisfaction and service quality, are intertwined. However, the relationship between these two concepts is unclear and inconclusive. Some believe that customer satisfaction leads to perceived service quality, whereas others believe that service quality leads to customer satisfaction. In addition to the confusion surrounding the relationship between customer satisfaction and service quality, the way two concepts relate to purchasing behavior, remains largely unexplained (Mattsson, 1994:56).

2.5.4 Service quality and customer satisfaction

The strength of the relationship between the components of service quality and customer satisfaction with the service provided, will also vary, depending upon the type of service being considered.

- Firstly, for service that has a high level of customization and which is directed toward people or intangible things, customer satisfaction will be related to all four components of service quality.
- Secondly, customer satisfaction will have relatively stronger relationship with employee and customer technical quality for service that have a high level of customization and are directed toward tangible things.
- Thirdly, for service that have a low level customization and are directed toward people or intangible things, customer satisfaction will have a relatively stronger relationship with employee technical and functional quality and customer functional quality.
- Finally, for service that have a low level of customization and are directed toward tangible things, customer satisfaction will have a relatively stronger relationship with employee technical quality (Kelly, Donnelly & Skinner 1990:326).

Closely linked to the concepts of customer services and service quality, is internal marketing.

2.6 INTERNAL MARKETING

The internal marketing concept was first introduced in the early 1980's by Berry (1981:33-40) and Grönroos (1981:236-238), and has recently been subject to renewed interest. Internal marketing was originally proposed as an approach to serve management, which involved the application of the traditional marketing concept and the associated "marketing mix" elements to the organization and its employees in order to improve internal market relationships (Kang *et al.*, 2002:279).

Internal marketing has been proposed as a management approach which enables and motivates all members of the organization to examine their own role and adopt a customer consciousness and service orientation, where service performers or service support workers, are required to meet the needs of external customers. According to Varey (1995:40), the main objective of internal marketing is to identify and satisfy employees' needs as individual service providers and to promote customer consciousness among employees in order to improve customer satisfaction via employee-customer interaction.

Lings (1999:253) posit the view, that internal marketing, therefore, aims to ensure that the internal customer is satisfied and that quality is progressively built into the product or service as it passes through the company, so that the external customer is also satisfied.

For effective service delivery it is not sufficient to have only customer-conscious employees; it is also necessary to have effective co-ordination between contact staff and background support staff. Hence, the internal marketing concept is also seen as a means of integrating the different functions which are vital to the customer relations of service companies (Grönroos, 1981:237).

Another strand of thought emerging from services marketing literature, is reflected in Berry's (1984:272) definition of internal marketing as "...viewing employees as internal customers, viewing jobs as internal products that satisfy the needs and wants of these internal customers while addressing the objectives of the organization". Table 4 outlines some of the definitions of internal marketing.

TABLE 4: DEFINITIONS OF INTERNAL MARKETING

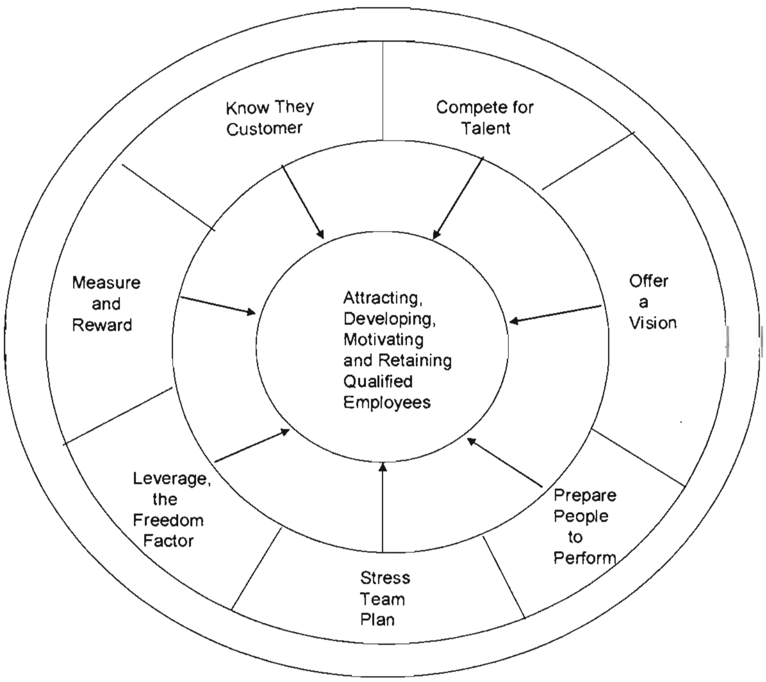
Sorce	Definition
Berry (1984)	Viewing employees as internal customers, viewing jobs as internal products, and then endeavoring to offer internal products that satisfy the objectives of the organization.
Johnson, Scheuing and Gaida (1986)	Service firms' effort to provide all members of an organization with a clear understanding of the corporate mission and objectives and with the training, motivation, and evaluation to achieve the desired objectives.
George and Grönroos (1989)	Internal market of employees is best motivated for service-mindedness and customer-oriented behaviors by an active, marketing-like approach, where marketing-like activities are used internally.
Kotler and Amstrong (1991)	The building of customer orientation among employees by training and motivating both customer-contact and support staff to work.
Bekkers and Van Hasstrecht (1993)	Any from of marketing within an organization which focuses staff attention on the internal activities that need to be changed in order to enhance external market place performance.
Ballantyne, Christopher and Payne, (1995)	Internal marketing is considered to be the process of creating market conditions within the organization to ensure that internal customers' wants and needs are met.

Source: Kang, James and Alexandris, 2002:280

George and Grönroos (1991:85) suggest, that the internal market of employees is best motivated for service-mindedness and customer-oriented behaviour by an active marketing approach, where marketing activities are used internally. Moreover, customer-contact employees who are treated as valuable persons by the company, will likely treat customers in a similar manner.

Berry and Parasuraman (1991:15), extends the limits of internal marketing even further to include activities that are traditionally carried out by the personnel function, and explains internal marketing as attracting, developing, motivating and retaining qualified employees through job-products that satisfy their needs. Internal marketing is the philosophy of treating employees as customers and it is the strategy of shaping job products to fit human needs". Schneider and Bowen (1985:425) suggest, that employees would deliver excellent service to customers when the company provides them with necessary resources, including logistical and administrative, equipment, and management support.

Thinking like a marketer cannot be restricted to external marketing. By satisfying the needs of its internal customers, a company enhances its ability to satisfy the needs of its external customers. Seven essentials in the practice of internal marketing are depicted in figure 5 and discussed below (Berry & Parasuraman, 1991:152).



Source: Berry and Parasuraman, 1991:153

FIGURE 5: ESSENTIALS OF INTERNAL MARKETING

2.6.1 Essentials of internal marketing

- Compete for talent

  Hiring the best possible people to perform the service, is a key factor in services marketing. Yet, many services companies act as though this were not the case. Many companies have ill-defined or woefully low standards for the personnel they hire. They involve few employees in the recruiting, interviewing, and selection process, sometimes delegating these tasks entirely to the personnel department. They tolerate incredibly high employee turnover rates, assuming this is a fact of life they cannot change. One of the principal causes of poor service quality, is hiring the wrong people to perform the service.

- Vision

  The attraction, development, motivation and retention of quality employees require a clear vision worth pursuing. A salary may keep a person on the job physically, but it alone will not keep a person on the job emotionally. People delivering service, need to know how their work fits in the broader scheme of business operations and how their work contributes to the company. Great internal marketing companies stand for something worthwhile and they communicate this vision to employees with passion.

- Preparing people to perform

  Preparing people to perform and market the service, enhance every sub-goal of internal marketing; attracting, developing, motivating, and retaining superior employees. Unfortunately, servers are often ill-prepared for the service role. Employees receive training, but it is too little or too late, not the kind of training they need. They may receive adequate technical skills training, but they do not receive enough knowledge; they learn how, but not why. The inclination to put employees through a specific training program and then to consider them "trained", is both strong and wrong. Employees need to learn continuously as learning is a confidence builder, a motivating force, and a source of self-esteem. What managers perceive as unmotivated employee behavior, is often the lack of confidence in employee behavior. Employees are unlikely to be motivated to perform services they do not feel competent and confident to perform.

- Stress team-play

  Service work is demanding, frequently frustrating and sometimes demoralizing. The sheer number of customers to serve, such as on a full airline flight or in a busy bank branch at noon on a Friday, can be psychologically and physically overwhelming. Some customers are insensitive if not downright rude. Control over the service is often dispersed among different organizational units that function without cohesion or a unified spirit, limiting contact employees ability to effectively serve their customers. It is common for service providers to be so much stressed by the service role, that they become less caring, less sensitive, less eager to please. What customers perceive as impersonal or bureaucratic behaviour, is often the coping behaviour of weary servers who have endured too many hurts in the real world of service employees' delivery. In effect, the experience of serving becomes a negative.

- Leverage the freedom factor

  Human beings were not meant to be robots. Yet managers treat them this way when they use thick policy and procedure manuals to severely limit employees' freedom of action in delivering service. Rule book management undermines employees' confidence in managers, stifles employees' personal growth and creativity and chases the most able employees out by the door in search of more interesting work. Rule book management usually does not benefit end-customers either. Unempowered employees deliver regimented "by-the-book" service when a creatively tailored "by-the-customer" service is really needed. While managers rein in service, customers wish they could be served by "thinking servers".

- Measure and reward

  The goals of internal marketing are thwarted if employee performance is not on how well they do it or that it is worthwhile for them to do well. Job-products that offer the opportunity for achievement, are most likely to fit the need of human beings, yet achievement remains unidentified and uncelebrated without measurement and rewards. Unfortunately, many service companies do a poor job of building an achievement culture. Performance measurement systems often focus exclusively on output measures such as size or accuracy of transactions, and ignore behavioral service. Moreover, performance feedback to employees may be infrequent or not presented constructively. Sometimes measurement leads to no apparent consequence; the employees who perform well fare no better than others in respect of compensation, advancement, or recognition.

- Know the customer

  Marketing's oldest axiom, is to know the customer. Satisfying customers requires, that decision-makers first by understanding their wants and needs. Employees are customers too, buying job-products from their employers. Designing job-products that attract, develop, motivate, and retain these internal customers, demands sensitivity to their aspirations, attitudes, and concerns. Assumptions about what employees want and feel often are wrong, and practising the art of marketing research, is as important in internal marketing as in external marketing. Internal marketing, therefore, aims to ensure that the internal customer is satisfied and that quality is progressively built into the product or service as it passes through the company, so that the external customer is also satisfied. However, with all said and done various principles also govern internal marketing.

2.6.2 Principles of internal marketing

Lings (1999:453) outlines the following principles of internal marketing.

- Each process receives inputs from the internal supplier (the previous operation), does work on it, adds value and converts it to an output to the internal customer (the next operation).
- The internal customer's requirements and expectations need to be communicated to the internal supplier.
- The internal customer's evaluation of the service provided, needs to be communicated to the internal supplier.
- The consequences of meeting or not meeting the internal customer's requirements, must be translated into rewards and punishments.
- The process aims at continuous, never-ending improvements.
- Employees must be made partners with management, for the system to work.

According to Ahmed and Rafiq, (2002:113) internal marketing focuses on and is concerned with all integrated activities within the company (internal relationships). Whilst the focus is to manage the internal marketplace relationships, these internal marketplace relationships influence and enhance external marketplace relationships. Internal marketing focuses the company toward a customer orientation, which works internally by facilitating the process and behaviours to deliver a quality orientation. Internal marketing, total quality management and marketing, when used together, result in greater customer satisfaction and allow the company to sustain a competitive edge. Thus, the success of a quality programme is mediated by the partnership between the employee and the company. Internal marketing works on acquiring quality by paying attention to the following.

- Quality of process

  Internal marketing plays a role in examining the activities of work and ensuring that the processes are effective in delivering maximum value for customer needs. Internal marketing does this by examining the process for overall aims, assessing existence of the process, and informing how the process functions. By raising the awareness of aims and functions, internal marketing improves the operational quality of the process.

- Quality of infrastructure

  Internal marketing assesses the quality of the internal structures and internal resources and activities. It examines how well these processes and activities are managed and co-ordinated.

- Quality of interaction

  Internal marketing assesses and improves the quality of information exchange, financial exchange and social exchange. As a direct consequence of high 'quality' exchange, internal relationships can be improved and more effectively aligned to desired aims.

- Quality of environment

  Internal marketing assesses the relationship and interaction process between the parties, and the impact of the environment within which the interactions occur. The quality of the environment determines how well people co-operate and operate. The organizational culture depicts its reality along dimensions such as level of dependence versus interdependence, conflict as opposed to co-operation, expectations and reciprocity, communication, trust and commitment. A high quality environment involves high trust, commitment and reciprocity between involved business parties.

- Quality of people

  Internal marketing assesses current capabilities and competencies of people, and identifies the gaps that need to be filled so as to make strategies happen. Internal marketing assesses the competence, experience, know-how, internal relationships, motivation and attitudes necessary for embedding the quality philosophy throughout an organization.

- Quality of plans

  Internal marketing examines and helps the translation of strategies into tactical plans for operations. In the translation process, internal marketing considers what benefits individuals can derive from implementing these strategies, in the long, as well as in the short term, and then develops appropriate internal marketing strategies to engender buy-in.

Having discussed internal marketing, its essentials and principles relating to internal marketing, it is necessary at this stage to highlight internal service quality and its application in organizations.

2.7 INTERNAL SERVICE QUALITY

Whilst the role of service quality is widely recognised as being a critical determinant for the success of an organisation in a competitive environment, any decline in customer satisfaction due to poor service quality, would be a matter of concern. Consumers are more aware of rising standards in service prompted by competitive trends and have developed higher expectations (Frost & Kumar, 2000:358).

Internal marketing literature suggests that the way to satisfied customers, is through satisfied employees, and that the ability to meet customer requirements is vital, not only between two separate organisations, but also within the same organisation (Heskett, Jones, Loveman, Sasser & Schlesinger, 1994:120).

By understanding and responding to employees' needs and concerns, the level of satisfaction customers experience with the firm, will be enhanced (Bitner, Booms &

Tetreault, 1990:77). Piercy and Morgan (1991:85) claim, that internal marketing programs are a direct parallel to conventional external marketing programs, using the same concepts and elements. In order to achieve organisational change, there is a need to carry out the same process for the internal marketplace as there is for the external marketplace.

To ensure that a high level of service quality is provided to its external customers, marketers need to understand how service quality is enhanced between internal stakeholders within the internal marketplace. In other words, the crucial question to be answered, is how does an organisation go about ensuring that its internal customers receive service quality? (Frost & Kumar, 2000:358).

Recently, many service industries have had to undergo major changes as a result of competitive forces and deregulation (Bitner, 1990:78). These changes have brought with them new opportunities and challenges. To meet these challenges, an increasing number of service organisations have recognised the need for understanding and implementing internal marketing programs, because internal marketing is important to all industries, especially to service industries.

Bowen and Scheider (1988:63) have found, that when employees identify with the norms, values and culture of an organisation, they are less inclined to quit, and customers seem to be more satisfied with their service. In addition to this, employee turnover is minimised, service values and norms are transmitted to newcomers and successive generations of service employee". The human element plays a predominant role in internal service quality.

Generally, it is difficult for marketers to systemise service delivery in the same manner as an assembly line, because of the presence of the human element throughout the whole service process. For this reason, for example, many airlines compete by adjusting airfares rather than cultivating service delivery systems, such as baggage handling, on-time flights, reservation handling and in-flight meal catering systems (Morash & Ozment, 1994:115).

Since internal service quality is necessary to superior external service quality, service providers need to understand service discrepancies, so that they are in a better position to understand, directly influence and improve human resources in running service operations (Varey, 1995:51).

One of the issues raised in literature, is an apparent lack of a conceptual framework that illustrates the understanding of the mechanics of "service quality" inside a service organisation. Hence, there is a need for designing a conceptual internal service quality model that would be both theoretically and empirically sound (Caruana & Pitt, 1997:605).

Service quality, as noted earlier, is generally used to measure customers' perception of services rendered. Customers are ideal for appraising how well employees have provided quality service, because they are in a better position to observe employee performance than are employees' supervisors (Brooks, Lings & Botschen, 1999:53).

Berry, Parasuraman and Zeithaml (1990:32) provide three reasons why service organizations need to conduct employee research: Firstly, employees themselves are customers of internal service. As internal service quality affects external service quality, measuring internal service quality is essential. It is found that, while service quality has been actively researched by marketers, service quality within a service organisation between employees has not received much attention. Secondly the employees offer insights into the conditions that affect service quality in an organisation, as they experience the service delivery system on a daily basis. Employee research helps reveal why certain service problems occur and how to overcome them. Thirdly, employee research serves as an early warning system to marketers, as employees are able to identify when the system is going to break down.

According to Cram (2001:266), a model designed to measure customers' perceptions of service quality, SERVQUAL was developed in the 1980's by three American academics, Parasuraman, Zeithaml and Berry. Based on twelve focus groups, they developed a questionnaire comprising the 22 criteria most commonly used by the focus group participants to assess service quality. Following further research, Parasuraman *et al.,* grouped the 22 criteria into five service quality dimensions which, they claim, will determine customers' perception of any service. These dimensions are outlined in Table 5.

TABLE 5: SERVICE QUALITY DIMENSIONS AND THEIR DEFFINITIONS

Dimension	**Definition**
Tangible	Appearance of physical facilities, equipment, personnel, and communication materials.
Reliability	Ability to perform the promised service dependably and accurately.
Responsiveness	Willingness to help (internal) customers and provide prompt service.
Assurance	Knowledge and courtesy of employees and their ability to convey trust and confidence.
Empathy	Caring, individualized attention the employees provide to each other.

Source: Adapted from Zeithaml et al. 1990:108

In 1988 another academic, Grönroos, (1989:55) added a significant sixth dimension 'recovery' which concerns the organization's ability to rectify problems.

Various researchers have contributed to the identification of service quality dimensions which could be used to operationalize the concept of internal service quality. It was felt, that the quality of internal services that units receive from other departments which support their activities, could be meaningfully categorized (Reynoso & Moores, 1995:69).

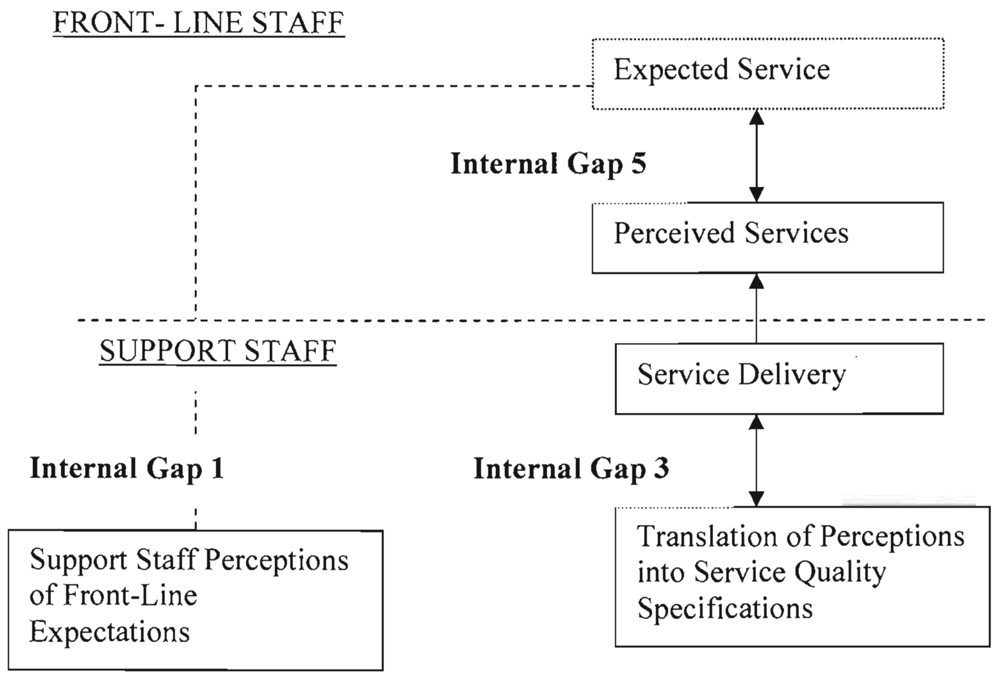
Unfortunately, of the prevalence of articles which are important in respect of identifying internal service quality dimensions, only a few could be considered as being methodologically useful. Some researchers see the measurement of the quality of internal services as being the same as adopting and adapting the finding of the SERVQUAL scale.

Zeithaml, *et al.,* (1990:48) claim, that SERVQUAL, with appropriate adoption, can be used by departments and divisions within a company to ascertain the quality of service they provide to employees in other departments and divisions.

In the next section an overview is provided on some attempts to measure internal service quality.

2.7.1 The Internal Service Quality Model

The Internal Service Quality Model is based on the original Gap Model shown in Figure 6. The internal gap 1 looks at the difference in support staff's perception (internal supplier) of front-line staff's expectations (internal customers). To find the extent of this gap, the service quality construct is used. The five dimensions to be used to explain the service quality measure, are similar to those used in the service quality model of Parasuraman, Zeithaml & Berry (Frost & Kumar 2000:366).



Source: Frost and Kumar, 2000:366

FIGURE 6: THE INTERNAL SERVICE QUALITY MODEL

Internal gap 3 is the significant difference between service quality specifications and the service actually delivered, resulting in an "internal service performance gap". The key contributing factors to gap 3, are shown in Figure 7.

This gap widens, especially in large service organizations like airlines, where there is a large support staff base, who do not have direct contact with passengers, but are still an important link in the quality chain. Their presence is essential for providing front-line staff (e.g. cabin crew) with the tools (tangibles and intangible) to achieve the company's objective of providing quality service to passengers.

SERVICE QUALITY SPECIFICATIONS

KEY CONTRIBUTING FACTORS

1. Lack of Teamwork
2. Poor Employee-Job Fit
3. Poor Technology-Job Fit
4. Lack of Perceived Control
5. Inappropriate Supervisory Control Systems
6. Role Conflict
7. Role Ambiguity

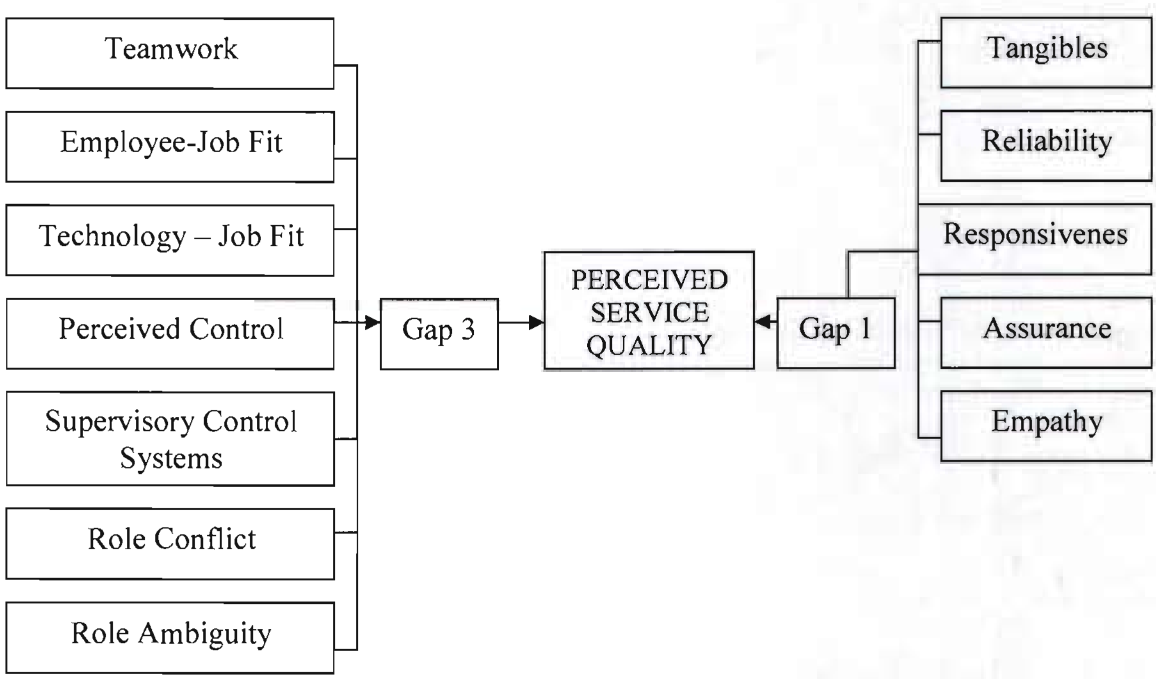
SERVICE DELIVERY

Source: Frost and Kumar, 2000:367

FIGURE 7: INTERNAL SERVICE QUALITY MODEL: KEY CONTRIBUTING FACTORS TO GAP 3

In the Parasuraman *et al.*, (1988:20) Gap Model, gap 5 is the main gap, where customers' expectations of a service provided are compared with their perception of that service. The gap is based on the difference between internal suppliers and internal customers' expectations and perceptions. Figure 8 shows the relationship between internal gap 1 and the internal gap 3. The perceived service quality is linked to internal gap 1 on one side and internal gap 3 on the other.

Reynoso and Moores (1995:68) is of the view, that various researchers have contributed to the identification of service quality dimensions which could be used to operationalize the concept. What are the criteria used by customers in assessing the quality of the service they receive? Attempts to answer this question in different settings studied from various perspectives have, perhaps not surprisingly, produced various sets of quality dimensions which are useful in measuring service quality.



Source: Frost and Kumar, 2000:368

FIGURE 8: INTERNAL SERVICE QUALITY MODEL: RELATIONSHIP BETWEEN DETERMINANTS OF INTERNAL GAP 1 AND INTERNAL GAP 3

The most often used approach for measuring service quality, has been to compare a customer's expectations before a service encounter and their perceptions of the actual service delivered (Lewis & Booms, 1983:100). The SERVQUAL instrument has been the predominant method used to measure consumers' perceptions of service quality. Since 1988, a variety of researchers have utilized the instrument and discussed various deficiencies and inconsistencies (Johnson, Tsiros & Lancioni, 1995:8).

The research on measuring service quality, has focused primarily on how to meet or exceed the external customer's expectations, and has viewed service quality as a measure of how the delivered service level matches the consumer's expectation (Kang *et al.,* 2002:280).

Chaston (1994:48) measured potential gaps in internal service quality by using a modified version of the SERVQUAL instrument. The results indicated, that gaps in service quality existed, because departments placed efficiency above internal customer needs and made little effort to understand internal customer requirements. Young and Varble (1997:35) assessed internal service quality within a purchasing context by applying the original SERVQUAL measures, and suggested, that the SERVQUAL instrument does provide the purchasing function with a useful method for obtaining feedback from its internal customers. Edvardsoon, Larsson & Setterlind (1997:255) used the SERVQUAL instrument to explore the relationship between the psychosocial work environment and internal service quality and suggested, that measures for improving psychosocial work conditions were just as important as other variables relative to increasing work satisfaction.

Studies done by Chaston (1994:55), Young and Varble (1997:37) and Edvardsson *et al.,* (1997:255), all proposed that the SERVQUAL instrument can be utilized to measure internal service quality. They, however, concur that modification to the scale items is required. Chaston, for example, had to alter the wording of the SERVQUAL items to accommodate the unique characteristics of their sample (*i.e.* the UK manufacturing industry).

The researchers, Edvardsson *et al.,* (1997:256) noted, that "...our way of measuring internal service quality is inspired by the SERVQUAL instrument", implying that the SERVQUAL instrument guided the development of the measures used. However, no mention was made of the validity and the reliability of the new measures. Lings and Brooks (1998:347) also propose, that the SERVQUAL instrument may be an appropriate tool to measure the quality of service delivered by internal suppliers to their customers and a valid measure to assess the effectiveness of internal marketing.

In a study conducted by Frost and Kumar (2000:374) the authors found, that the dimension "responsiveness" was found to influence internal service quality most. However, these findings did not concur with the findings of Parasuraman *et al.*, (1985:45), whose research found reliability as a dimension to have the most significant influence of all the SERVQUAL dimensions on the overall perception of service quality.

Studies undertaken by Kang *et al.,* (2002:278) also made use of the modified SERVQUAL items to measure the employee's perception of internal service quality. The authors changed the wording of the items to capture internal service quality. However, these authors found, that the five dimensions: reliability, assurance, tangibles, empathy and responsiveness were distinct and conceptually clear, as compared to previous studies which had problems in confirming all five dimensions of the SERVQUAL instrument.

This study, therefore, adds to the growing literature on internal service quality by measuring internal service quality of administrative staff to its internal customers (R&D department).

2.8 SYNOPSIS

Evident from the discussion in this chapter is, that the measurement of service quality is complex and a multiplicity of factors come into play in assessing service quality. The measurement of service quality is further complicated due to the unique characteristics of service. Customer services and internal marketing are both essential ingredients in the measurement of internal service quality.

In the chapter that follows, an expose is provided on the methodology and the design of the research. The nature of statistical analysis is also elaborated.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides details of the methodology used in the design of the research. It focuses on the sample design and sampling procedure, measuring battery, administration of the measuring instrument, and data collection procedure. An overview is presented of the statistical analysis used in the study.

3.2 THE SAMPLING PROCEDURE

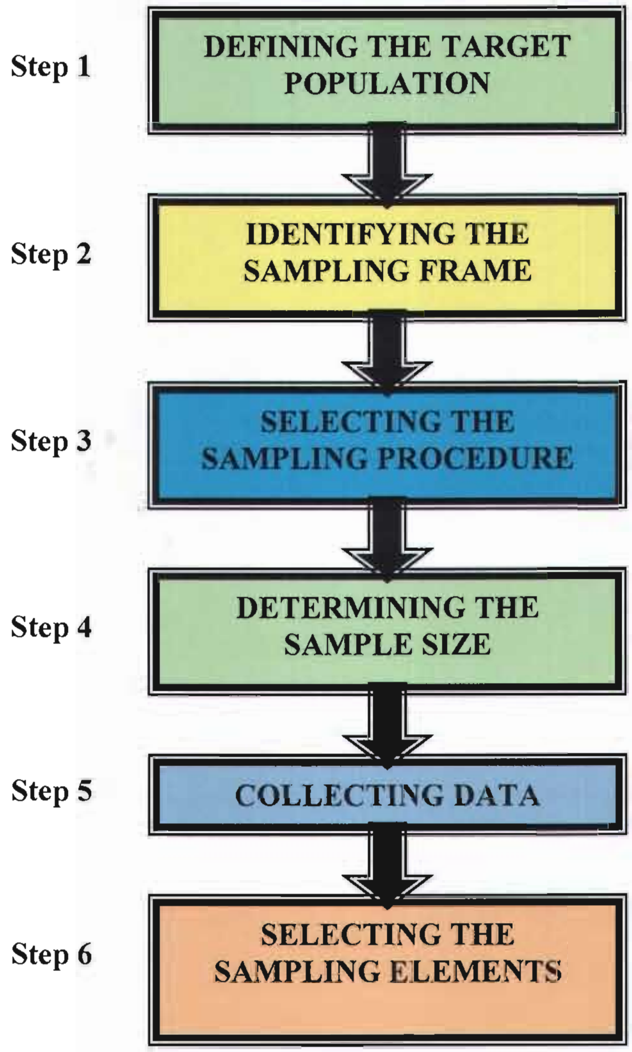
Sampling is one of the major tools of research, which is concerned with collecting, analysing and interpreting data (Chisnall, 2005:71).

The purpose of sampling, is to select a small number of units from the target population in such a way, that the sample is truly representative of the total population being surveyed (Hill & Alexander, 2000:86).

Churchill and Iacobucci (2002:449) outlines a six-step procedure that researches can follow when drawing a sample from a population. The steps are systematically reflected in figure 9.

3.2.1 Target population

Chisnall, (2005:71) views the target population as any group of people or objects which are similar in one or more ways, and have the characteristics which can be estimated and classified according to the requirements of the survey.



Source: Churchill and Iacobucci, 2002:449

FIGURE 9: SIX-STEP PROCEDURE FOR DRAWING A SAMPLE

Population is an identifiable group of elements (for example, people, products, organizations) of interest to the researcher and pertinent to the problem (Hair, *et al.*, 2006:309).

For the purpose of this study, the population comprises Sasol Technology R&D employees from different departments who make use of administrative services on regular basis (Figure 1).

3.2.2 Identification of the sample frame

The second step in sampling procedure, is to identify the sampling frame (Figure 10). A sample frame is a master list of population elements (commonly referred to as sample members) from which one selects elements to be sampled (McDaniel & Gates, 2001:333).

In selecting a sampling frame for the study, care was taken to meet the following requirements.

- It is complete (includes all population members).
- It is free from duplicate elements (does not include certain individual population elements more than once).
- It is accurate and consequently free from foreign elements (does not capture other populations in addition to the one of interest).

For the purpose of this study, a list of Sasol Technology R&D employees was obtained from the Human Resources Department data base, to generate a sample of prospective respondents.

3.2.3 The sampling procedure

After identifying the sample frame, the researcher had to select the sampling procedure (Figure 9). Sampling procedure may be divided into two broad categories: probability and non-probability sampling. A probability sample is one in which every element has a known non-zero probability of being selected. It is unnecessary for all elements to have an equal chance of being selected; but each element must have a chance and that chance must be known, so that the sampling results can be applied to the universe. Non-probability samples rely on the judgement of the researcher and are only as representative as the researcher's intuition and skill permits. In non-probability sampling, there is no way of estimating the probability that any element will be included in the sample, and therefore, there is no method of finding out whether the sample is representative of the population (Martins, *et al.,* 2002:253).

The nature of the research necessitated the use of convenience and judgement sampling (Churchill, 2001:453). The questionnaires were mailed to the "internal customers".

3.2.4 The sample size and selection of sampling elements

Sample size refers to the number of elements to be included in the study. Determining the sample size, is complex and involves several qualitative and quantitative considerations (Malholtra, 2004:318). A sample does not have to be large to be accurate. A sample of 200 to 500 is adequate for most customer surveys (Martins, *et al.,* (2002:97).

Martins, *et al.,* (2002:266) mentions, that the important qualitative factors that should be considered in determining the sample size, include the following.

- The importance of the decision
- The nature of the research
- The number of variables
- The nature of the analysis
- Sample sizes used in similar studies
- Incidence rates
- Resource constraints.

In general, for more important decisions, more information is necessary and the information should be obtained more precisely. This calls for larger samples, but as the sample size increases, each unit of information is obtained at greater cost (Hill & Alexander, 2000:86).

The nature of the research also has an impact on the sample size. For exploratory research designs, such as those using qualitative research, the sample size is typically small. For conclusive research, such as descriptive surveys, larger samples are required (Malhotra, 2004:318).

Based on the studies and comments made by various researchers above, the minimum sample size was set at 400. A total of 251 questionnaires were returned. A total of 22 questionnaires were rejected, due to errors or incomplete responses, 229 questionnaires were used for analysis. This represented a 63% response rate.

To maintain anonymity the completed questionnaires were returned to the administrative services and placed in a box outside. The data were collected over a five-week period in June/July 2005.

3.2.5 Data collection method and research instrument

The survey method was employed to obtain relevant data. Data were gathered by using questionnaires mailed to a sample of the population. This method was chosen in the light of its ability to accommodate a large sample size at relative low costs and its ease of administration (Zikmund, 2000:220).

3.3 QUESTIONNAIRE FORMAT

The Likert Scale was used in sections A, B, and C of the questionnaire, to allow customers to respond in varying degrees to each item that describes internal service quality. The questions on the questionnaire were divided into four sections as follows.

- Section A - expectations and perceptions data
- Section B- unit satisfaction data
- Section C- value the unit adds to internal customers
- Section D- classification data relating to respondents' profiles.

The low-end point of the scale represents a negative response, while the-high end point represents a positive response in section A. In sections B and C, the low-endpoint represents positive responses and high endpoint represents a negative response. The explanations are accompanied by tables, figures, and pie charts to illustrate the outcomes. The variables on the questionnaire in section A were transformed to into a 6-point Liket Scale where "completely fails to meet my expectation" = 1 and "exceeds my expectation" = 6, were used.

3.4 DATA EDITING AND CODING

Data editing is a process whereby the data are checked for mistakes and it is designed to impose some minimum quality standards on the data collected. Coding involves grouping and assigning values to various responses from the survey instrument. Codes generally are considered to be numbered symbols. However, they are more broadly defined as rules for interpreting, classifying and recording data. Table 6 summarises the variable codes to questions used in the survey.

TABLE 6: VARIABLE CODES USED IN THE SURVEY

Question Number	Variable
Expectations and Perceptions	
Section A Question 1	A1
Section A Question 2	A2
Section A Question 3	A3
Section A Question 4	A4
Section A Question 5	A5
Section A Question 6	A6
Section A Question 7	A7
Section A Question 8	A8
Section A Question 9	A9
Section A Question 10	A10
Section A Question 11	A11
Section A Question 12	A12
Section A Question 13	A13

Section A Question 14	A14
Section A Question 15	A15
Section A Question 16	A16
Section A Question 17	A17
Section A Question 18	A18
Section A Question 19	A19
Section A Question 20	A20
Section A Question 21	A21
Section A Question 22	A22
Section A Question 23	A23
Section A Question 24	A24
Section A Question 25	A25
Section A Question 26	A26
Section A Question 27	A27
Section A Question 28	A28
Section A Question 29	A29
Section A Question 30	A30
Unit Satisfaction Data	
Section B Question 1	B1
Section B Question 2	B2
Section B Question 3	B3
Value Data	
Section C Question 1	C1
Classification Data	
Section D Question 1	D1
Section D Question 2	D2

The questions were fully structured and no problems were encountered in the coding process.

3.5 PRE – TESTING

Pre-testing is essential if the researcher is to be satisfied that the questionnaire design will perform its various functions in the interview situation. (Martins *et al.*, 2002:232). It can be done with individuals representative of those who will be asked to actually complete the survey. In a pre-test respondents are asked to complete the questionnaire and comment on issues such as clarity of instructions and questions, sequence of the questions, and issues that are potentially difficult or confusing (Hair *et al*., 2006:66).

Pre-testing for the study was done with 10 different employees, including the management of R&D, so as to ensure that the wording and the questions were appropriate and related to the study. Changes were made to a draft questionnaire.

3.6 STATISTICAL ANALYSIS

The following statistical analysis was used in the study.

3.6.1 Descriptive analysis

Data description is the typical first step in any data analysis. As an important, self-standing activity, descriptive analysis provides a very useful initial examination of the data, even if the ultimate concern of the researcher is inferential in nature (Tustin *et al.,* 2005:522).

According to Steyn, Smith, Du Toit and Strasheim (1995:146) the purpose of descriptive analysis is to -

- provide preliminary insights into the nature of the responses obtained, as reflected, in the distribution of the values for each variable of interest;
- help to detect errors in the coding and data capturing processes;
- provide a means of presenting the data in a transparent manner with tables and graphs;
- provide summary measure of 'typical or average ' responses as well as the extent of variation in responses for a given variable; and

- provide an early opportunity for evaluation whether the distributional assumptions of the subsequent statistical test are likely to be satisfactory.

Descriptive analysis techniques

A researcher can use various descriptive analysis techniques to analyse survey data. The most fundamental of the techniques, is the construction of frequency distribution. Other techniques that are used to analyse sample data include the following.

- Measuring central location
- Measuring variability
- Measuring skewness and kurtosis.

The above descriptive analysis was undertaken in this study. (Refer to page 75).

3.6.1.1 Frequency

The starting point in descriptive analysis, is the construction of a frequency distribution. This entails the construction (mostly by computer) of a table that shows in absolute and relative terms, (*i.e.* percentages) how often the different values of the variable are encountered in the sample. Frequency distribution indicates how "popular' the different values of the variable are among the units of analysis.

Frequency distribution was used in the computation of percentage with reference to overall satisfaction, gender and composition of departments. (Refer to section 4.2.5).

3.6.1.2 Central location

There are three measures of central tendency, namely the arithmetic mean, the median and the mode.

- **Arithmetic mean**

The arithmetic means (also called the average) is defined as the sum of a set of values, divided by their number. The mean is an approximate measure of central location for metric data (interval and ratio data) only.

Further attributes of the mean are listed below.

- It is unique, in the sense that the total sum of deviation around it, is zero.
- The sum of the negative deviations from the mean, is always equal to the sum of the positive deviations from the mean. This makes the mean significant as a balancing point (or 'centre of gravity') for the distribution of individual values, as negative deviations are exactly offset by positive deviations.
- The sum of a squared deviation around the mean, is smaller than the sum of the squared deviations around any other value. This attribute is used in calculating measures of dispersion.
- Finally, the mean is far more stable than the median or the mode over repeated sampling, it exhibits less variation from sample to sample as compared to the measures of central location.

- **Median**

The median is another measure of central location and is defined as the value above or below which one half of the observations fall. In other words, the median is the value of the middle case when all individual observations have been arranged in rank order.

- **Mode**

  The mode is the value that has the largest number of observations, namely the most frequent value or values. It is most useful where the scores are not numeric.

These measures of central location were used in the study to identify the average values of a dataset. However, these measures tell us little about the extent to which the individual values are similar to or differ from one another. For this, measures of variability are used to summarise the degree of dispersion.

3.6.1.3 Variability

The most common measures of variability for quantitative data is the variance; its square root, the standard deviation; the range; interquartile range; and the absolute deviation.

The average score in a distribution is important in many research contexts. So too, is another set of statistics that quantify how variable (or how dispersed") the scores tend to be. Do the scores vary a lot, or do they tend to be very similar or near each other in value? Sometimes variability in scores, is the central issue in a research question.
There are many intuitively appealing but little-used measures of variability. The range, for example, is the difference between the largest and smallest scores in the data set. The interquartile range or IQR is the difference between what is called the 25^{th} and 75^{th} percentile scores. By far the most widely used measures of variability, are those to do with averaging how spread out the scores are from the mean. These are the sums of squares, the standard deviation, and the variance. The mean, median and standard deviation was used in this study. (Refer to table 7).

3.6.1.4 Measuring skewness and kurtosis

A reasonable idea of skewness and kurtosis could be obtained from a histogram or frequency polygon and examining the relative magnitudes of the mean and the median. Measuring of skewness and kurtosis will be close to zero, if the distribution of values is symmetrical and mesokurtical (normal distribution curve). Positive values for skewness indicate a positive skew, and negative values for kurtosis reflect a more lepokurtic distribution. Computer statistical packages such as Statistical Package for Social Sciences (SPSS) can be used to calculate the coefficients of skewness or kurtosis (Joanes & Gill, 1998:189). Both skewness and kurtosis was used in the study. (Refer to table 7).

3.6.2 Validity and reliability

Validity and reliability are two concepts frequently associated with both research theory and marketing research, as practised in the real world. Validity is important, especially if the research is being conducted for the purpose of making a one-time decision. If, on the other hand, a research instrument is to be used repeatedly, reliability takes on an added dimension of importance (Malhotra, 2004:269).

According to Chisnall (2005:234), these concepts are interrelated; they are not readily distinguished and some degree of overlap seems almost inevitable. The validity of an attitude scale refers to the extent to which it is free from both random and systematic error, and measures what it is supposed to measure. To be valid, a research measure must also be reliable. But if it is reliable, it may or may not be valid. Hence, reliability is a necessary but not sufficient condition for validity. For example, a certain type of attitude scale may possess the quality of reliability, but it may not be valid to use it in a particular research project. Generally, it is easier to check the former than the latter.

Reliability, as noted earlier, refers to the stability and consistency of the results derived from research; to the probability that the same results would be obtained if the measure used in the research were replicated.

Reliability can be tested by the following methods.

- repeating a given test and comparing the two measurements (test-re-test). This is done by calculating the correction between the results of the replicated and original tests.

- Comparing measurements on two comparable forms of the same test (equivalent forms).

- By the traditional method of comparing measurements on one-half of the test with those noted on the other half, the results being expressed as a coefficient of correlation (split-half).

- The Cronbach Alpha method.

Cronbach Alpha measures how well a set of items (or variables) measures a single unidimensional latent construct. When data have a multidimensional structure, Cronbach alpha will usually be low. Technically speaking, Cronbach Alpha is not a statistical test – it is a coefficient of reliability (or consistency).

Cronbach Alpha can be written as a function of the number of test items and the average inter-correlation among the items (Kerlinger & Lee, 2000:189). The accepted benchmark level as in the region of 0.70 above.

Reliability is always a matter of degree, which is expressed as a correlation coefficient, and it is rare to find reliabilities in the social behavioural sciences much above 0.90.

Validity can be established in the following manner. The most common definition of validity is epitomized by the question: Are we measuring what we think we are measuring? The emphasis in this question is on what is being measured, and it can be determined by any or all of the following methods:

- Content validity, established by the personal judgements of experts in the particular field.

- Concurrent and predictive validity, involving matching test results against some external criterion.

- Construct validity by testing 'known' groups or types of respondents who could reasonably be expected to hold certain attitudes which differ towards some defined object.

Refer to section 4.2.3 and 4.2.4 for the reliability and validity analysis.

3.6.3 Correlation

Correlation is defined as a technique for measuring the statistical relation between a dependent variable, and an independent variable or combination of variables (Martins *et al.,* 2002:467).

The type of correlation analysis applied, depends on the number of variables and the nature and degree of their influence. Basically, there are three types of correlation analysis.

- Simple correlation, which measures the relation between two variables.
- Muiltiple correlation, which measures the relation between a dependent variable and several independent variables.

- Partial correlation, which measures the relation between one variable and another, while keeping the influence of other variable constant.

In this study simple correlation analysis was used. (Refer to table 22).

3.6.4 Factor analysis

Factor analysis is a general name denoting a class of procedures primarily used for data reduction and summarization (Malhotra, 2004:560). It is a technique that is used to summarize the information contained in a large number of variables into a smaller number of subsets or factors. The purpose of factor analysis is to simplify the data. With factor analysis, there is no distinction between dependent variables; rather, all variables under investigation are analyzed together to identify underlying factors (Hair, *et al.,* 2003:591). Kinnear and Taylor (1991:607) state, that factor analysis has a number of possible applications in marketing research. These include data reduction, structure identification, scaling, and data transformation.

- **Data reduction**

Factor analysis can be used for reducing a mass of data to a manageable level. For example, the researcher may have collected data on 50 attributes of internal service quality. The analysis and understanding of these data may be aided by reducing the attributes to a minimum number of factors that underlie the 50 attributes. These factors may then be used in further analysis in place of the original attributes.

- **Structure identification**

Factors analysis may be used to discover the basic structure underlying a set of measures. For example, the above 50 attributes may reduce to two factors identified by the researcher as (1) reliability and (2) courtesy. The assumption is, that at least some of the measures taken are redundant. The factor analysis then finds the underlying structure of the redundancy by placing the measures on underlying factors or dimensions.

- **Scaling**

A researcher may wish to develop a scale on which subjects can be compared. A problem in developing any scale is in weighting the variables being combined as to form the scale. Factor analysis helps the process by dividing the variables into independent factors. Each factor represents a scale measure of some underlying dimension. Further, factor analysis gives the weights to use for each variable when combining them into a scale.

- **Data Transformation**

A number of dependence analysis techniques require independent variables that are themselves uncorrelated (for example multiple regression). Factor analysis can be used to identify factors that are uncorrelated. These factors can then be used as input in the relevant dependence method.
In this study exploratory factor analysis was used. Refer to section 4.2.2 for a detail analysis.

3.7 SYNOPSIS

This chapter discusses the research methodology used in the study. The following issues are highlighted: selection of the sampling methods, the sample frame, sample size and the method of data collection. A brief overview is provided on statistical methods used in the analysis of the data.

In the next chapter, the data analysis and interpretation of the empirical results will be presented.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF EMPIRICAL FINDINGS

4.1 INTRODUCTION

The essence of this chapter is to report on results of the empirical findings of the study. The data obtained from the questionnaires were initially analysed by using descriptive statistics. Statistical techniques used, include calculation of the Cronbach Alpha (coefficient α) to establish the reliability of the scale and factor analysis to establish the dimensionaility of the internal service quality scale. Correlations and multiple regression analysis were also used to establish the validity of the measuring instrument.

4.2 ANALYSIS OF THE SURVEY RESULTS

Before the use of complex data analysing techniques, researchers usually summarise the data in order to understand the basic composition of the data that have been collected (Pelser, 2001:165). In this way researchers can use various statistics to describe the sample or make inferences (Shao, 2002:416). The following section provides an overview of the descriptive statistics that have been used in the preliminary data analysis.

4.2.1 Descriptive statistical analysis

The measures of central tendency and measures of dispersion are reflected in table 7. The highest mean turned out to be 4.37 (the accessibility and tangibility dimension) which consists of questions A8, A23, A24 and A25 of the questionnaire in the service quality dimensions data, indicating that respondents agree that administrative staff meet their expectations in terms of service delivery. The lowest mean was recorded as

4.10 (the reliability dimension) which consists of questions A1, A2 and A3 of the questionnaire, also inferring, that respondents' expectations were also met in terms of the reliability of the delivery of the service.

In respect of the satisfaction data, the highest mean was reported as 2.13 (B2 of the questionnaire), indicating that respondents made a wise decision to use the services of this unit. The lowest mean reported, was 1.98 (B1 of the questionnaire), inferring that respondents were satisfied with the services provided by this unit.

TABLE 7: DESCRIPTIVE STATISTICS OF THE SAMPLE

	Valid N	Mean	Median	Minimum	Maximum	Std.Dev	Skewness	Kurtosis
SERVICE QUALITY DIMENSIONS DATA								
Assurance	229	4.212518	4.333333	2.166667	6.000000	0.747907	-0.429785	-0.23680
Access	229	4.377001	4.500000	1.750000	6.000000	0.781758	-0.526936	0.35949
Empathy	229	4.220524	4.250000	1.750000	6.000000	0.758688	-0.467944	0.48338
Reliability	229	4.103348	4.000000	1.666667	6.000000	0.822143	-0.211117	0.32077
Responsiveness	229	4.262009	4.333333	1.333333	6.000000	0.801593	-0.440456	0.49504
UNIT SATISFACTION DATA								
B1	229	1.986900	2.000000	1.000000	5.000000	0.728374	0.638396	1.05245
B2	229	2.139738	2.000000	1.000000	4.000000	0.747887	0.210627	-0.30751
B3	229	2.017467	2.000000	1.000000	5.000000	0.688025	0.629575	1.47264
VALUE DATA								
C1	229	1.776316	2.000000	1.000000	5.000000	0.838480	1.165903	1.54370
CLASSIFICATION DATA								
D1	229	1.475983	1.000000	1.000000	2.000000	0.500517	0.096816	-2.00824
D2	229	2.567686	2.000000	1.000000	4.000000	0.784166	0.379290	-0.54785

In all cases the medians were close in values to their respective means in the service quality dimensions, value and classification data, inferring that the distribution is fairly normal.

With reference to measure of dispersion, the standard deviations of the variables were computed. The largest standard deviation was 0.82 (reliability) and the lowest was 0.74 (assurance) among the service quality dimensions data. In the unit satisfaction data, 0.74 (B2) and 0.68 (B3) were the largest and smallest standard deviations respectively. In the classification data, the largest standard deviation was (0.78) (D2) and the smallest standard deviation was 0.50 (D1). In all cases the standard deviation was below one, indicating that the sample is relatively homogeneous.

The service quality dimensions data all had a negatively skewed distribution, while the unit satisfaction, value and classification data had positively skewed distributions. This infers, that the distribution is relatively symmetrical.

The kurtosis measures the peakedness of the distribution of the values. The kurtosis values obtained from all the variables, indicate that the majority of the variables do not differ from zero, indicating that the distributions were either flat (negative) or more peaked than normal (positive).

After examining the composition of the data, the data was prepared for exploratory factor analysis.

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4.2.2 Factor analysis

At this stage it was necessary to examine the dimensionality of the scale through factor analysis. Initially, un-rotated principal axis factor analysis was performed on thirty service quality variables in order to assess the inter-correlation amongst the scale components. However, the un-rotated factor matrix was difficult to interpret owing to the majority of the variables loading onto factor one. The factor analysis matrix was rotated orthogonally (using Varimax rotation). From Table 8 it can be seen, that this resulted in an easy-to-interpret matrix, where variables loading 0.40 and above were retained. Churchill and Iacobucci (2002:809) is of the view that with sample sizes of more than one hundred, loadings of greater than 0.30 are appropriate.

TABLE 8: FACTOR LOADING MATRIX

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
A13	0.603567				
A14	0.722603				
A15	0.560962				
A19	0.658718				
A21	0.667964				
A28	0.588405				
A8		0.538225			
A23		0.770799			
A24		0.723117			
A25		0.619542			
A9			0.677319		
A10			0.727781		
A11			0.647802		
A17			0.491850		
A1				0.783393	
A2				0.773750	
A3				0.627442	
A4					0.495402
A26					0.638318
A27					0.788807
Method of extraction: Principal components with Varimax rotation and Kaiser normalization. Variable loading of < 0.40 omitted from further analysis.					

Five factors were extracted which coincided with the number of conceptualized dimensions of the SERVQUAL scale. In determining the number of factors to extract, a combination of techniques was used. The latent roots criterion was used initially in factor extraction. The latent roots criterion (eigenvalues) holds, that the amount of variation explained by each factor must be greater than one. Table 9 contains information regarding the five possible factors and their relative explanatory power expressed by their eigenvalues. The eigenvalues in respect of the five dimensions ranged from 7.93 to 1.00. Together, these five factors accounted for 63% of the variance, which is deemed satisfactory (Malhotra, 2004:567).

TABLE 9: EIGENVALUES FOR FIVE DIMENSIONS

Eigenvalues Extraction: Principle components				
Value	Eigenvalue	% Total variance	Comulative Eigenvalues	Cumulative %
1	7.932299	39.66150	7.93230	39.66150
2	1.318817	6.59408	9.25112	46.25558
3	1.215805	6.07903	10.46692	52.33461
4	1.115311	5.57656	11.58223	57.91116
5	1.006535	5.03267	12.58877	62.94384

In addition, the number of factors to be extracted was also established by sketching the scree plot. The result of the scree plot is reflected in figure 10.

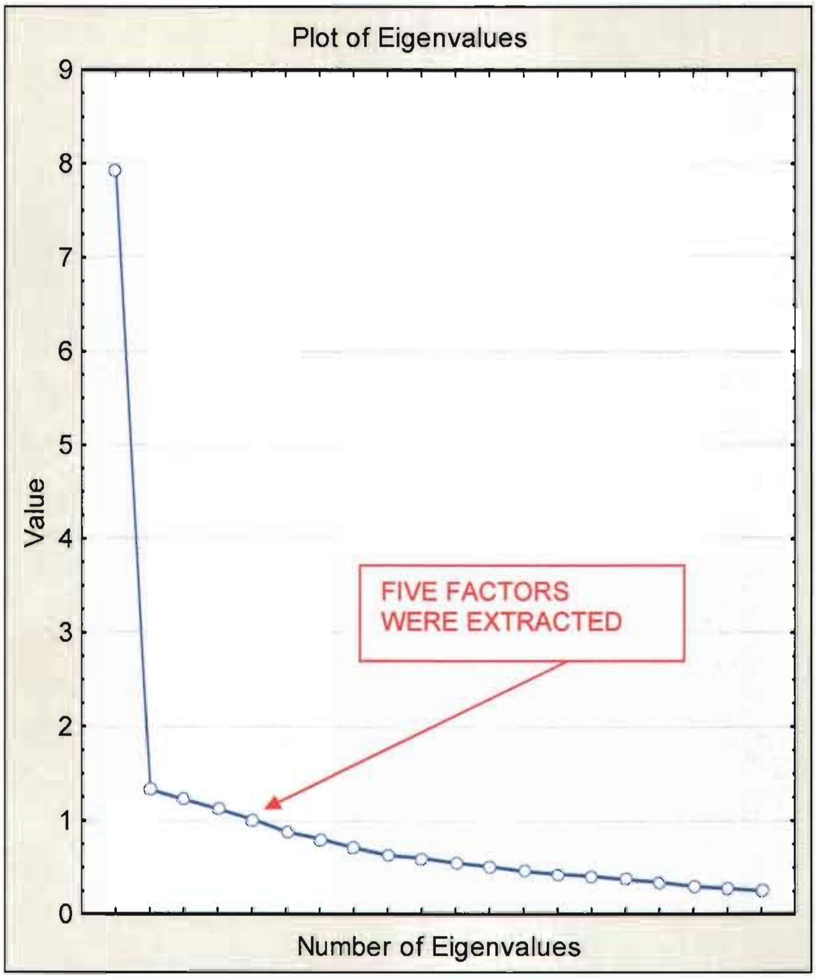


FIGURE 10: PLOT OF EIGENVALUES

On examining the scree plot, one establishes that the scree levels off at approximately five factors, indicating that further extraction of factors does not enable any meaningful interpretation of data.

4.2.2.1 Naming of factors

Factor one, labeled assurance, comprised six variables and accounted for 39.66% of variance. The eigenvalue for the factor was 7.93. This dimension incorporates *inter-alia* the efficiency, honesty, feedback and courtesy afforded by the administrative staff to internal customers. The rotated factor loading for the assurance factor, is depicted in Table 10.

TABLE 10: ROTATED FACTOR MATRIX: ASSURANCE

VARIABLE	VARIABLE DESCRIPTION	FACTOR LOADING
A13	The availability of this unit to perform services effectively	0.603567
A14	The way this unit provides feedback to requests	0.722603
A15	The way this unit consults when making decisions pertaining to request	0.560962
A19	The way this unit displays honesty	0.658718
A21	The way this unit accepts fellow colleagues' decisions	0.667964
A28	The courtesy members of this unit displays towards me	0.770799

The second factor labeled accessibility and tangibility, comprised four variables and accounted for 6.59% of the variance. The eigenvalue was 1.31. The rotated factor loading for the accessibility and tangibility factor, is contained in Table 11. This factor incorporates issues relating to corporation, courtesy, accessibility and the physical appearance of materials and products provided by the administrative staff.

TABLE 11: ROTATED FACTOR MATRIX : ACCESSIBILITY AND TANGIBILITY

VARIABLE	VARIABLE DESCRIPTION	FACTOR LOADING
A8	The way this unit shows a willingness to cooperate and provide me with support	0.538225
A23	The way this unit provides services consistently	0.770799
A24	The accessibility of this unit	0.723117
A25	The condition and appearance of the materials and products this unit provides	0.619542

The third factor labeled empathy, comprised four variables and accounted for 6.07% of the variance. The eigenvalue was 1.21. The rotated factor loading for accessibility and tangibility factor is contained in Table 12. This factor emphasizes that aspects such as guidance, flexibility, skills and meeting specific needs, are high on the agenda of internal customers in service quality evaluation.

TABLE 12: ROTATED FACTOR MATRIX: EMPATHY

VARIABLE	VARIABLE DESCRIPTION	FACTOR LOADING
A9	The way this unit provides me with advice and guidance	0.677319
A10	The way this unit demonstrates flexibility to suit my requirements	0.727781
A11	The way this unit demonstrates knowledge and skills to perform administrative services	0.647802
A17	The way this unit attempts to understand specific needs	0.491850

The forth factor labeled reliability, comprised three variables and accounted for 5.57% of the variance. The eigenvalue was 1.31. The rotated factor loading for the accessibility and tangibility factor, is contained in Table 13. The emphasis of this factor is on performing the services right the first time, with timely and accurate provision of services and information.

TABLE 13: ROTATED FACTOR MATRIX : RELIABILITY

VARIABLE	VARIABLE DESCRIPTION	FACTOR LOADING
A1	The ability of this unit to perform services, right the first time	0.783393
A2	The ability of this unit to provide services at the required time	0.773750
A3	The ability of this unit to provide accurate information	0.627442

The last factor labeled "responsiveness", comprised three variables and accounted for 5.03% of the variance. The eigenvalue was 1.00. The rotated factor loading for accessibility and tangibility factor, is contained in Table 14. The emphasis of this dimension is on the provision and handling of information and the understanding internal customers problems and complaints.

TABLE 14: ROTATED FACTOR MATRIX : RESPONSIVENESS

VARIABLE	VARIABLE DESCRIPTION	FACTOR LOADING
A4	The ability of this unit to provide information as promised	0.495402
A26	The way this unit handles confidential information	0.638318
A27	The way this unit understands problems and constraints experienced	0.788807

4.2.3 Reliability

In assessing the reliability of the scale, the coefficient alpha was first computed. The standardised alpha for the scale was recorded at 0.92, exceeding the suggested level of 0.70 (Nunnally, 1978:245). Table 15 outlines the reliability values for the scale.

TABLE 15: ITEM RELIABILITY ON A SIX POINT SCALE

	Summary for scale: Mean = 84.4955 StDv. = 12.6862 Valid N:222 Cronbach Alpha:.918481 Standardized Alpha:.919046 Average inter-item correlation:.365304				
Variable	Mean if deleted	Var. if deleted	StDv. If deleted	Itm Totl Correl.	Alpha if deleted
A1	80.50450	144.5112	12.02128	0.556038	0.915035
A2	80.43243	145.6238	12.06747	0.613094	0.913794
A3	80.29729	145.6954	12.07043	0.616743	0.913739
A4	80.29279	143.7566	11.98985	0.586598	0.914293
A8	80.13513	143.4592	11.97745	0.621687	0.913447
A9	80.31081	146.8448	12.11796	0.524980	0.915631
A10	80.28829	145.6556	12.06879	0.549742	0.915110
A11	80.22072	145.0459	12.04350	0.616710	0.913660
A13	80.38739	143.6337	11.98473	0.605615	0.913826
A14	80.45496	142.7885	11.94941	0.638860	0.913028
A15	80.27928	145.9040	12.07907	0.563244	0.914800
A17	80.32883	143.9955	11.99981	0.656345	0.912776
A19	80.18018	145.8144	12.07536	0.563726	0.914789
A21	80.38739	144.0211	12.00088	0.621321	0.913481
A23	80.25676	145.3890	12.05774	0.581791	0.914390
A24	80.04054	144.9938	12.04134	0.537783	0.915472
A25	80.08559	147.7539	12.15541	0.466838	0.916951
A26	80.17567	146.0457	12.08494	0.494321	0.916521
A27	80.27477	148.2353	12.17519	0.473555	0.916711
A28	80.08108	145.1015	12.04581	0.625243	0.913505

With regard to reliability on the assurance dimension, table 16 reflects an inter-item correlation of 0.46 and the standardized Cronbach Alpha coefficient of 0.83. No variables were removed as the removal of any variable would result in the reduction of the coefficient alpha (refer to alpha, if deleted, column, in table 15).

TABLE 16: ITEM RELIABILITY ON ASSURANCE

	Summary for scale: Mean = 25.2178 StDv. = 4.50016 Valid N:225 Cronbach Alpha:.834338 Standardized Alpha:.834411 Average inter-item correlation:.458321				
Variable	**Mean if deleted**	**Var. if deleted**	**StDv. If deleted**	**Itm Totl Correl.**	**Alpha if deleted**
A13	21.10222	14.37622	3.791598	0.579622	0.813590
A14	21.17778	13.64839	3.694373	0.673337	0.793429
A15	21.00000	14.86222	3.855155	0.569955	0.814902
A19	20.89778	14.79399	3.846296	0.582904	0.812382
A21	21.10222	14.24288	3.773975	0.635739	0.801703
A28	20.80889	14.86570	3.855606	0.605344	0.808297

With regard to reliability on the accessibility and tangibility dimension, table 17 reflects an inter-item correlation of 0.44 and the standardized Cronbach Alpha coefficent of 0.76.

TABLE 17: ITEM RELIABILITY ON ACCESSIBILITY AND TANGIBILITY

	Summary for scale: Mean = 17.4978 StDv. = 3.13893 Valid N:227 Cronbach Alpha:.756642 Standardized Alpha:.757382 Average inter-item correlation:.443120				
Variable	**Mean if deleted**	**Var. if deleted**	**StDv. If deleted**	**Itm Totl Correl.**	**Alpha if deleted**
A8	13.12775	5.944031	2.438038	0.542277	0.706037
A23	13.24670	5.824604	2.413422	0.633014	0.657732
A24	13.03524	5.716820	2.390987	0.567261	0.692415
A25	13.08370	6.376254	2.525125	0.477812	0.739294

Table 18 reflects the reliability on the empathy dimension. The inter-item correlation was 0.48 and the standardized Cronbach Alpha coefficient of 0.78.

TABLE 18: ITEM RELIABILITY ON EMPATHY

	Summary for scale: Mean = 16.8821 StDv. = 3.03475 Valid N:229 Cronbach Alpha:.783577 Standardized Alpha:.783561 Average inter-item correlation:.476362				
Variable	**Mean if deleted**	**Var. if deleted**	**StDv. If deleted**	**Itm Totl Correl.**	**Alpha if deleted**
A9	12.68559	5.726473	2.393005	0.541850	0.754630
A10	12.67249	5.277016	2.297176	0.622798	0.713217
A11	12.58952	5.508361	2.346990	0.616839	0.717078
A17	12.69869	5.607902	2.368101	0.577725	0.736698

Table 19 shows the inter-item correlation of 0.56 and the standardised Cronbach Alpha of 0.79.

TABLE 19: ITEM RELIABILITY ON RELIABILITY DIMENSION

	Summary for scale: Mean = 12.3114 StDv. = 2.47177 Valid N:228 Cronbach Alpha:.789441 Standardized Alpha:.792874 Average inter-item correlation:.565185				
Variable	Mean if deleted	Var. if deleted	StDv. If deleted	Itm Totl Correl.	Alpha if deleted
A1	8.293859	2.654875	1.629379	0.632889	0.721160
A2	8.232456	2.950350	1.717658	0.711735	0.631149
A3	8.096491	3.359111	1.832788	0.563632	0.781766

Finally, with reference to reliability on the responsiveness dimension, table 20 reflects the inter-item correlation of 0.39 and the standardized Cronbach Alpha of 0.66.

TABLE 20: ITEM RELIABILITY ON RESPONSIVENESS DIMENSION

	Summary for scale: Mean = 12.7860 StDv. = 2.40478 Valid N:229 Cronbach Alpha:.654110 Standardized Alpha:.657490 Average inter-item correlation:.390580				
Variable	Mean if deleted	Var. if deleted	StDv. If deleted	Itm Totl Correl.	Alpha if deleted
A4	8.558952	2.919014	1.708512	0.450947	0.577752
A26	8.462882	2.938579	1.714228	0.448411	0.580966
A27	8.550219	3.147042	1.773990	0.500297	0.517275

In summary all the inter-item correlations and coefficient values were satisfactory, as any deletion of items from any of the dimensions would result in the reduction of the coefficient alpha values. Although the item reliability on the responsiveness dimension was below 0.70 (the benchmark level), it was deemed to be marginally acceptable (0.66) and included in the final scale. In addition, the overall Cronbach Alpha of the entire scale was 0.92, which is very high in terms of reliability, and provides justification for inclusion of the responsiveness dimension in the analysis.

In addition to the computation of the reliability of the expectations and perceptions scale, reliability values were also computed for the satisfaction scale. Three items made up this scale. The average inter-item correlation was 0.52 and the standardized coefficient alpha was 0.76.

TABLE 21: ITEM RELIABILITY ON SATISFACTION

	Summary for scale: Mean = 6.14410 StDv. = 1.77981 Valid N:229 Cronbach Alpha:.759768 Standardized Alpha:.760402 Average inter-item correlation:.515938				
Variable	Mean if deleted	Var. if deleted	StDv. If deleted	Itm Totl Correl.	Alpha if deleted
B1	4.157205	1.625941	1.275124	0.539393	0.735252
B2	4.004367	1.462863	1.209489	0.628280	0.633470
B3	4.126637	1.621517	1.273388	0.606880	0.661618

4.2.4 Validity analysis

The validity of the scale was assessed. Three types of validity tests were performed, namely:

- content,
- convergent, and
- predictive validity.

The method of testing the various types of validity, is discussed below.

- **Content validity**

To ensure that the internal service quality scale satisfies content validity, pre-testing of the questionnaire was undertaken. A review of the questionnaire by R&D academics and practitioners in the field was also done. The instrument was further refined during the pilot-testing stages during which changes were made to the questionnaire.

- **Convergent validity**

A scale's convergent validity is related to the high association between new constructs and other similar constructs. The scale's convergent validity was assessed for statistical significance by using Pearson's correlation coefficients. The five dimensions of internal service quality namely assurance, accessibility and tangibility, empathy, reliability, and responsiveness, were correlated with the overall measure of internal service quality *i.e.* with satisfaction. Satisfaction comprised the following three questions.

- Overall, I am satisfied with the services provided by this unit.

- I made a wise decision to use the services of the unit.
- When I received the services from this unit, I thought I did the right thing.

Pearson's coefficient supports the main contention behind convergent validity, that the observed results are not an artefact of the instrument, *i.e.* there is a high correlation with results from the instrument designed to measure the same construct (Avkiran, 1994:15).

Table 22 reflects, that the correlations are all significant at p< 0.05000. This implies, that the five dimensions of internal service quality in fact converges with satisfaction. Furthermore, the reliability of a scale as measured by the coefficient alpha, reflects the degree of cohesiveness among scale items and is also an indirect indicator of convergent validity (Parasuraman *et al.*, 1988:439). The Cronbach Alpha values (refer to Table 15 for the five dimensions) are high (0.92) in the study.

TABLE 22: CORRELATION OF INTERNAL SERVICE QUALITY DIMENSIONS AND SATISFACTION

	B1	B2	B3	C1	D1	D2	ASS	ACC	EMP	REL	RES
B1	1.00										
B2	0.49	1.00									
B3	0.46	0.58	1.00								
C1	0.46	0.54	0.46	1.00							
D1	0.05	0.02	0.17	0.00	1.00						
D2	-0.01	-0.17	-0.09	-0.17	-0.01	1.00					
ASS	-0.49	-0.43	-0.40	-0.38	-0.11	0.04	1.00				
ACC	-0.50	-0.35	-0.40	-0.34	-0.15	0.00	0.59	1.00			
EMP	-0.47	-0.41	-0.34	-0.32	-0.06	0.04	0.65	0.58	1.00		
REL	-0.49	-0.42	-0.30	-0.35	-0.11	-0.01	0.59	0.55	0.55	1.00	
RES	-0.49	-0.38	-0.33	-0.29	-0.10	0.01	0.59	0.52	0.52	0.52	1.00
Correlations are significant at p< 0.05000											

- **Predictive validity**

Table 23 reports on the results of the multiple regression analysis computed in order to establish the predictive power of the five internal service quality dimensions. The five internal service quality dimensions were regressed with the following opinion data.

- Overall service quality (B1)

The five internal service quality dimensions were used as the independent variables and overall service quality data were used as the dependent variable. Positive relationships were assumed between the five dimensions and overall internal service quality.

TABLE 23: REGRESSION ANALYSIS: DIMENSIONS OF INTERNAL SERVICE QUALITY AND OVERALL RATING OF SERVICE

DIMENSIONS	BETA	B	T	p-level
Intercept		4.930877	18.61798	0.000000
Assurance	-0.184656	-0.108445	-1.38166	0.168458
Access	-0.095835	-0.172046	-2.53093	**0.012065**
Empathy	-0.171025	-0.092006	-1.26374	0.207641
Reliability	-0.186963	-0.151519	-2.39083	**0.017641**
Responsiveness	-0.186963	-0.169886	-2.65546	**0.008492**
R=0.60453485	R^2=0.36546239	Adjusted R^2=0.35123509	F=25.687	*p<0.0000

In terms of the relationship between the individual dimensions and the overall service quality rating, the adjusted $R^2 = 0.35$ suggests that the five internal service quality dimensions explained 35% of the variance in internal customers' overall rating. The dimensions access, reliability and responsiveness were statistically significant at $p < 0.0000$. Both assurance and empathy showed weaker predictive powers in terms of the five dimensions. Aspects such as willingness to cooperate, consistency of service, accessibility of the unit, visual presentation of the materials and products, performing reliable service, right the first time, handling of confidential information and providing information as promised, were effective in influencing customers' overall evaluation of service. Taken as an aggregate, the scale does provide evidence of predictive validity.

4.2.5 Descriptive analysis of satisfaction data, value and respondents profiles

The analysis will be undertaken in accordance with each question, on satisfaction, value and respondent's profile. Since the Likert Scale was used in sections B and C of the study, it allows the researcher to establish the percentage of positive and negative responses for a given variable. According to Hayes (1992:59), this can be accomplished by combining the responses on the scale, for example, combining the "strongly agree" and "agree" categories on the scale for explanatory purposes.

Figure 11 below reflects the overall satisfaction on the services provided by the administrators. The majority (81%) of the respondents agreed, that they were satisfied with the overall quality of service provided by the administrative unit, while only one 2% disagreed with the statement. Whilst only 2% of the respondents were dissatisfied with the overall quality of services, the reasons for such dissatisfaction needs to be established as this may have implication via negative word-of –mouth communication.

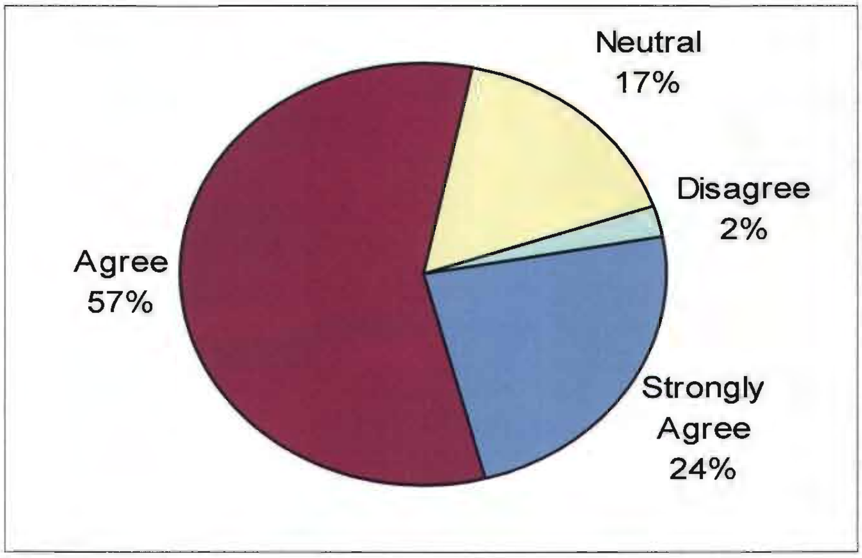


FIGURE 11: OVERALL SATISFACTION

Figure 12 below reflects the decision to use the services of the administrative unit. The majority (70%) agreed, that they had made a wise decision to use the services of the administrative staff, while only 3% disagreed with the use of their services.

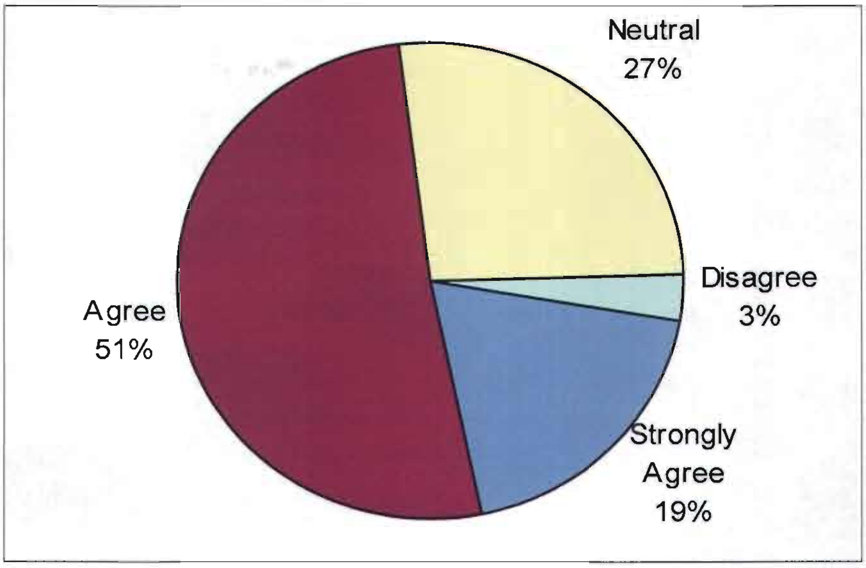


FIGURE 12: DECISION TO USE THE SERVICES

Figure 13 outlines the percentages of responses who felt that it was the right decision made to use the services of the administrative unit. The majority (81%) of respondents are of the view, that receiving the services from the administrators, was the correct choice, while only 2% disagreed.

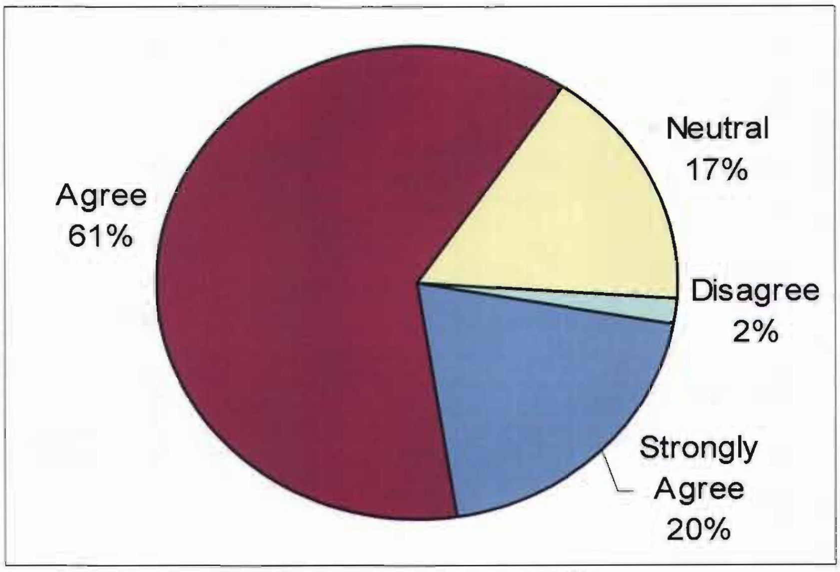


FIGURE 13: CHOICE OF SERVICE

Figure 14 reflects, that 85% thought that administrators add value internally in the organization, while only 4% felt otherwise.

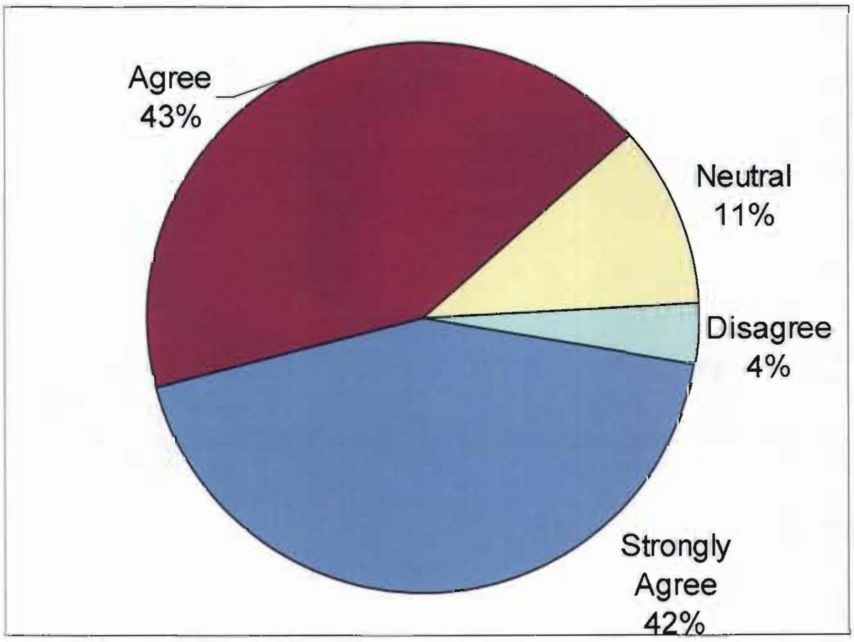


FIGURE 14: VALUE ADDED SERVICES

Figure 15 reflects the composition of the sample in terms of gender. It seems that the research and development environment is more male dominated (52%) than female dominated (48%). However, given that the differences are small in terms of percentages, it is likely that this percentage will change in the future, especially with the organization's emphasis on their equity plan.

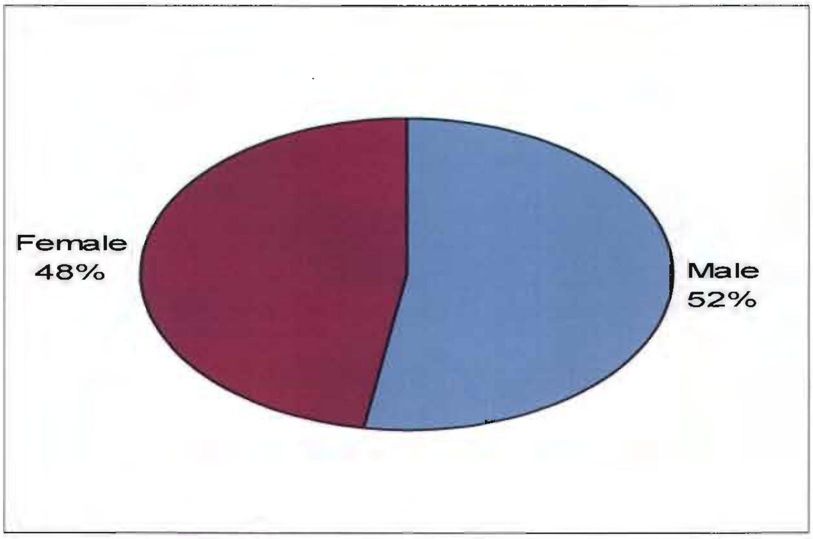


FIGURE 15: GENDER COMPOSITION

Figure 16 sets out the different departments within R&D. The highest percentage of respondents (49%) were from the Chemistry Research Department. The reason for such a variation, is that this department employs more personnel as compared to other departments. Only 4% of the sample was from the Human Resources Department, which is a comparatively small department.

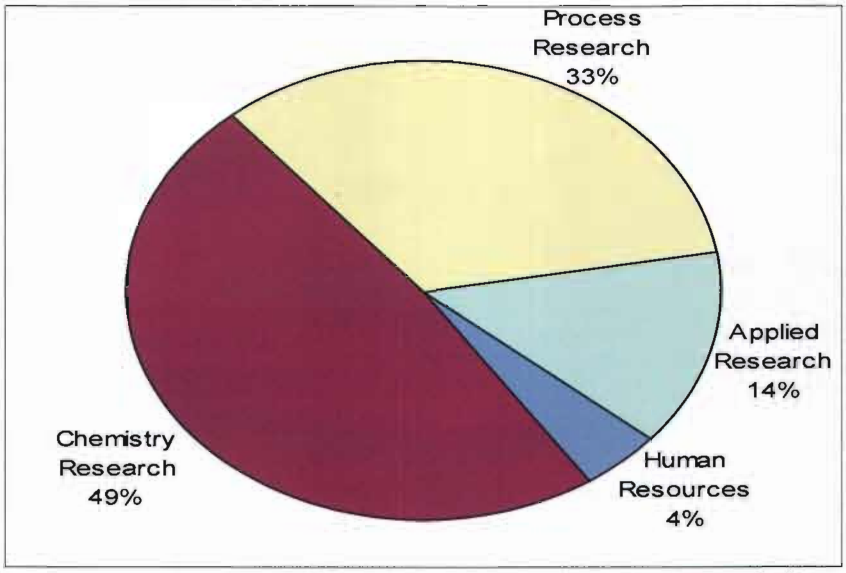


FIGURE 16: SAMPLE COMPOSITION OF DEPARTMENTS

4.2.6 Identification of areas as priorities for improvement

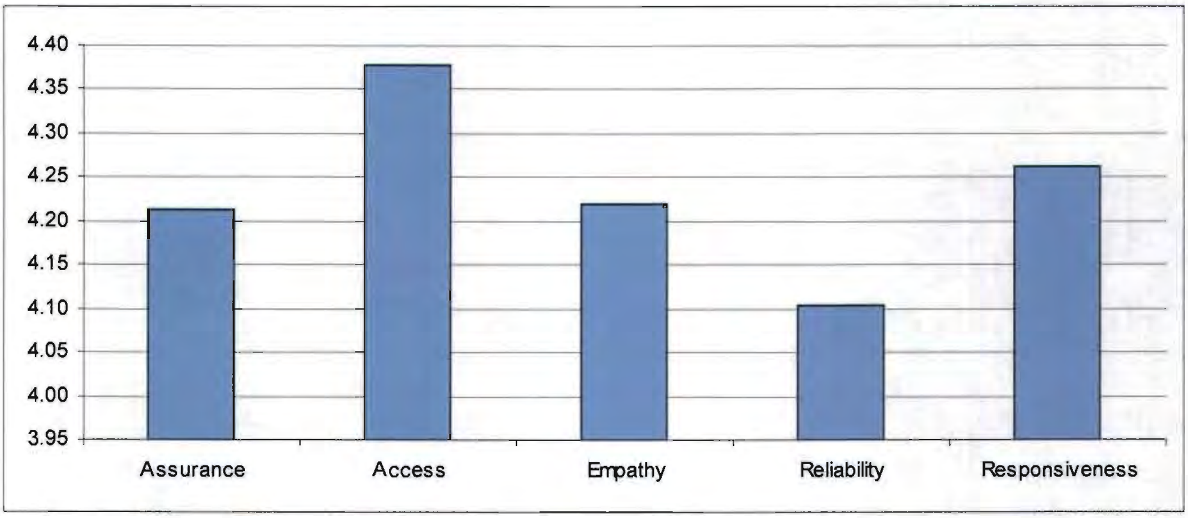
In examining the areas that the administrative staff should concentrate on as priorities for improvement, the five dimensions of internal service quality were examined in terms of their aggregate mean scores. Table 24 reflects the relative ratings of the various dimensions in terms of their respective aggregate mean scores. Reliability turned out to be the lowest performing dimension from the internal customer's point of view with an aggregate mean score of 4.10, followed by assurance with an aggregate mean score of 4.21.

Although both the dimensions fall within the category "meets my expectations" as opposed to "exceeds my expectations" aspects of service delivery that comprise these dimensions should not be overlooked. The administrative personnel should strive to improve issues under these dimensions in order to improve the overall service quality rating of the department.

Taking cognizance of these two dimensions, the following aspects of internal service quality are worth noting as priorities for improvement.

- Performing services, right the first time.
- Provision of services at the required time
- Provision of accurate information
- Performing services effectively
- Provision of feedback to internal customers
- Proper consultation with internal customers
- Courtesy afforded to internal customers.

TABLE 24: AGGREGATE MEAN RATING OF THE FIVE DIMENSIONS



4.3 SYNOPSIS

This chapter provided a statistical overview of the data obtained from the research process. The information was analysed and summarized, using descriptive statistics and multivariate measures. Where necessary, graphic illustrations and tables were used to explain the results.

The next chapter will provide a general overview of the study against the literature review and objectives from the previous chapters. This will be followed by the recommendations of the study, implications for future research, limitations of the study and concluding remarks.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 GENERAL REVIEW

The objective of this study was to produce a conceptual framework and measuring instrument that would allow the researcher to share some light on the usefulness of the internal service quality construct in explaining the functional relationship between the administrators and R&D personnel members. This study utilized internal customer-based data to provide actual perceptions of quality service, thereby resulting in an instrument that can be used by administrators to assess the effectiveness of internal service delivery.

Service quality is about understanding what a customer wants and then delivering the service. Although it may be difficult, administrators need to take steps to monitor and improve the quality of the service that they provide to their internal customers. Assurance, Accessibility and Tangibility, Empathy, Reliability and Responsiveness emerged as key drivers to internal service quality.

In demonstrating potential applications of SERVQUAL, Parasuraman *et al.,* (1988:13) observe, that their instrument can be used to evaluate the relative importance of the dimensions of quality in influencing customers' overall perceptions of a service.

Although these dimensions closely resemble that of the SERVQUAL model, certain differences were found. The tangibility dimension of the SERVQUAL model could not be replicated entirely in this study. Aspects of Accessibility and Tangibility were incorporated as a single dimension in this study.

While many service quality dimensions may influence an employee's perception of the administrator's service quality, the results indicated, that some dimensions have a greater impact on the overall perception of internal service quality.

The objectives of the study were stated as follows.

5.1.1 Theoretical objectives

- To investigate from literature the nature of services, customer service and service quality.
- To conduct a literature review on internal marketing and the nature of internal customer services.

5.1.2 Empirical objectives

- To identify key dimensions that are important to internal customers in internal service quality evaluation.
- To identify priorities for improvement (PFI's) in an attempt to improve the quality of internal services provided by administrators.
- To assess the overall level of satisfaction of service among employees in the R&D division.

The empirical objectives were addressed by investigating and answering the following research questions.

- What are the key dimensions commonly used by internal customers in the evaluation of internal service quality?
- Are the dimensions the same when compared to measuring external service quality?

- Do the employees in the administrative section of the organization meet or exceed internal customer expectations?
- What areas can be identified as priorities for improvement by administrators?

Theoretical objectives one and two were addressed in chapter two. Empirical objective one and research question one were addressed in chapter four where the data set was subjected to the scale purification processes with the eventual establishment of the five dimensions namely, Assurance, Accessibility and Tangibility, Empathy, Reliability and Responsiveness.

Empirical objectives two and three and research questions two to four were addressed in chapter four.

5.2 RECOMMENDATIONS

The following recommendations, which should prove useful to the management of Sasol Technology R&D, are suggested.

- Management should consider the methods by which they can ensure the successful transfer of knowledge to administrators that pertains to being customer focused, because customer focus is one of Sasol's core values.

- Linkages should be developed between the administrators systems and procedures and other methods utilized to guide employee behaviour, for example, training and internal communication, thus enhancing their existing skills.

- The clear articulation and promotion of the tools that are to be used by employees in order to ensure service quality delivery, and continual engagement with administrators in a manner consistent with Sasol' core values, namely -

- customer focus;
- winning with people;
- excellence in all we do;
- continuous improvement; and
- integrity.

- Management should encourage administrators to adopt the measurement criteria of internal customers and to seek constant feedback in respect of internal customer satisfaction with performance and use it to improve the quality of services provided.

- Management should show continuous management support. This support must be provided by every manager and supervisor as a normal part of their jobs. Managers must continue the internal training process, because administrators need to be fully trained in how to deal with customers, because they are frequently faced with disgruntled internal customers who want solutions to problems. Even if they may not be responsible for the problems, they are expected by each customer to find an immediate solution to their problems. As the intensity and quantity of such conflicts increase, job tension rises for employees. As job tension rises, job satisfaction declines. Apart from developing administrators' empathetic skills, service providers can use scenario building to alert administrators to potential conflict situations and give them detailed advice about how to resolve the issues.

- Administrators should be empowered by management to do whatever it takes to satisfy the customer and to give them freedom to develop relationships, to do what is right, and to correct problems. Empowerment is considered to be a very effective strategy available to a service department to help improve the relationship between administrators and customers. Although there are a number of different definitions of the concept, it essentially involves releasing control to the service employee at the crucial moment of contact with the customer, giving them autonomy to make decisions flexibly in response to the customers' demands as and whenever they occur. Administrators must be encouraged to think creatively about solutions to problems presented to them by internal customers rather than being driven by a standard script.

- Management is advised to hire administrators who are highly empathetic (individuals who will be able to take the viewpoint of another, either customers or fellow employees). Rogers, Clow, and Kash, (1994:16) note, that as employees communicate feelings of empathy to the customer, job tension is reduced and job satisfaction is increased. Although empathy is a quality that service providers can test for at the recruitment stage, it can also be developed in the work situation, for example, holding customer talks where administrators will sit down with a group of customers and listen to their comments about the service. This will enable administrators to understand how customers perceive their offer, and consequently, communicate feelings of empathy to the consumer.

- Administrators need to educate customers about the service. Administrators can enhance credibility for being on the customer's side, by helping customers through education. More knowledgeable customers are likely to make better decisions, leading to greater satisfaction.

5.3 STUDY LIMITATIONS

As with any study, limitations should be noted. The sample group in the current study excluded the R&D personnel members in Secunda, since they do not directly interact with the administrators. Future studies could be extended to other units within the company.

Results from a single service section may raise concerns about limited generalizability. It should be noted, however, that limiting the study to a single section, eliminates problems associated with the effects of industry.

It is also important to recognize that studies, which replicate the SERVQUAL framework to some degree, presume the scale is generalizable since that is a proposition put forth by the scale developers Parasuraman *et al.,* (1988:14). It is also important to note, that while the five dimensions measured were found to be important indicators of internal service quality, there may be other dimensions of internal service quality that may also be important. Future research work to identify other dimensions of internal service quality in different internal service settings should be undertaken.

The scale described here, does not take into account the effects of informal communications and work flow through the organisation. There are almost certainly some informal pathways which exist within all organisations although the effect of these on the internal marketing and service quality measurements are not examined in this study.

5.4 IMPLICATIONS FOR FUTURE RESEARCH

The research should be expanded to the whole of Sasol Technology R&D, including Secunda and Rosebank.

Further research is required to address the effect on customers' desires. This will allow a more complete information package to be applied when prioritising internal service delivery.

Further research is also required to examine customers' expectations in other related services, as well as in different culture contexts. The testing of the modified internal customer model of internal marketing developed and described in this study, indicates that this may be a useful approach to enhancing service quality. Further research needs to be done on the long-term benefits associated with research into internal service quality improvements.

5.5 CONCLUDING REMARKS

We live in a world of instant everything. To keep customers happy, administrators have to keep up with the pace and create uniqueness by providing a service that will help R&D to be more productive.

This study has sought to contribute further knowledge concerning internal service quality by testing an internal measure of service quality, known as INTSERVQUAL, based on the model and instrument developed by Parasuraman *et al.,* (1988:12).

It was pleasing to find such a positive attitude towards administrators by R&D personnel members. Even the consumers who had complaints thought that they were not worth-while mentioning, as administrators handled the complaints immediately and diligently in a friendly manner.

R&D personnel members mentioned, that it is important that the administrators continue to be helpful, friendly, understand and also appreciate the way tasks are being handled

R&D Management must create an environment that nurtures and encourages employee initiative and pro-activeness. For administrators to be pro-active, managers have to give them training and more responsibilities.

Success or failure, ultimately, depends upon how well an individual represents ones department in respect of service delivery.

It is important that complaints and suggestions from internal customers should be looked at in a constructive, positive and professional manner. Complaints constitute useful ways of measuring performance and allocating resources to deal with deficient areas of business.

In conclusion, delivering high-quality service touches everyone in the administration department and is not limited to certain individuals. Part of it is recognition, and many steps can be taken to improve quality. These steps need to be melted into a cohesive whole. What is needed now is the will to set sights higher, and do what it takes to transform potential into achievement. Improving service quality requires formalization planning, and coordination. Most of all it requires total commitment. Anything less is not enough.

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ANNEXURE A

sasol
reaching new frontiers

FROM: Banana Mohomane

TO: Applied Research Manager

DATE: 24 May 2005

PERMISSION TO CONDUCT RESEARCH FOR STUDY PURPOSES

I herewith wish to request permission to officially involve a sample of high performers within this Division to conduct a research study for my MAGISTER TECHNOLOGIÆ.

The research is intended to evaluate the quality of services rendered by administrators to Sasol Technology R&D employees.

If permission is granted to continue with the research study, employees will also be requested to participate voluntarily. The findings of this research study will be made available to both the employees and the company for future reference purposes.

BANANA MOHOMANE

Recommended: CN Mpungose **Date:** 24/05/2005

HRC

Approved: M Kruger **Date:** 26/05/2005

MANAGER APPLIED RESEARCH

SASOL TECHNOLOGY (Pty) Ltd
RESEARCH & DEVELOPMENT
26 MAY 2005
HUMAN RESOURCES

Sasol Technology (Pty) Limited *1966/000452/07*
1 Klasie Havenga Road Sasolburg PO Box 1 Sasolburg 1947 South Africa
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ANNEXURE B

Dear Respondent

QUESTIONNAIRE FOR MAGISTER TECHNOLOGIÆ RESEARCH

I am a student currently busy with my Masters degree at the Vaal University of Technology.

Your participation in the above mentioned research is very important and I would appreciate your co-operation in the completion of the questionnaire. The completion of the questionnaire should not take more than fifteen minutes of your time. There are no right or wrong answers; I simply require your honest opinion.

The undersigned would like to assure you that the questionnaire is considered confidential and will be handled accordingly. No information regarding your department will be revealed.

Thank you for your kind co-operation

Yours faithfully

Banana Mohomane

This information is voluntary, but necessary to validate the findings of this research.

ANNEXURE C

QUESTIONNAIRE

Internal customer service in Sasol Technology: Accountability and productivity of administrative support in the research and development environment

CIRCLE ONLY ONE NUMBER FOR EACH STATEMENT

Next to each statement, please circle the number that best expresses the extent to which the Administrative staff at this organisation has exceeded or failed to meet your expectations in terms of the quality of support they provide to you or your unit.
Use the following scale categories

1	2	3	4	5	6
Completely fails to meet my expectation	Meets my expectations	Fails to meet my expectations in some way or another	Almost always meets my expectations	Completely meets my expectations	Exceeds my expectations

SECTION A (Expectations & Perceptions)

1	The ability of this unit to perform services, right the first time	1	2	3	4	5	6
2	The ability of this unit to provide services at the required time	1	2	3	4	5	6
3	The ability of this unit to provide accurate information	1	2	3	4	5	6
4	The ability of this unit to provide information as promised	1	2	3	4	5	6
5	The way this unit shows interest in solving my problems	1	2	3	4	5	6
6	The way this unit provides services at the frequency required	1	2	3	4	5	6
7	The ability of this unit to provide prompt attention to my service needs	1	2	3	4	5	6
8	The way this unit shows their willingness to co-operate and provide me with support	1	2	3	4	5	6
9	The way this unit provides me with advice and guidance	1	2	3	4	5	6
10	The way this unit demonstrates flexibility to suit my requirements	1	2	3	4	5	6
11	The way this unit demonstrates their knowledge and skills to perform administrative services	1	2	3	4	5	6
12	This way this unit demonstrates their efficiency in performing services	1	2	3	4	5	6
13	The availability of this unit to perform services effectively	1	2	3	4	5	6
14	The way this unit provides feedback to my requests	1	2	3	4	5	6
15	The way this unit consults with me when making decisions pertaining to my request	1	2	3	4	5	6
16	The way this unit listens carefully to my request	1	2	3	4	5	6
17	The way this unit attempts to understand my specific needs	1	2	3	4	5	6
18	The way this unit displays courtesy when approached	1	2	3	4	5	6

19	The way this unit displays honesty	1	2	3	4	5	6
20	The way this unit shows trust in their fellow colleagues	1	2	3	4	5	6
21	The way this unit accepts their fellow colleagues decisions	1	2	3	4	5	6
22	The way this unit recognises the role of their fellow colleagues	1	2	3	4	5	6
23	The way this unit provides services consistently	1	2	3	4	5	6
24	The accessibility of this unit	1	2	3	4	5	6
25	The condition and appearance of the materials and products this unit provides us with	1	2	3	4	5	6
26	The way this unit handles confidential information	1	2	3	4	5	6
27	The way this unit understands our problems and constraints we may be experiencing	1	2	3	4	5	6
28	The courtesy, members of this unit displays towards me	1	2	3	4	5	6
29	The speed at which this unit responds to my request	1	2	3	4	5	6
30	The way this unit is organised so as to be able to perform the services we need	1	2	3	4	5	6

SECTION B (UNIT SATISFACTION)

Indicate to what content do you agree/disagree with each of the following statements:

1 Overall, I am satisfied with the services provided by this unit

Strongly agree	Agree	Neutral	Disagree	Strongly disagree

2 I made a wise decision to use the services of this unit

Strongly agree	Agree	Neutral	Disagree	Strongly disagree

3 When I received the services from this unit, I thought I did the right thing.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree

SECTION C (UNIT SATISFACTION)

1 Does it add value to have such a unit internally

Strongly agree	Agree	Neutral	Disagree	Strongly disagree

SECTION D (GENERAL INFORMATION)

Please complete the following questions by circling the correct number.

1.	Gender	Male	Female

2.	Unit that you belong to	Human Resources	Chemistry Research	Process Research	Applied Research

THANK YOU FOR SHARING YOUR TIME WITH US.YOUR VIEWS ARE DEEPLYAPPRECIATED