

**Service quality importance-performance analysis as a strategic tool for
management: the exploration of key customer satisfaction drivers in a
South African electricity utility.**

A thesis submitted in the partial fulfillment of the
requirements for the degree of

MASTERS IN BUSINESS ADMINISTRATION
of
RHODES UNIVERSITY

By

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January 2004

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Abstract

This research was initiated due to declining customer satisfaction indices in the Southern region of Eskom, an electricity utility in South Africa. Given the link between customer satisfaction and purchase intentions, the sustainability of the business is at stake. The validity of the current MaxiCare survey tool is questioned and explored, as is the congruence of management and customers' perceptions regarding the key service quality constructs in the industry. The study's objective was to provide management with a reliable and valid customer satisfaction survey instrument as an alternate to the existing tool and to use the knowledge gained through the research process to recommend improvement strategies aimed at closing specific satisfaction gaps identified. The research was performed in two stages; firstly, semi-structured interviews with customers and management to gain an understanding of the most important satisfaction dimensions. These influenced the design of a survey instrument based largely on the SERVPERF tool with the inclusion of importance ratings per item in the second stage. The quantitative survey results were used to assess the reliability and validity of the research and to suggest areas for future work.

The results show that communication, quality of supply, assurance and price are uppermost in the consumer's mind. Tangibles are not significant and the inclusion of empathy is inconclusive. Management and customer perceptions at a macro level are closely aligned, however the two populations are not in agreement as to the underlying micro considerations. Similarly, the MaxiCare instrument is found to be valid as a macro indicator but lacks sufficient detail to be useful as a strategic tool and needs to be supplemented with additional sources of market information. The survey instrument used in the second phase is both descriptive and reliable but the number of factors it measures, the mix of items and the inclusion of the 'importance' dimension need further refinement to improve its validity. Future revisions of the tool will provide management with specific information that allows them to focus improvement strategies on disgruntled customers and their key service issues.

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Acknowledgements

I would like to thank the following people and institutions, who were instrumental in my success during the last three years;

Carey – for supporting and encouraging me even though it meant less time together. Also for understanding that the times I spent on these studies were not a sacrifice, rather an investment in our future success together. I love you and will dedicate the rest of my life to researching your satisfaction needs with as much vigor as I did Eskom's customers.

Adam – you are too young to realise that as much as Dad wanted to play, he had other stuff to do. We'll fool around more and work less now, I promise.

Eskom – for developing my abilities, sponsoring my studies and tolerating my yawns in the workplace for the last three years. I realise that it is now my turn to pay back the investment by achieving new levels of performance and results.

Professor Staude and Rhodes University - for having the courage and vision to start the Rhodes Investec Business School through which all this was made possible. For supervising with patience and guiding when necessary. In return I pledge to remain an ambassador for the program and the University and I wish you every success.

"If the only prayer you say in your whole life is 'thank you', that would suffice".

Meister Eckhart.

Chapter 1 – Context of the Research

1.1 Overview of the South African electricity industry

Electrical energy, an essential ingredient of a healthy economy and a stable society, provides for twenty three percent of South Africa's energy needs (Eskom, 2003). As South Africa attempts to break free from its past and compete on the world stage, the importance of cheap, reliable electrical power cannot be discounted. The power sector is vast, encompassing

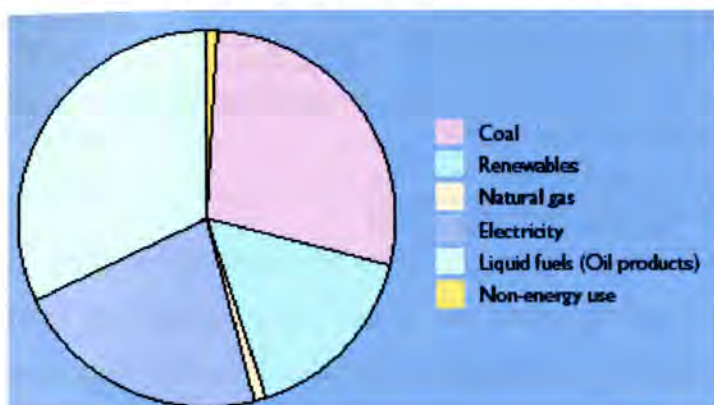


Figure 1 - South African Energy Mix 2002

Eskom, 2003:113.

generation (power stations); transmission (high voltage wires) and distribution (provision to the customer) businesses. Eskom, a public utility, dominates the generation and transmission businesses, while it shares the distribution of electricity with 237 municipalities across the country (National Electricity Regulator,

2003). Eskom may have a monopoly on electricity but by no means do they dominate the energy market. In the industrial sector for example, only twenty nine percent of industry's energy needs come from electricity, the remainder is predominantly supplied by liquid fuels and coal (Eskom, 2000).

Traditionally, the electricity market is divided into segments by grouping like consumers together, those that use the product for similar goals. Appendix 1 details the market forces, typical users and uses of electrical energy of the four biggest segments; residential, commercial, industrial and agricultural. Other categories have been created to cover re-distributors (bulk purchasers of electricity who themselves distribute it further, typically municipalities), mining, traction (electric trains), international sales (cross border deals) and internal own usage (sales to Eskom facilities by Eskom).

Table 1 indicates the size of the electricity market in South Africa which comprises 6.8 million customers, the vast majority of whom are domestic users in urban and rural areas. By comparison, the Eastern Cape Province is a relatively small segment, accounting for only

three percent of the electricity sold in the country. This is clear evidence of the poverty and lack of investment in this south eastern corner of the country.

Segment	South Africa		Eastern Cape		Eskom Southern	
	Customers	MWh ¹ Sales	Customers	MWh Sales	Customers	MWh Sales
Residential	6 264 068	36 087 583	608 848	2 031 836	409 848 ²	871 921
Commercial	210 914	16 448 672	19 197	764 356	3 790	279 393
Industrial	80 778	75 201 091	3 393	2 061 219	202	127 672
Agricultural	101 101	4 213 447	5 574	220 753	4 814	231 943
General	97 748	9 373 437	5 641	493 923	185 ³	5 486 129
Mining	21 754	32 065 725	27	2 590	22	2 767
Transport	17 193	5 605 056	1 006	179 955	49	159 823
Total	6 794 383	188 648 346	643 686	5 754 632	418 910	7 159 648

Table 1 – 2002 Customer numbers and electricity sales for South Africa, the Eastern Cape Province and Eskom Southern Region.

Ref: National Electricity Regulator, 2003 and Van Niekerk, 2003

Note 1. MWh = Megawatt hours, units of electricity consumption.

Note 2. Pre-payment customers included under Residential.

Note 3. Re-distributors included under General.

The customer numbers and sales figures of Eskom's Southern Distribution Region (which covers the Eastern Cape and is the focus of this research) are detailed in Table 1 for comparison. Although a direct comparison is difficult due to the fact that the geographical boundaries of Eskom do not align exactly with political provincial demarcations, it is clear that Eskom is the biggest single player in the Eastern Cape, both in terms of customer numbers and sales. The bulk of Eskom's customers however are in the pre-payment rural customer category whilst the bulk of their revenue is derived from sales to re-distributors (municipal entities).

Talks have been under way for more than a decade regarding restructuring of the electricity industry in South Africa and to some, the restructuring process seems endless. The key stakeholders; municipalities, labour, business, government and Eskom, all have their own views on the issue, many of which are divergent. Vested interests and the complexity of the task have resulted in many of the key issues remaining unresolved. The stakes become even higher when one considers what the country stands to lose if the reshape is not successful. As has been seen from the Californian, Brazilian and recent North American 'blackout' experiences, cities and even countries can be brought to a standstill if a power restructuring exercise goes wrong. For South Africa, the issue is even more critical, cheap electricity is one of the few instruments available to attract investment into new industries and indeed, the bulk of new investments in the past decade have been based on South Africa's low power prices (Business Day, 2002).

But with low electricity prices and an electricity utility which was awarded Global Electrical Utility of the Year 2002 (Eskom, 2003), does the market need to be reshaped? On this at least, most stakeholders agree – that there is an urgent need to change the way in which the distribution side of the business works. The most compelling reason being to prevent the collapse of ailing municipal distributors. The White Paper on the Energy Policy of South Africa found the sector to be highly fragmented, with up to 25% of distributors losing money on electricity sales (Department of Minerals and Energy, 1998). The plan, broadly endorsed by cabinet, is to merge the distribution functions of municipalities with that of Eskom, creating six Regional Electricity Distributors or REDs. Theoretically the creation of strong, viable regional distributors should improve service delivery to customers and eventually lead to lower prices. Essentially, the reshape of the distribution sector will also be undertaken in conjunction with the introduction of competition as government sells off the REDs in pursuit of its privatization goals. For the first time in the history of this country, customers will be given a choice of service providers and those companies that fail to meet or exceed customer expectations will struggle for survival.

1.2 Eskom's Southern Distribution region

One of the players in this future scenario is Eskom's Southern Distribution Region which covers the Eastern Cape and supplies 418 910 consumers directly as at the end of July 2003 (Van Niekerk, 2003). From Humansdorp to Petrusville and across to Port St Johns, the Region covers 220 000 square kilometres. This customer density of less than two persons per square kilometre makes the region arguably the most marginal of the six in the Eskom Distribution Group. The 1556 staff compliment is located at four service area offices (FSAs - East London, Port Elizabeth, Umtata and Colesberg) which serve 20 technical service centres (TSCs) each centred around a technical service area (TSA). Figure 2 shows the geographic area covered by the Southern Region's operations.

Southern Region, like all the others, earns its income through the application of defined and gazetted tariffs to measured consumption of electrical energy purchased. The amounts may vary from a few kilowatts per day for a typical rural pre-paid customer to over a Megawatt per day for the Nelson Mandela Metropole, the largest customer in the region (Van Niekerk, 2003). Eskom broadly segments their market into *conventional* customers, those whose meters are read regularly and pay post-consumption on receipt of an account, and *pre-paid* customers who purchase tokens from vendors that are then fed into the meter to enable

electricity provision. Conventional customers are further broken down into large power users (LPUs) whose notified maximum demand is greater than 100kVA and small power users (SPUs) who demand less than 100kVA.

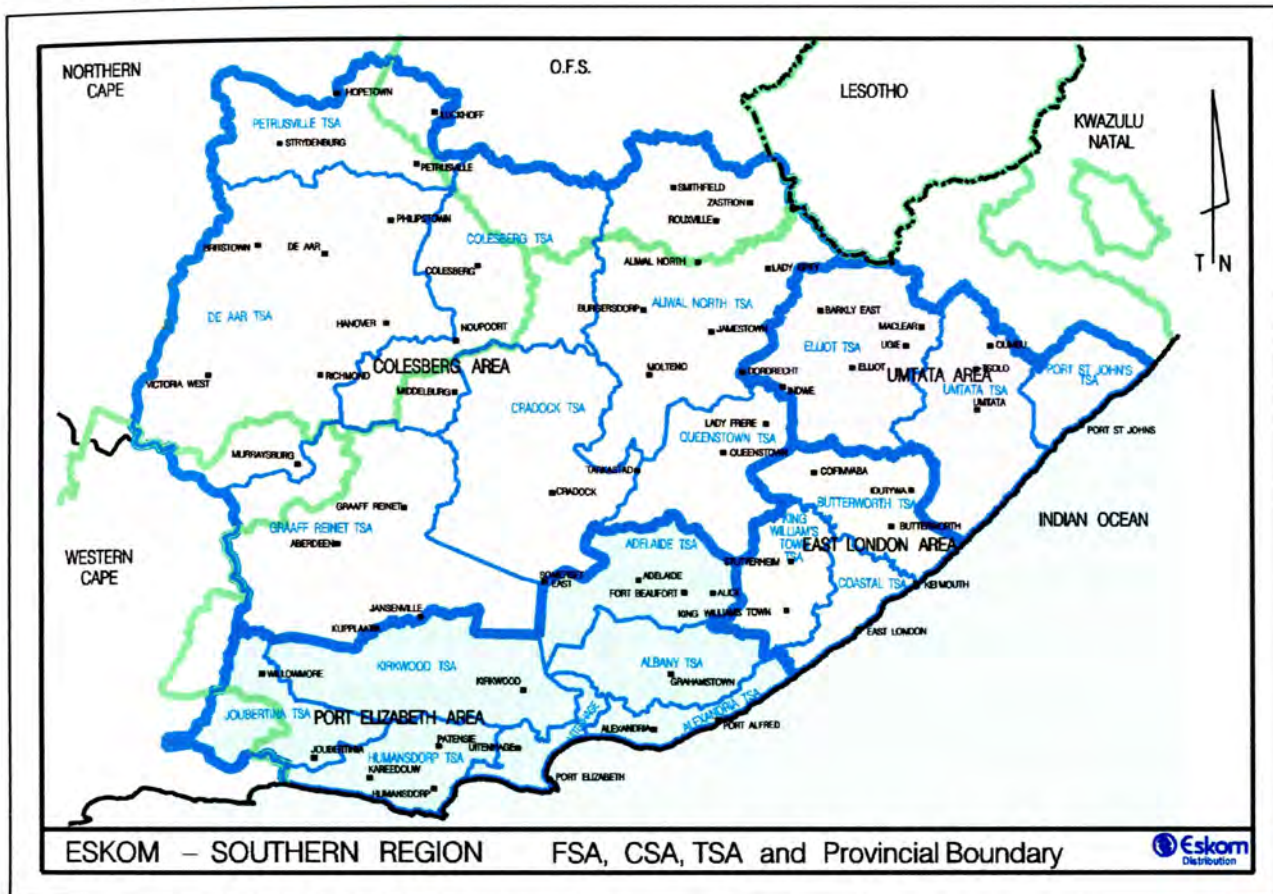


Figure 2 - Eskom Southern Distribution Region

Eskom's total revenue for the 2002 year of operation amounted to over twenty eight billion Rand (see Table 2).

Category	Net revenue Rm	
	2002	2001
Redistributors	10 514	9 325
Residential ¹	2 637	2 256
Commercial	1 265	1 151
Industrial	6 646	5 624
Mining	4 604	4 261
Agricultural	1 061	1 134
Traction	559	547
Distribution international	33	40
Eskom international	782	600
Internal	57	45
	28 158	24 983

Table 2 - Eskom 2002 Sales by Segment

1. Pre-payment included under Residential. (Eskom, 2003).

Southern Region income contributed R1,28 billion of this total (4,5%) as detailed in Table 3 (van Niekerk, 2003).

Customer Segment	Demand (MWh)			Customer Numbers			Revenue
	LPU's	SPU's	TOTAL	LPU's	SPU's	TOTAL	
Agricultural	113 058	118 885	231 943	325	4489	4 814	R 59 339 180
Re-distributors	5 481 834	13	5 481 847	119	0	119	R 780 234 237
Commercial	174 952	104 441	279 393	124	3666	3 790	R 65 400 864
Industrial	123 181	4 492	127 672	195	7	202	R 23 164 149
Mining	2 001	766	2 767	20	2	22	R 942 276
Prepayment	0	645 367	645 367	0	391673	391 673	R 235 858 070
Residential	9 961	216 593	226 554	28	18175	18 203	R 77 583 637
Traction	159 800	22	159 823	45	4	49	R 40 130 247
Internal Sales	3 555	727	4 282	32	6	38	R 23 558
TOTAL	6 068 342	1 091 306	7 159 648	887	418023	418 910	R 1 282 676 218

Table 3 - Customer demand, numbers and revenue for Eskom Southern Region by customer segment.

What is particularly striking about the information contained in Table 3 is that the 887 Large Power Users (LPU's) make up less than one quarter of one percent of the total customer base and yet account for 70% of revenue earned. These figures are shown graphically in Figure 3 which shows the tiny percentage of Southern Region's total customers classified as LPU's and Figure 4 that highlights that this same segment brings in 70,1% of the Region's revenue. At the other extreme, 391 673 customers, (93,5% of the total) the rural pre-paid market, accounts for just eighteen percent of total revenue.

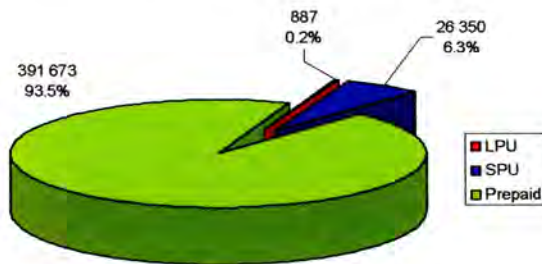


Figure 3 - Customer numbers by category



Figure 4 - Revenue by category

To put this in perspective, the average large power user (LPU) brings in over one million Rand per annum whilst a typical pre-paid customer, less than two Rand per day! Thus, it is apparent that if the Region wishes to secure the vast proportion of its existing revenue stream in the face of future competition, it need only ensure the customer satisfaction of 887 customers, 0.8% of the total.

1.3 Eskom customer satisfaction measurement

The Eskom approach to measuring customer satisfaction (they make no distinction between satisfaction and service quality) is to make use of a variety of statistical perception surveys, conducted by an independent organisation, which measure customer satisfaction with the service received. Southern Region's management team uses the *MaxiCare* customer satisfaction measurement tool as a key input into its strategic planning process. MaxiCare, a telephonic customer survey, was designed specifically for Eskom as a cost effective, independent measure of customer perceptions. Customers are required to rate ten service statements on a 10-point scale and follow up open ended questions are then asked (see appendix 2 for examples) on how to improve service quality in general.

A random sample of the customer database is extracted annually and 10 400 interviews per year conducted countrywide (<1% of population). This data is captured in the MICare database. The results database and reporting system provides history and results by area and segment to assists in determining priorities for improving customer service.

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	AVERAGE
Sample Size	160	136	156	228	120	147	181	140	158
SUPPLY QUALITY	7.29	7.42	7.95	7.62	8.05	7.95	7.81	7.83	7.74
PRICING	7.53	7.74	7.98	7.56	8.07	7.84	7.73	7.71	7.77
ACCOUNTS	8.02	7.63	8.02	7.53	7.86	7.99	7.89	7.89	7.85
PHONE-IN CENTRE SERVICE /CALL	8.29	7.25	8.09	7.69	7.98	7.98	7.78	7.86	7.86
STAFF INTERFACE	8.04	7.54	8.08	7.71	8.02	7.95	7.82	7.81	7.87
ADVICE	8.25	8.07	8.20	7.87	8.28	8.06	8.14	7.99	8.10
SAFETY	8.17	7.95	8.27	7.84	8.17	8.27	8.23	7.97	8.11
ENVIRONMENT	8.65	8.09	8.51	7.95	8.22	8.26	8.29	8.14	8.26
OVERALL SERVICE QUALITY	8.30	7.74	8.21	7.65	8.12	8.03	7.72	7.90	7.96

Figure 5 - 2003 MaxiCare results (year to date)

Figure 5 shows the eight dimensions of the MaxiCare tool over the first eight months of 2003. Only three of them (indicated in green) exceed the 8.10 target, the rest fall short with supply quality performing worst of all. The overall service quality scores are shown in Figure 6, the downward trend clearly visible.

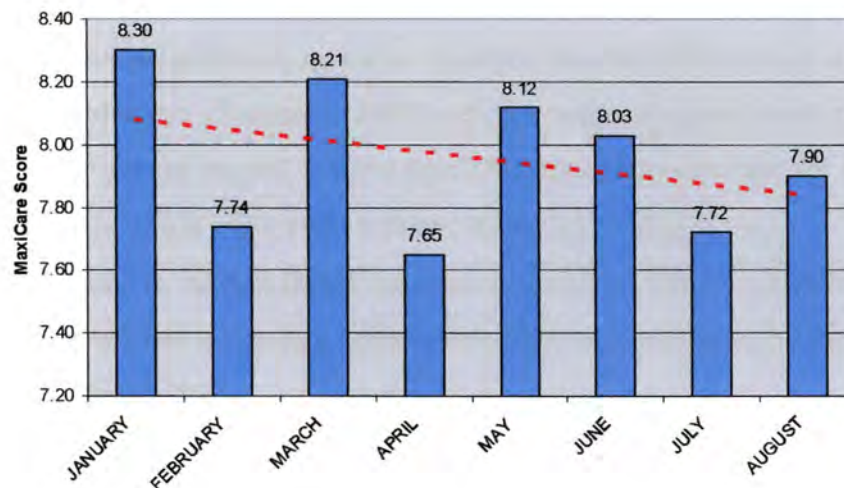


Figure 6 - Overall MaxiCare score (with trend) for Southern - 8 months 2003

Figure 7 shows the consolidated MaxiCare results for the agricultural, commercial and industrial LPUs in the Region over a six year period. The downward trend in this graph is also immediately apparent.

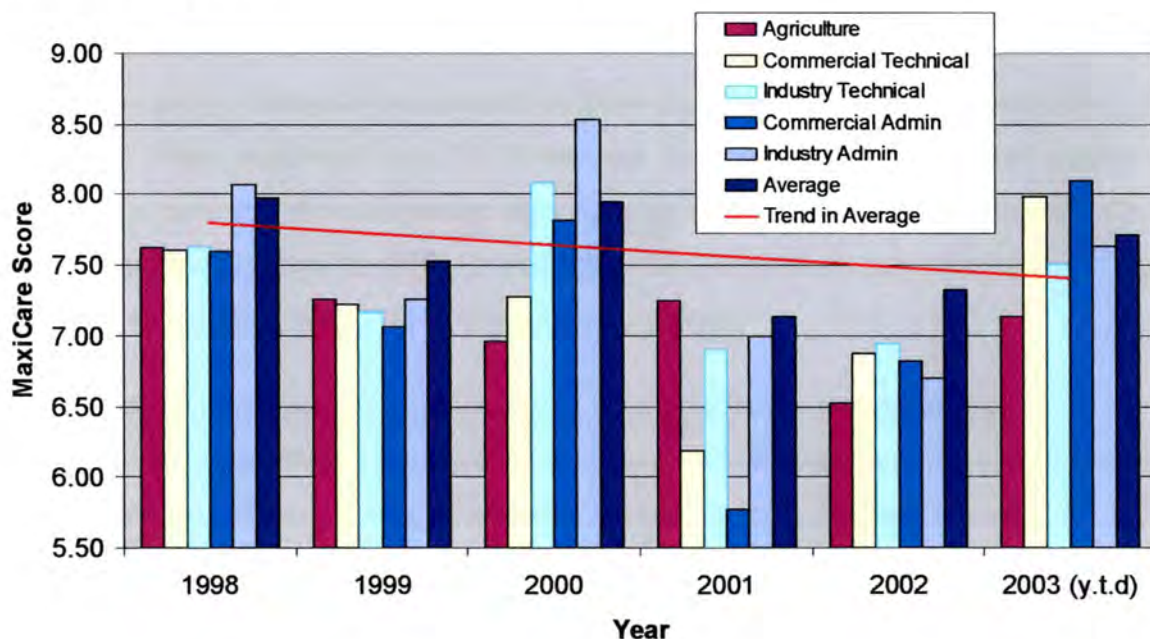


Figure 7 - Six year MaxiCare figures for Southern

Since 1995 Southern Management have been using the areas identified by *MaxiCare* as underperforming to formulate strategies to improve the overall score. As the trends show, their strategies have met with little success. The trend is a cause of alarm to senior management, causing the Divisional Manager to announce, "If there is one area requiring

major change in Eskom Distribution, it is in the area of customer service" (du Plessis, 2002). The *MaxiCare* score was identified as a key lowlight for the 2003 year of operation in the regional balanced scorecard (Rampath, 2003) and the apparent inability of management to improve the *MaxiCare* score has led to three possible conclusions amongst the team:

- That the *MaxiCare* tool is not a valid measure of customer satisfaction.
- Although *MaxiCare* is valid in that it indicates a declining trend in customer satisfaction, it does not give sufficient strategic direction to the management team for them to focus their resources effectively.
- The *MaxiCare* tool is both valid and descriptive, it is the management team that is under performing and thus a cause of the declining customer satisfaction scores.

The declining *MaxiCare* results have consistently been attributed to six factors which are rated as the poorest performing areas by the customer (Theron, 2002). The number of supply interruptions customers experience; proper notification of power cuts for planned maintenance; correctness of accounts; compensation approach for financial losses suffered due to supply quality problems; feedback to customer after requests for information and the price of electricity. International research of more than 7800 midsize businesses throughout the United States performed by J.D. Power and Associates concurs, "Power quality and reliability is now the most important factor comprising overall customer satisfaction" of electricity utilities (Greywitt, 2002:1). The other key components they identify were image, price and value, billing and payment and customer service.

1.4 Customer knowledge as a key competitive advantage

Fornell (1992) catalogues the key benefits that high levels of customer satisfaction have for a firm. In general, high customer satisfaction should indicate increased loyalty for current customers. This translates into better retention of existing customers and increased repurchase behaviour. Satisfied customers are more willing to pay for the benefits they receive and are thus more likely to be tolerant of price increases and higher margins in the future. High customer satisfaction levels lower the costs of future transaction. Firms with higher retention levels do not need to spend as much to acquire new customers and their existing customers are likely to buy more frequently and in greater volumes whilst also purchasing other goods and services offered by the firm. These factors will be evidenced in the company's economic returns, especially sales turnover and growth (Reichheld and Sasser, 1990). Fornell continues that the costs of attracting new customers is lower for firms that achieve a high level customer

satisfaction as satisfied customers are more likely to engage in positive word of mouth and less likely to engage in damaging negative communication regarding the firm (1992). Media sources are also more likely to convey positive information which will enhance the overall reputation of the firm.

On the other hand, low customer satisfaction implies greater turnover of the customer base; higher replacement costs; lower levels of price elasticity and a marked increase in negative word of mouth communication. Fornell found that consumers show several types of responses to dissatisfaction namely: 1) taking no action, 2) switching brands or curtailing patronage, 3) making a complaint to the seller or third party, and 4) negative word of mouth communication (1992).

International marketing company, McKinsey Marketing Solutions suggest that companies which take a strategic approach to managing customer value and satisfaction, and make technology investments to support specific business and financial objectives, are more likely to achieve high rates of customer retention, fast growth, and increased profitability (2001). They add that to realize the greatest economic benefits and turn customer satisfaction into shareholder value, companies must:

- Identify the most valuable customer segments and isolate the satisfaction elements (for each segment) that influence customers' behaviour and purchasing decisions. Then deliver differentiated service and satisfaction levels beyond appropriate breakpoints, remembering that each segment's needs are different.
- Build a customer-centric organization through driving customer focus into business and strategic objectives. Thus redesigning customer interactions and supporting processes to serve high-value and high-potential customers in a way that differentiates them from lower-value segments.

Fundamentally, instead of trying to please all customers, all the time, executives can gain strategic advantage by focusing on their most valuable and profitable customers. Many companies use averages to measure service quality and customer satisfaction. However, when they use these to kick-start customer initiatives they fail to hit the mark because their actions are diluted across the entire customer base and are not specifically designed to meet the needs of their most valuable segments.

Successful companies do two basic things very well. They identify their most valuable customers and focus on improving satisfaction within this group. They also understand, intimately, the core satisfaction drivers of these customers and how to over-deliver on them (McKinsey, 2001). The goal is a better understanding of customer's needs and a scientific measure of progress through *satisfaction levers*. If this is achieved, management can begin to build a customer-centric organization by applying customer focus in strategic planning and "end-to-end" measurement.

The success of any service or manufacturing organisation can be significantly attributed to, and dependant upon, the knowledge it has about its customer base. Companies waste valuable resources and energy reacting to mixed and incomplete data from customer service efforts



which results in inefficiency and wasted effort (Humphrey, 2003). Without valid customer data that can be converted into action, it is unlikely that strategies aimed at improving customer satisfaction and thus revenue will be successful. The first goal of marketing is to discover the needs of customers (Berkowitz et al, 2000) and it is thus imperative that a firm scrutinise its

consumers to understand their needs and wants. These insights must then be converted into a tangible strategic plan that integrates the marketing mix into company processes and operations. The core function of any marketing program must be to discover the needs and wants of the customer and then to ensure they are met. This is achieved through interaction with the consumer to understand what they need, studying industry trends, examining the competition's products and even analysing the customers' customers. This information must be shared and communicated throughout the organisation, with the ultimate intention of creating real value for the customer. This is a distinct shift from the historic 'product emphasis' to one that is focussed primarily on the interests of the customer (Berkowitz et al, 2000).

1.5 Is Southern Region Management in tune with customer sentiments?

Management question MaxiCare's ability to highlight Southern's key success factors in sufficient detail to allow them to compete effectively. Its ability to identify the things that

most affect its ability to prosper in the market place and in particular, the key strategic areas that will ultimately determine the competitive success or failure of the organisation. These key success factors are pre-requisites for industry success and determining them is a top priority analytical consideration (Thompson and Strickland, 2001). An industry's key success factors are those things that most affect a firm's ability to prosper in the market place. It follows that a company with a perceptive understanding of these factors can gain sustainable competitive advantage by devoting its energies to being 'best in class' at one or more of these factors. Companies that only dimly or incompletely perceive what factors are crucial to long-term competitive success are less likely to have winning strategies (Thompson and Strickland, 2001). Power suggests this creates a win-win scenario for the customer and the organisation because, "when a company focuses on customer satisfaction, then typically sales, profits and market share follow" (2000:2). In the Southern Region, what little information there is available on the customer and the competition does not circulate through the rank and file with the result that only a small percentage of daily company tasks can be directly linked to the creation of customer value. The questions remain; what does the customer want and what creates value for the customer?

Treacy and Wiersema argue that leading companies tend to narrow their business focus on developing superior customer value in operational excellence, customer intimacy or product leadership (1993). This implies that Southern Region for example, need only achieve above average performance in one of these three areas so long as the other two meet industry standards. As an engineering establishment, much of the focus is undoubtedly on operational and product excellence but what of customer intimacy? Adding value in this disciplines is not a hit and miss affair, management strategy must be focussed on the consumer satisfaction levers and to do this, it must know what they are.

The following research goals are aimed at improving the ability of Southern Region's Management team to walk a mile in the shoes of the large power user customer; to understand their needs and then respond to them in a way that creates improved value for the customer and a sustainable and competitive business with above average returns.

- a) To identify the key dimensions of service quality and satisfaction levers that describe Eskom Southern Region's LPU customer's perceptions and expectations of their electricity service.

- b) To evaluate how closely aligned the Southern Region's management team is with the identified dimensions and to identify gaps that exist in their understanding thereof.
- c) To assess the content validity of the MaxiCare customer satisfaction tool in light of the dimensions identified in a).
- d) To design an alternate customer measurement tool to MaxiCare if it is found to be invalid and to assess its reliability and validity in measuring service quality in the electricity supply utility industry.
- e) To assess the overall service quality and satisfaction level of Eskom Southern Region's customers and to use the research findings to recommend strategic leverage areas to Southern's Management team.

Parasuraman et al describe what they term the consumer expectation-management perception gap which in essence exists when company executives do not understand what features their service must possess in order to meet consumer's needs and at what levels of performance it must be pitched in order to deliver a high quality service (1985). Given the declining *MaxiCare* scores, this gap may well exist in Southern and this research also explores this possibility.

Chapter 2 – Literature Review

2.1 The importance of customer satisfaction and service quality

It is imperative for business managers to know whether the objective of operational strategies should be to maximize the perceived level of service quality or to focus on ensuring that customers are satisfied, or both. They need to know what aspects of their business define the firm's quality in the eye of the consumer and importantly, how best to measure service quality in a reliable and valid way. In the pursuit of maximized profits, these managers must seek to understand whether customers will purchase from firms with the highest perceived levels of service quality or from those that satisfy them the most (Cronin and Taylor, 1992).

A recent study by Dr Kevin Hendriks provides hard evidence that the effective implementation of quality management principles impacts bottom-line business results. The 5 year study covered more than six hundred listed companies in the USA that had been recipients of Total Quality Management awards such as the Deming prize or Baldrige National Quality Award. The results show that on the whole, those that had received quality awards experienced significant improvements in the value of their common stock, operating income, sales, return on sales, employment, and asset growth. Both groups were tracked over a five year period starting one year before, to four years after the winners won their first award. As shown in Figure 8, the award winners averaged significantly larger increases in several measures of financial performance than the control group over this period (Hendriks, 2000).

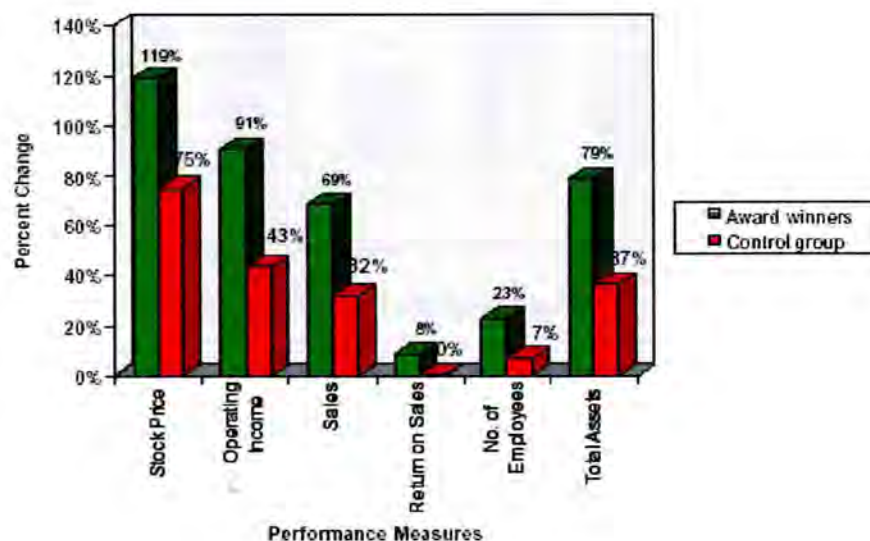


Figure 8 - Average percentage change in performance measures of companies applying TQM.

The principles inherent in the American Baldrige model spawned the birth of the South African Excellence Foundation (SAEF) model. In the SAEF model, not surprisingly, 23% of the points that can be awarded for excellence are dedicated to customer satisfaction issues with 'customer satisfaction' the biggest single criterion part (SAEF, 2001). "The customer is the final arbiter of product and service quality and customer loyalty, retention and market share gain is best optimised through a clear focus on the needs of current and potential customers" (EFQM, 1999:4).

J.D. Power and Associates is a global marketing information services firm (employing over 500 professional analysts, consultants and statisticians) operating in key business sectors including market research, forecasting and customer satisfaction. It covers all the largest investor-owned and public power energy utilities and has active surveys in 71 electric utilities and 50 gas utility brands (Conklin, 2003). More than 32,000 households and 7,500 businesses are interviewed each year with the primary goal of tracking overall customer satisfaction over time and benchmarking against other utilities. Figure 9 highlights what their results have shown; that there is a direct link between relatively high customer satisfaction index (CSI) scores (the top two quartiles are compared with the bottom half) and reported return on assets and profit margins.



Figure 9 - Correlation between satisfaction and financial performance.

Empirical studies by Boulding, Staelin, Kalra and Zeithaml (1993) and Rust, Inman and Jia (1997) suggest that (1) a consumer's previous satisfaction and perceptions of overall service quality is positively associated with his/her purchase intentions and consequent behaviour, (2) service that meets or exceeds a customer's expectations increases his/her preference and (3) a

customer's evaluation of a service changes over time as they gain experience with it. Ultimately, these three factors influence decisions about the length of a relationship a customer forms with a service provider (Bolton, 1998) and the long term strategic health of the firm. Cronin and Taylor concur that customer satisfaction is directly and positively correlated to purchase intentions (1992). Other outcomes include word of mouth (communicating approval/disapproval) and complaint behaviour (Hom, 2000). Clearly, higher levels of service quality will improve levels of customer satisfaction which will result in long term, strong, profitable relationships between service provider and consumer. These findings are depicted graphically in Figure 10.

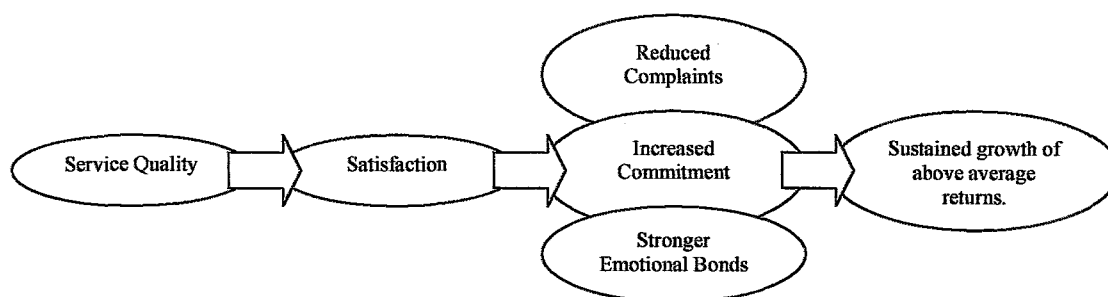


Figure 10 - Service quality - satisfaction relationship and outcomes.

The need to translate the philosophical marketing belief and the increasing volume of evidence that suggest that above average financial results are generated through satisfying consumer needs and wants has directed management attention towards the development and measurement of consumer satisfaction (Churchill and Surprenant, 1982). Since the early 1970s, the volume of research and literature in the field of consumer satisfaction and service quality has been significant.

2.2 – Definitions of customer satisfaction and service quality

Marketing literature shows a consistent but subtle difference between the definitions of service quality and customer satisfaction. Oliver summarized early thinking on satisfaction with the definition that satisfaction is, “a summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer’s prior feelings about the consumption experience” (1981:27). Many other definitions and researchers agree with the concept of the transaction specific nature of satisfaction versus the longer term attitudinal belief that is quality (Bitner 1990, Carman 1990, Parasuraman et. al. 1988, Bolton and Drew 1991a). Although both are purported to be concerned with the difference between expectations and perceptions, quality is an enduring, macro attribute of a firm whereas

“satisfaction is related to a specific transaction” (Parasuraman et al, 1988:16). It follows that iteration of satisfaction experiences (good or bad) over time, leads to the formation of a perception of service quality or in Oliver’s words, “satisfaction soon decays into one’s overall attitude towards purchasing products” (1981:42). These definitions have lead to confusion as to whether managers and researchers need to measure customer satisfaction, service quality or both to arrive at useful strategic indicators (Cronin and Taylor, 1992). To make matters worse, customer satisfaction measures discussed in the popular press and measured by many corporations are often confused with the satisfaction measure as defined and used in most *academic* studies. For example, the former are more often than not cumulative constructs and thus, by the preceding arguments, track service quality more than they do customer satisfaction.

Researchers suggest that service quality and satisfaction are distinct constructs (Bolton and Drew, 1991a,b, Parasuraman et. al. 1988) and results from an empirical study by Spreng and MacKoy lend support to this position (1996). However, not all researchers agree. For example Oliver believes that “the fields of quality and satisfaction are merging, although causality issues remain to be resolved” (1994:16). Hence, despite several attempts to prove the relationship between service quality and satisfaction, much ambiguity still exists.

There is a common consensus however, of a strong positive correlation between the two constructs but the debate persists regarding the directionality of the relationship. Early work proposed service quality perceptions were an outcome of satisfaction (Oliver, 1981; Bolton and Drew 1991a,b) but later research has reversed this theory. It appears to be now generally accepted that service quality is a precursor to customer satisfaction. Cronin and Taylor indirectly tested the Quality → Satisfaction, Satisfaction → Quality relationship across eight service companies and found only the former path to be significant (1992). This adds support to Cronin and Taylor’s service quality influences satisfaction position. Shemwell et al. also tested the relationship empirically in a medical practice and concluded that “the results show that service quality has a strong direct effect on patient satisfaction” (1998:163). They also propose that by improving service quality perceptions, higher satisfaction levels will be achieved along with a lessening of complaint behaviour and greater emotional bonding to the service provider.

There are several reasons for the lack of agreement on the direction of causality. Firstly, as discussed, an inability to agree on the basic definitions of oft used terminology. For example, an insistence by some researchers (e.g. Bolton and Drew) to refer to overall feelings about a firm as 'an attitude' whilst others (Cronin and Taylor) propose that this attitude (formed over a long period) is indeed the consumer's perception of service quality, i.e. that perceived service quality is analogous to attitude. Churchill and Surprenant put forward that operationally and practically, satisfaction is similar to an attitude in that it can be assessed as the amalgamation of all the satisfactions (or dissatisfactions) with the product or service (1982). However they are in agreement with LaTour and Peat (1979) who assert that the difference between satisfaction and attitude is in the sequence thereof. Attitude is a pre-purchase decision construct whereas satisfaction occurs post-decision. If these researchers are correct, then 'attitude' is akin to 'service quality' which is different to 'satisfaction' only in the sequence they occur in relation to the service transaction. Other researchers lie somewhere in between these views, typified by Parasuraman et. al.'s statements that describe service quality as "...similar in many ways to an attitude" (1988:15). These seemingly endless debates do little other than to confuse and complicate. Adding to this complexity is that researchers, practitioners and the popular press often use the terms service quality and customer satisfaction interchangeably.

Secondly, there is a definite time factor to the definition of satisfaction that is often overlooked. Service quality is generally a left brain, cognitive evaluation formed over a period of time while satisfaction is generally fleeting; a combination of both the cognitive left and the more subjective, emotional and feelings based right brain (Shemwell et al., 1998). Proponents of the service quality leads to satisfaction school of thought refer to satisfaction in the global sense, an overall sense of wellbeing or discomfort brought on by the quality of the service received. This is contradictory and thus confusing in the light of the academic definitions of satisfaction that refer to the discrete, transaction specific nature of satisfaction. It is this latter satisfaction definition that is used by the satisfaction leads to service quality protagonists. Obviously if there is not agreement on the definition of satisfaction, there will continue to be debates as to the directionality of the relationship between satisfaction and quality. This confusion has led at least two researchers to comment, "Everyone knows what (satisfaction) is, until asked to give a definition. Then, it seems, no one knows" (Fehr and Russell, 1984:464).

An iterative framework suggested by Parasuraman et. al. (1994) helps to reconcile the differing perspectives and focuses energies away from merely debating the causal relationship into more constructive knowledge and understanding of how they interrelate. This is based on a suggestion by Teas (1993:30) that "One way to integrate these two causal perspectives is to specify two perceived quality concepts; - transaction specific quality and relationship quality - and to specify perceived transaction-specific quality as the transaction-specific performance component of contemporary satisfaction models" which implies that "transaction specific satisfaction is a function of perceived transaction specific performance quality" and that transaction-specific satisfaction may be a predictor to a longer term relationship with the firm.

2.2.1 Transaction satisfaction versus overall global satisfaction

Thus the concept that service quality and customer satisfaction could be studied meaningfully from *both* a transaction specific as well as a global perspective was tabled. Teas proposals led Parasuraman et al. to examine whether practitioners would not be better served to hypothesize around the existence of two types of satisfaction (1994). 'Transaction satisfaction' which is the customers overall satisfaction with a *transaction* (i.e. finite and short term) and arrived at by a consumer after evaluating the product quality (PQ), service quality (SQ) and price (P) during a specific interaction with the firm. And 'global satisfaction' which is the customer's global impressions of the firm formed upon the aggregation of the previous transaction experiences i.e. the sum of all prior transaction dis/satisfactions.

Accordingly, a firm's performance in three areas during a transaction leads to a satisfaction judgment. Over time, these build up into a global impression of the firm, a global satisfaction that is analogous to service quality. Thus both camps of researchers are in effect right. Transaction service/product quality and price judgements lead to transaction satisfaction (Quality → Satisfaction) and the sum of all these satisfactions over time leads to an assessment in the mind of the consumer of the firm's service quality (Satisfaction → Quality). These concepts are conceptually modelled in Figure 11, 'n' transaction specific experiences, each with their own experiences of dis/satisfaction, over a period of time, form a global impression about the firm in the mind of the customer. Whether this is defined as customer satisfaction or perceived service quality is largely irrelevant because the differentiating factor is not the name of the construct but rather the time frame in which it is defined.

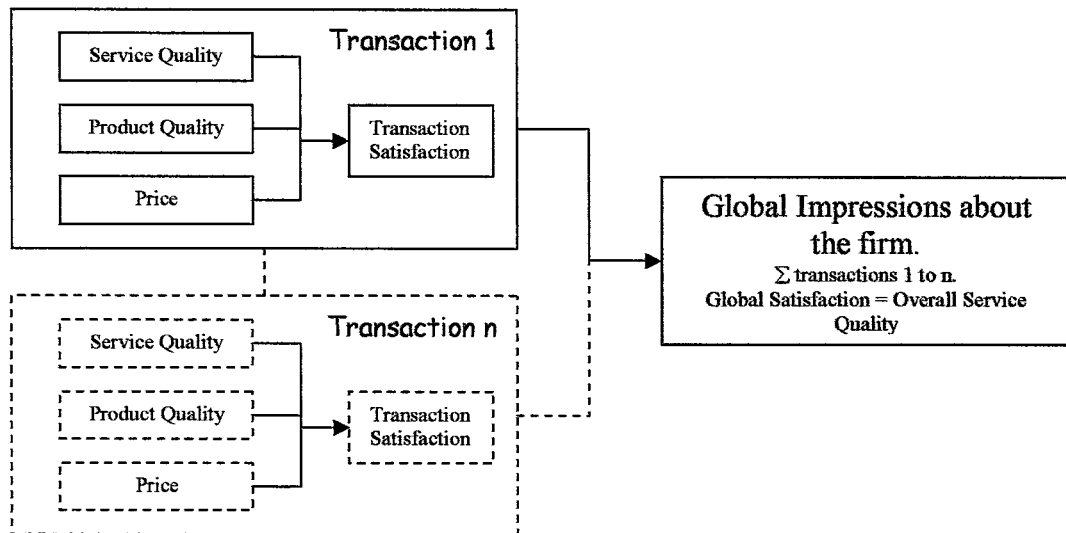


Figure 11 – Parasuraman et. al's 1994 Satisfaction model: Transaction and Global specific satisfaction.

The implications of this model are significant. Firstly, it suggests that on a transaction level, the directionality of the relationship is that service quality will lead to customer satisfaction and it obviously follows from this that the two constructs are separate. On the face of it, this appears valid. Intuitively, an experience of good service will lead to a feeling of satisfaction and poor service would lead to a feeling of dissatisfaction *at that moment in time*. Secondly, it includes product quality and price in the transaction satisfaction judgement for the first time. Again, this appears valid, great service in the sale of a terrible product is unlikely to lead to satisfaction. Similarly, if the price is not commensurate with either the product or service quality, dissatisfaction is most likely to result. Parasuraman et al. suggest that understanding the roles of service quality, products quality and price evaluations in determining transaction-specific satisfaction is an important area for further research (1994). Thirdly, as a relationship builds with the firm, the consumer will accumulate these experiences to form an overall perception of the firm. To specify this as 'global satisfaction' is accurate. So too would be to call it an 'overall impression of service quality'. Thus, on a macro level the two constructs tend to merge into one in line with Oliver's belief that "the fields of quality and satisfaction are merging, although causality issues remain to be resolved" (1994:16). Lastly, if service quality, product quality and price judgements form the foundation for transaction specific judgements, then the secret to successful measurement and appreciation of customer satisfaction lies in a deeper understanding the cognitive processes that lead to such judgments regarding these three constructs.

2.2.2. - The impact of the context of the service encounter

The relationship between a customer's participation in the consumption of a service and their subsequent satisfaction or perceptions of service quality has received much less attention than has each of these concepts individually (Kellogg, 1997). For example, Bolton and Drew suggest that the line between customer satisfaction and service quality is even harder to define for frequently or continuously provided services such as those provided by an electrical utility (1991a). With a provider of 'continuous' services such as an electrical utility or gas company, the customer has a chance to acquire new information in two ways. Either through a service transaction, which is usually initiated by the customer pursuing a specific objective (enquiring about a bill for example), or through failure of the service provider to provide the core continuous service (e.g. black out of electricity supply). These service encounters (be they customer initiated or failure initiated) give the customer an opportunity to update their information about the service provider. An opportunity to compare current service levels with those in the past and thus to form a new opinion about the value of the service being provided (Bolton, 1998). In extreme cases, the service encounter may be so dismal as to trigger a termination of the service altogether. Bolton (1998), in a study of a continuous service provider (telecoms operator), made two important findings:

- A customer's perceptions of service transactions were more powerful than their views on service failures. I.e. a transaction failure (incorrect account) is more likely to change a customer's perception of service quality than a service failure (blackout).
- The longer a customer had been with the service provider, the lower the perceived losses associated with transaction or service failures.

2.3 – Disconfirmation and the causality of customer satisfaction

An increase in the number of empirical and theoretical approaches to determining the antecedents of consumer satisfaction has spurred the growth of measurement tools designed to assist management pinpoint strategic leverage areas in their business which will improve sales growth and profit figures. The vast majority of these models use some variation of the *disconfirmation paradigm* which holds that satisfaction is related to the magnitude and direction of the disconfirmation experience (Churchill and Surprenaut, 1982). In effect, individuals' expectations are

- confirmed when a product/service/price meets expectations,
- negatively disconfirmed when the product/service/price fails to meet expectations and,
- positively disconfirmed when the product/service/price exceeds expectations.

Obviously, dissatisfaction is linked to negative disconfirmation. Churchill and Suprenaut initially proposed that the full disconfirmation paradigm is a combination of four constructs: expectations, performance, disconfirmation and satisfaction (1982) as depicted in Figure 12.

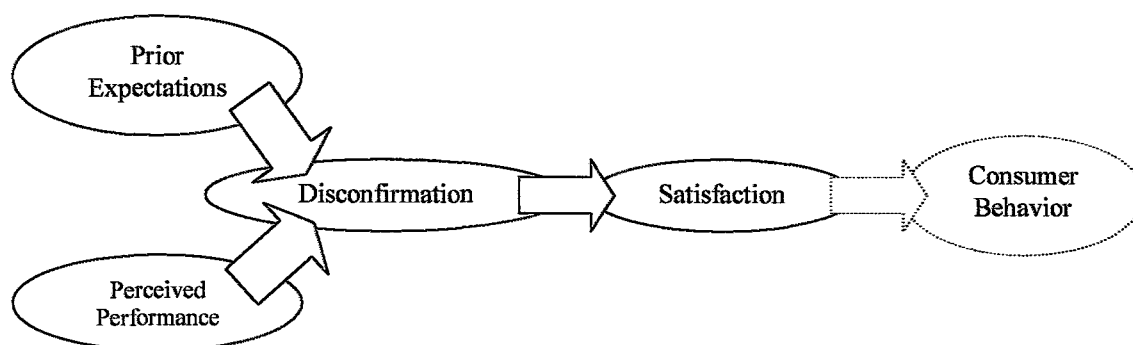


Figure 12 - The disconfirmation paradigm.

This concurs with Bolton and Drew's definition of customer *satisfaction/dissatisfaction* (CS/D) as a "post purchase evaluation of a product/service offering" (1991a:2) and dovetails well with the Parasuraman et al.s' model outlined in Figure 11. Critically, Cronin and Taylor show that satisfaction has a strong and direct effect on purchase intentions while service quality alone does not (1992). This makes sense; consumers may not necessarily go for the highest quality when they are looking for lowest cost or optimum convenience. As Figure 11 shows, service quality is not the only competitive priority that may satisfy a customer and thus should not be the only one measured. The satisfaction experience may also be influenced by product quality and price. This then should be the first goal of the serious market researcher and strategic manager, to identify and measure the key competitive priorities at play within their market and also to determine the relative importance of service quality, product quality and price.

The simple disconfirmation model of Figure 12, showing the antecedents of customer satisfaction, can be written:

$CS/D_t = f(DISCONFIRM_t, PERFORM_t, PERFEXPECT_{t-1}).$	(1)
--	-----

A consumers dis/satisfaction with a service at time t (CS/D_t) is determined by their current perceptions of performance ($PERFORM_t$), their past expectations about performance ($PERFEXPECT_{t-1}$) and the difference in their minds between the two ($DISCONFIRM_t$) which may be positive or negative.

Further to this, Bolton and Drew describe "the customer's global evaluation of a product/service offering" as a customer's *attitude* (1991a:2). The similarity between Bolton

and Drew's definition of a customer's attitude and Parasuraman et al.'s (1994:122) proposal to refer to overall service quality as "global impressions about a firm stemming from an aggregation of transaction experiences" is not coincidental. Both sets of researchers are referring to the same construct; overall customer satisfaction. In Bolton and Drew's terms, a customer's attitude at the current point in time ($ATTITUDE_t$) is a function of their residual attitude towards the service offering from the previous period ($ATTITUDE_{t-1}$) and their level of (dis)satisfaction with the current service experience (CS/D_t). This position is in agreement with that of Parasuraman et al. as outlined in Figure 11, and suggests that satisfaction is a separate, distinct construct that acts to temper a consumer's previous attitude (global impression) towards the service provider to form the current, 'new' attitude. Thus

$ATTITUDE_t = g (CS/D_t, ATTITUDE_{t-1})$	(2)
Current Attitude = function of (Current Consumer (Dis)Satisfaction and Previous Attitude)	

This work is based on adaptation level theory which proposes that consumers form an attitude about a service provider based on their prior expectations about the performance of the firm and that this attitude in turn determines their intentions to purchase (Oliver, 1980). Thus, purchase intentions (PI) are formed initially by an individual's attitude ($ATTITUDE$) toward a product or service.

$PI_{t1} = h (ATTITUDE_{t1})$	(3)
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By substituting equation 2 into equation 3,

$PI_{t2} = f(ATTITUDE_{t2}) = j (CS/D_{t2}, ATTITUDE_{t1})$	(4)
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Thus an individual's post-purchase attitude is a combination of their pre-purchase attitude and their satisfaction immediately following a purchase experience.

To summarise, purchase intentions are considered to firstly stem from an attitude to a service (uninfluenced by actual experience) which is later modified by subsequent real experiences of the service on offer. Through the disconfirmation process, the initial perceived service quality is revised by actual experience. This may continue indefinitely, each experience modifying the previously conceived attitude. Prior experience forms the anchor for subsequent service quality conclusions which are stimulated upward or downward by real experiences. Thus, customer satisfaction experiences lead to the formation of an attitude which influences their consequent purchase intentions and acts as a basis for their expectations about future interactions. Substituting equation 1 into equation 4 results in a general model for customer service attitude depicted in Figure 13 and displayed in Equation 5.

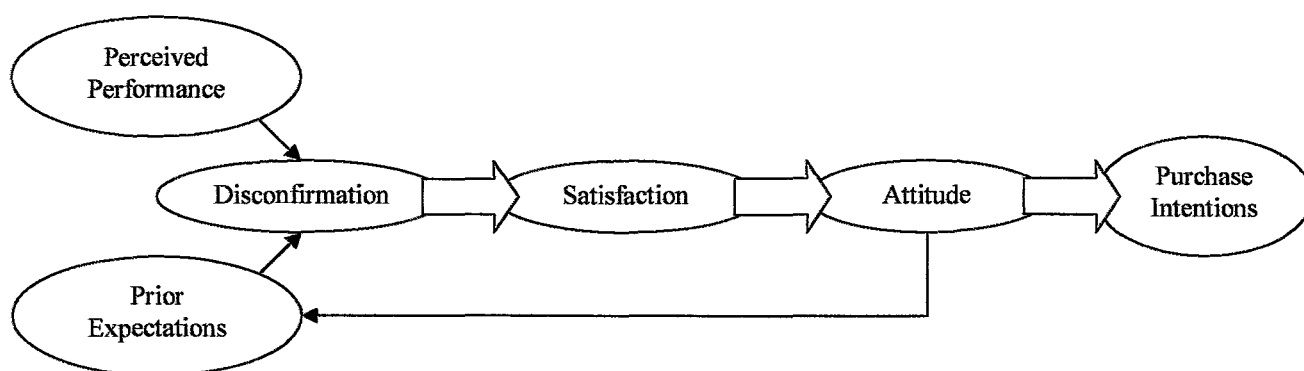


Figure 13 - The antecedents of consumer purchase intentions

$PI_t = ATTITUDE_t = k (DISCONFIRM_t, PERFORM_t, PERFEXPECT_{t-1}, ATTITUDE_{t-1})$	(5)
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This model proposes that a customer's purchase intentions are a direct function of their attitude towards a service provider which in turn depends on their prior attitude modified by the disconfirmation between their prior expectations of performance and their perceptions of the firm's performance.

2.4 - SERVQUAL - A conceptual model of service quality

In 1985, Parasuraman et al. developed a framework of service quality and offered up many theories and ideas for further research which spurred additional work by the same authors and the publishing of a model they called the "gap analysis model". As part of their work, they defined service quality as the degree of discrepancy between what the customer *expects* (E) by way of service quality from a class of service providers (e.g. all electrical utilities), and their *perceptions* (P) of the performance of a particular service provider (e.g. Eskom).

In developing their SERVQUAL instrument, Parasuraman et al followed well established procedures for designing scales not necessarily directly observable. In an extensive exploratory investigation of quality in four service businesses (namely, retail banking, credit card, securities brokerage, and product repair and maintenance) Parasuraman et al. (1985) build up a conceptual structure of service quality. 14 Executive interviews and 12 customer focus-group interviews produced a remarkably consistent pattern of responses despite the diversity of the groups. The focus groups unambiguously supported the notion that good service quality is about meeting or exceeding what customers expect from a service. This led Parasuraman et al. to compose their definition of service quality as, "the extent of discrepancy between customers' expectations or desires and their perceptions" (Zeithaml, 1990:19). The most revealing of all, from the researcher's point of view, was the discovery of certain criteria

used by customers in judging service quality. Ten general criteria or dimensions were initially identified:

Tangibles	Credibility
Reliability	Security
Responsiveness	Access
Competence	Communication
Courtesy	Understanding

The most important insight gained from the Executive interviews was the emergence of the GAP model of service quality (Parasuraman et al. 1985). A consistent set of gaps emerged as common throughout the businesses under study from which Parasuraman et al. developed the gap theory. This suggests that the gap between a consumer's expectations about a general class of service and their perception of the actual performance of a specific firm drives the consumer's belief about service quality (1985). These gaps were identified as being major hurdles to the delivery of perceived high quality service. The gaps identified and the GAP model as a whole is shown in Figure 14.

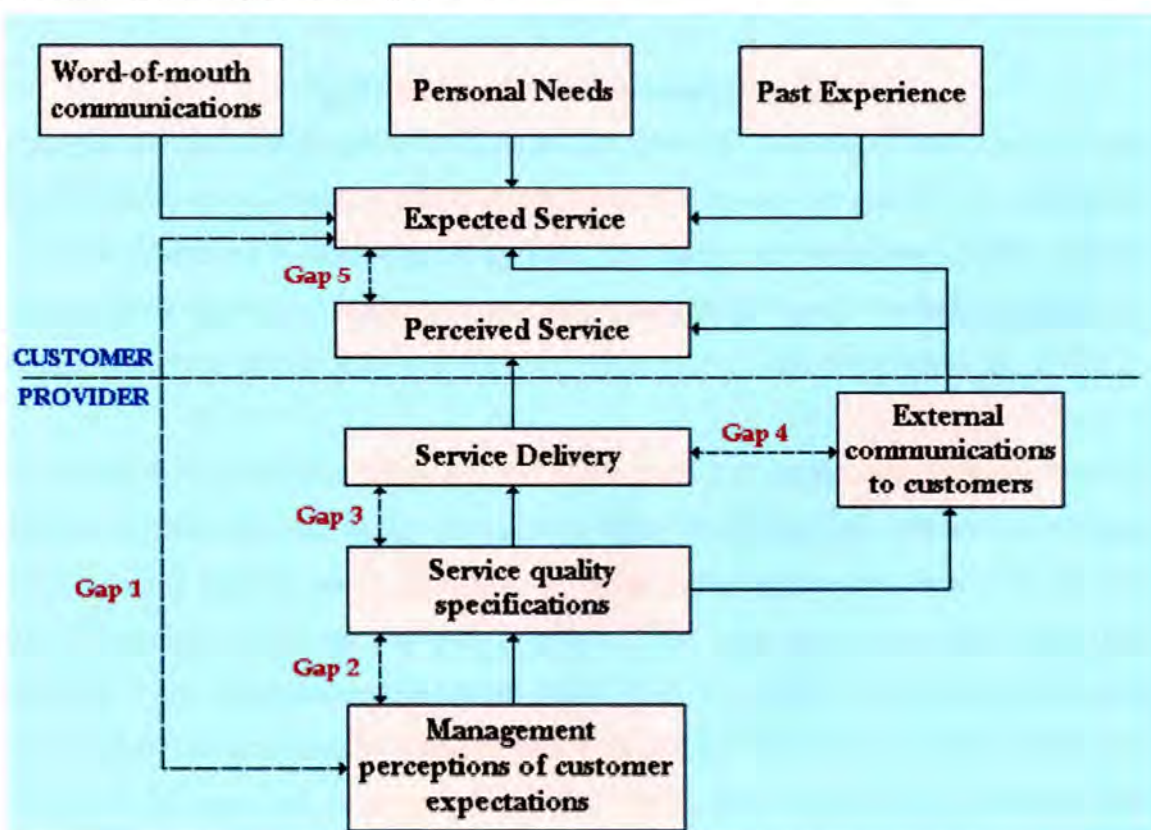


Figure 14 - SERVQUAL service quality gap model

Source: Zeithaml et al., 1990:46

The conceptual model in Figure 14 sends a clear message to managers who need to improve the quality of service in their firm. The SERVQUAL instrument measures gap 5 and the key

to closing it (and thus receiving a higher overall satisfaction score) is to close gap 1 - the discrepancy between customers' expectations and managements' perceptions of those expectations; gap 2 - the discrepancy between managements' perceptions of customers' expectations and service quality specifications; gap 3 - the discrepancy between service quality specifications and actual service delivery and gap 4 - the discrepancy between actual service delivery and what is being communicated to customers about it.

According to Zeithaml et al., gap 1, "not knowing what the customers expect, is the first and possibly most critical step in delivering quality service" (1990:51) and sometimes this happens because companies overlook or underestimate the importance of fully understanding customers' expectations. Their research indicated three factors that contribute to gap 1 and these are illustrated in Figure 15.

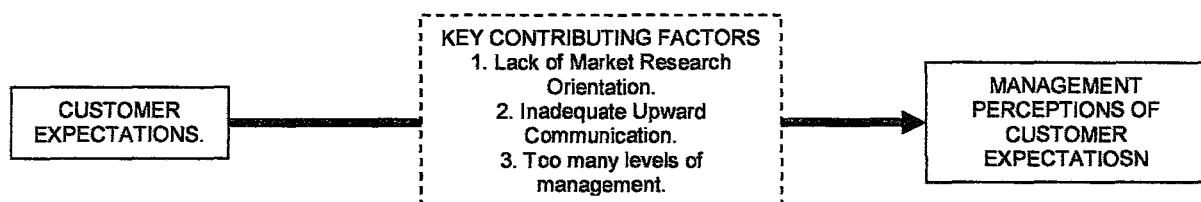


Figure 15 - Key factors contributing to gap 1

To address the lack of orientation towards market research, a company must focus its' market research efforts on discovering customer perceptions of its service quality on a regular basis. Key client studies are encouraged especially for large and important clients. Ultimately however, these efforts will amount to nothing if management are not educated regarding the findings from these studies and build them into their action plans (Zeithaml et al., 1990).

Building on their qualitative phase and the dimensions they unearthed, the team undertook a quantitative research phase to develop an instrument for measuring customer perceptions of service quality. Initially work identified 97 items capturing the 10 dimensions of service quality identified during the exploratory phase. Each item was then recast into a pair of statements - one to measure expectations about firms in general within the service category being studied, and the other to measure perceptions about the particular firm whose service quality is to be assessed. A seven point 'likert' scale accompanied each statement ranging from 7 (strongly agree) to 1 (strongly disagree). The 97 item instrument was then refined through a series of repeated data collection and analysis steps and all items that failed to discriminate well were eliminated. This resulted in roughly two thirds of the original items being discarded and consolidation of seven of the dimensions into two 'new' ones, assurance

and empathy. SERVQUAL, the resultant instrument consisted of five dimensions (Tangibles, Reliability, Responsiveness, Assurance and Empathy) and 22 items as defined in Table 4. Four or five numbered items are used to measure each dimension. The instrument is designed to be administered twice in different forms, first to measure expectations and second to measure perceptions. Statistical analysis revealed considerable correlation among items. It was also shown to be both reliability and validity when subjected to further empirical tests (Parasuraman et al. 1988).

Dimensions	Definition	Items in scale
Reliability	The ability to perform the promised service dependably and accurately	4
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence	5
Tangibles	The appearance of physical facilities, equipment, personnel and communication materials	4
Empathy	The provision of caring, individualized attention to customers	5
Responsiveness	The willingness to help customers and to provide prompt service	4

Table 4 – Five dimensions of revised version of SERVQUAL

In 1991, Parasuraman et al. published a follow-up study which again refined and polished their previous work. Wording of all expectations items changed. Their 1988 version had attempted to capture respondents' normative expectations. For example, one 1988 expectations item read: "Companies offering ——— services should keep their records accurately". The revised wording focused on what customers would expect from "excellent service companies". The sample item was revised thus: "Excellent companies offering ——— services will insist on error-free records". Detailed wording of many perceptions items also changed. Two new items, one each for tangibles and assurance, were substituted for two original items. The tangibles item referred to the appearance of communication materials. The assurance item referred to the knowledge of employees. Both references had been omitted in the 1988 version.

Analysis of SERVQUAL data can take several forms: item-by-item analysis (e.g. $P1 - E1$, $P2 - E2$); dimension-by-dimension analysis (e.g. $(P1 + P2 + P3 + P4/4) - (E1 + E2 + E3 + E4/4)$, where $P1$ to $P4$, and $E1$ to $E4$, represent the four perception and expectation statements relating to a single dimension); and computation of the single measure of service quality $((P1 + P2 + P3 + \dots + P22/22) - (E1 + E2 + E3 + \dots + E22/22))$, the so-called SERVQUAL gap. Either way, SERVQUAL was the first serious attempt to measure service quality and continues to remain an influential and important tool in customer satisfaction studies.

2.5 - Criticisms of SERVQUAL

Despite the widespread acceptance of SERVQUAL and its substantial contribution to the understanding of the concept of service quality, there are serious criticisms of it as a valid and reliable instrument. For example, Carman proposed that there is little theoretical or empirical evidence which backs-up the use of the perceptions-expectation gap as a sound measure of service quality (1990). Actually, there is considerable weight in literature which supports simpler performance only based measures of service quality. What follows is a discussion of several of the key criticisms which have been levelled at SERVQUAL that need be taken into account when using it as a research instrument.

2.5.1 - The validity of the expectation-performance disconfirmation paradigm is questionable

As part of their research, Bolton and Drew held 50 in depth interviews with telephone company customers which yielded many references to current performance but very few (less than 1 percent) of those interviewed referred to expectations (Bolton and Drew, 1991b). This lead them to conclude that because the telecoms industry is well established and stable, expectations become passive in the minds of the customer and are not actively used to compare against current performance. They eventually discarded 'expectations' as a factor from their customer satisfaction model of a continuous service provider. Concluding that overall attitude to service quality could be written thus:

$\text{ATTITUDE}_t = k (\text{DISCONFIRM}_t, \text{PERFORM}_t, \text{ATTITUDE}_{t-1})$	(6)
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This implies that both the disconfirmation process and performance modify a consumer's current perceptions of service quality but significantly, Bolton and Drew's results advocate that the major influencing factor is *current performance*. The influence of disconfirmation by comparison, diminishes with the passage of time, is transitory and much less significant than current performance in customer perceptions of overall satisfaction (Bolton and Drew, 1991a).

Cronin and Taylor propose that this calls the use of the disconfirmation framework alone as a measure of service quality (as with SERVQUAL) into question (1992). If this line of thinking is correct, then disconfirmation merely modifies perceptions of service quality, it does not define it. Satisfaction merely mediates the effects of prior period perceptions of service quality to form a new attitude towards it. Cronin and Taylor find little theoretical or empirical

evidence to support the expectations-performance gap as a basis for measuring service quality. This is in agreement with Bolton and Drew's findings.

To take this line of reasoning further, if a consumer has no prior experience of a firm's services, then their initial perceptions of service quality would surely have to be based on perceived performance alone. They have no previous interactions with the firm upon which to build expectations and thus cannot apply the disconfirmation paradigm. This does not happen in reality, even a first time user of a service has some expectations. On what does the consumer base this expectation? Woodruff et al. argue that *experience based norms* predominate in the absence of a real service experience (1983). These are what consumers believe should be possible given their exposure to similar brands. Over time, if frequent interactions occur, the customer will build their own set of expectations and rely less and less on norms.

In the Eskom context however, where they are a monopoly provider of a continuous service, the consumer has very few, if any, brands upon which to base their norms. The definition of the norm is vague in the mind of the customer. Additionally, with the majority of continuous service providers (including Eskom), the customer interacts with their service provider infrequently and thus the time period between disconfirmation experiences is long. (The literature is silent on the influence that time elapsed has on the weighting of the last disconfirmation experience but it is surely of importance and deserving of further research.) The result is an Eskom customer with only a vague and personal belief as to what is the norm in the industry *and* infrequent interactions with the company on which to form their own opinions. Thus, in the absence of a sound expectations belief, the validity of the disconfirmation paradigm, which by definition relies on a comparison between expected and perceived performance, becomes questionable in the context of a monopoly, continuous service provider such as Eskom.

In support of this, Oliver (1989) proposed that customers of continuous service providers, or those that purchase long lasting durable goods, have passive expectations and that the effects of disconfirmation does not kick in unless some change in service occurs outside the norm. Oliver's notions suggest that customer perceptions regarding an electricity service should be affected by performance evaluation only with disconfirmation being largely insignificant. Being so stable, pervasive, and fundamental to modern living, electricity customers have an almost instinctive belief as to what constitutes a 'normal' electricity service. Consequently,

the satisfaction of Eskom's LPU customers will depend mainly on their current perceptions of performance with occasional disconfirmation effects when service encounters occur outside the usual frame of reference. This lends weight to the argument that the use disconfirmation as a measure of service quality must take into account that its effect will most like be small and in the case of Eskom, smaller still. When it comes to performance however, receivers of a continuous service, like electricity, can easily assess the company since the product/service is on continual display. Service interruptions are noticed almost immediately and have a real and direct impact on the lives and businesses of those affected. As such, there will be a strong expected correlation between current performance levels and customer satisfaction.

Thus for a continuous service (or similarly, a long lasting durable product), assessments may revolve solely around performance judgments. This was confirmed empirically by Spreng and Mackoy (1996:210) who concluded in a telecoms industry study that "the disconfirmation of expectations does not have a significant effect on perceived service quality". They do not discount the impact of the disconfirmation of expectations totally but rather that their effect is an indirect one through perceived performance.

LaTour and Peat (1979) also question the valid use of disconfirmation by a consumer in evaluating a product or service. They argue that the consumer's evaluation of a product's attributes for example, will account for more of the post purchase satisfaction than their prior expectations regarding performance. They illustrate their argument through the following example. A consumer forced to purchase a perceived inferior brand because of the unavailability of the preferred product will seldom be 'satisfied' with the purchase regardless of how low their expectations were of the alternate product. This because they will perceive the performance of the product to be sub-optimal when compared to what they *could* have bought.

Use of performance measures without measuring expectations helps to avoid uncertainty and hence unreliability in measuring consumers perceptions. Research by Oliver (1997) highlighted that people use different standards and norms when forming expectations and thus research results cannot be judged to be consistent across large populations of research participants. Additionally, the statistical validity of difference scores (between expected and perceived performance) has been raised as a psychometric issue (Chiou and Spreng, 1996) and cast further doubt over their correct use in research methodology. Furthermore, empirical

evidence suggests that difference scores have unstable factor structures from one application to the next (Babakus and Boller, 1992).

2.5.2 - SERVQUAL Ignores the importance of items

In his study, Carman raised significant theoretical and practical concerns regarding the validity of analyzing the difference between expectations and perceptions which led him to suggest that "the difference between expectation and perception should not be factor analysed" (1990:48). Interestingly, Carman proposed that measurements of expectations were not based on experience (as proposed in theory and the premise upon which the gap model is based), rather that consumers expectations could be described as aspects of the service they perceived to be important. By measuring expectations, Carman proposed, what is in fact being measured, albeit indirectly, are the importance perceptions of the customer.

Intuitively this makes sense, that the importance of an attribute is more relevant than its expected level. If attitude theory is applied to service quality (Q), a multidimensional construct composed of the differences between perceptions (P) and expectations (E) then factoring in importance (I) which is not included in the classical PZB model;

$Q = \sum I_i (P_i - E_i) \text{ for } i = 1 \text{ to } K \text{ (no of service attributes).}$ (Parasuraman, Zeithaml and Berry 1986, 1988; Carman 1990, Teas 1993a.)	(7)
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PZB use SERVQUAL to collect information for P_i and E_i and then infer I_i through regression analysis. Carman proposes an improvement when applying SERVQUAL in a new context, recommending that data on all three dimensions is collected initially and that if when/if the factor structures of importance and expectation stabilize, that following administrations of the instrument might only include the perceptions of performance section. The scales should then be refined by factor analysis and reliability tests before acceptance as a commercial management tool (1990:50). Carman adds in his conclusion that "a complete attitude model of service quality must measure the effects of the importance of individual attributes on perceptions of quality (1990:51).

Martilla and James conclude that "importance-performance analysis has been found to be a useful technique for evaluating the elements of a marketing program" (1977:77) and that it provides management with a useful focus for developing marketing strategies. A more contemporary study by Ennew et al. agrees that a comparison of mean scores on the *importance* of service attributes and an organisation's perceived *performance* in delivering

those attributes provides an uncomplicated gauge of how well a certain service meets an individual consumer's requirements (1993).

Zeithaml et al. suggest that it is reasonable to expect that customers would consider all five criteria of the SERVQUAL instrument to be quite important. They asked users in four service sectors to rate the importance of each SERVQUAL dimension on a ten point scale (1 = not at all important to 10 = extremely important) and found that all five dimensions were considered critical (1990). The mean importance ratings for reliability, responsiveness, assurance and empathy were above 9 for all four services (1 936 responses received) with only tangibles scoring a relatively low score in the range 7.14 to 8.56. The fact that the importance weights were explored at all by the originators of SERVQUAL and then reported in some detail (1990), shows that there is indeed diagnostic value in knowing for instance that consumers in the Telecomms Industry rate reliability importance 9.67 and tangibles 7.14 (1990:27). In 1991, Parasuraman et al. confirm in their reassessment of the SERVQUAL scale that "direct measures of the importance of various service attributes are also useful" (1991:424). This information assists management to focus resources on what is uppermost in the minds of the consumer and thus adds value. To include importance weights per item (as opposed to just the five high level dimensions) would surely add even greater value and should be considered.

2.5.3 – The use of 'expectations' as a measure is invalid

In their 1988 work, Parasuraman et al. proposed unambiguous support for the notion that service quality is perceived by consumers as the degree and direction of a comparison between what they expect firms should offer and their perceptions of the performance they do offer. They defined expectations as "desires or wants of consumers, i.e. what they feel their service provider should offer rather than would offer" (1988:17). The expectations component was designed to measure "customers' normative expectations" and is influenced by word-of-mouth communication, external communication, personal needs and past experience (Zeithaml et al., 1990:19).

Teas found these explanations vague and the results of his empirical tests indicated that it is conceptually unclear what the SERVQUAL 'expectations' (E) signifies (1993a). He questions whether respondents to the instrument would all interpret expectations in the same way. He proposed that they may use any one of six interpretations (1993b).

- *Service attribute importance.* Customers may respond by rating the expectations statements according to the importance of each.
- *Forecasted performance.* Customers may respond by using the scale to predict the performance they would expect.
- *Ideal performance.* The optimal performance; what performance "can be".
- *Deserved performance.* The performance level customers, in the light of their investments, feel performance should be.
- *Equitable performance.* The level of performance customers feel they ought to receive given a perceived set of costs.
- *Minimum tolerable performance.* What performance "must be".

Teas ascribes the variance of SERVQUAL expectations scores in part to these different definitions in the mind of the consumer as to what is meant by 'expectations'. Thus, this portion of the SERVQUAL model lacks discriminate validity according to Teas (1993a).

The theoretical basis for using expectations as a mathematical measure of service quality also does not stand up to scrutiny. For example, a consumer who approaches a service encounter with a low expectation ($E = 2$ say, on the SERVQUAL 7 point scale) and then has their perceptions (P) met by rating the performance they receive also a 2, the resulting gap score of 0 would indicate satisfactory service quality. What about the situation where the $P-E$ score is 0 when both P and E are judged to be 7? Is service quality similar in both situations as SERVQUAL would indicate? Surely this is not the case and Gronroos (1993:61) coined the phrase "bad-service paradox" for just such a situation. Similarly, is an expectation score of 5 for a fast food restaurant the same as an expectation score of 5 for a sophisticated French restaurant?

Consider also that SERVQUAL requires expectations to be formed in the context of the set of competing service providers. The expectations battery asks questions such as, "Employees at excellent companies will be neat appearing" where the type of industry is inserted depending on where the survey is taking place. In the case of Eskom, 'Electrical Utility' could be inserted. A logical assumption is that the expectations (E) would be the same for all the members of the set 'Electrical Utility'. Consequently, when calculating the $P-E$ gap, the same value of E would be subtracted from the various P scores since each respondent would supply only one set of E scores for every member of the set, but as many sets of different P scores as there are members. Teas (1993a) proposes that this makes E redundant since vectorially it has the same affect on every P measurement and can thus be ignored or

alternatively, not even measured. By equation 7, service quality Q is the sum of the (P-E) gaps and given that E would be the same for every member of the consideration set, Q will be perfectly correlated with the summated P scores. Therefore, the E component will provide no additional value beyond that to be gained from the performance component of the survey scores.

It seems unlikely that the debate about the meaning of expectations is over and as long as it continues the validity of using expectations (and thus the P-E gap) as a measure of service quality will be hotly contested (Buttle, 1996).

2.5.4 - It is process rather than outcomes focused

SERVQUAL focuses on the process of service delivery, not the outcomes of the service encounter. Critics have argued that outcome quality is missing from Parasuraman et al's formulation of service quality (Cronin and Taylor, 1992; Richard and Allaway, 1993). In the latter study of the application of SERVQUAL in the context of a Pizza Parlour, the authors found that process items from SERVQUAL accounted for less of the variance in customer choice than the outcome items. They thus conclude that the outcome items are a better predictor of customer satisfaction and thus customer choice than the process items. To take this argument to its logical conclusion, a tool that measured results (such as SERVPERF discussed later in this chapter) would be a better predictive measure of consumer satisfaction and behaviour than one which focuses mainly on process issues, such as SERVQUAL.

2.5.5 - Item composition may be inadequate

Each factor in the SERVQUAL tool is made up of four or five items (see Table 4) and it is clear that this is inadequate to capture the variance within and/or meaning of each dimension. Buttle summarises the number of items used in a variety of studies that use SERVQUAL as a basis and the number ranged from 48 to 15 (1996:21). Parasuraman et al. acknowledge that context specific items may be added (or redundant ones removed) as long as they are similar in form to the existing SERVQUAL items (1991). Too many items would make any tool impractical to apply whilst too few would not adequately capture the essence of the topic under investigation – clearly, the number of items is highly variable and requires further analysis within a specific context.

2.5.6 - The 7 point Likert scale is problematic

Criticism of the 7 point scale revolves around the lack of labelling for points 2 to 6 and Lewis (1993) believes that each point should be verbally labelled to avoid the overuse of the extreme ends of the scale. Specifically the mid point of the scale she believes could be confusing and could be taken to be a "don't know" response. Babakus and Mangold (1992) also advise against the use of a seven point scale as it "frustrates" the respondents, giving them too many options. They propose a five point scale will increase response rate and improve the quality of the responses.

2.5.7 – SERVQUAL's dimensionality is questionable

Critics have raised a number of significant and related questions about the dimensionality of the SERVQUAL scale. The most serious concern the number of dimensions and their stability from context to context (Buttle, 1996). Although there appears to be consensus that service quality is a second order construct (i.e. it is factorially complex, being composed of several first order variables), there are many alternate proposals as to the actual number of first order dimensions. Parasuraman et al. (1988:31) initially maintained that although the SERVQUAL instrument was designed to be applied across a broad gamut of services, it was still only a basic outline; that it's "skeleton, when necessary, could be adapted or supplemented to fit the characteristics or specific research needs of the particular organization." Later in the same year however, one of the original researchers put forward that while certain attributes may be product specific, consumers form a higher order concept of quality that can be generalized across brands and products (Zeithaml, 1988). This change of heart was continued in their 1991 paper, in which they found evidence of "consistent factor structure...across five independent samples" (Parasuraman et al., 1991b:432). This apparent change of view implies a belief by the creators of SERVQUAL that the five dimensions are generic across different service environments.

Carman was one of the first to test the validity of the dimensions of SERVQUAL empirically using the ten dimensions of the original tool in four different service settings. He found that construct validity (i.e. factors in the PZB analysis loaded onto the same factors in the replications) was 'fair' as was nomological validity (items expected to load together actually did). It was in the area of discriminant validity however, that Carman's research opened the door on doubt as to whether all the dimensions proposed were in practice different from one another (1990). Carman disagreed with several of the combinations of dimensions as

suggested by PZB in their revised tool (1991), (e.g. combining understanding and access into empathy) and even proposed that additional items be added on new factors believed important in the quality equation of the industry under study (1990). On the other hand, users were also encouraged by his findings to omit items that pre-testing showed to be irrelevant in the particular context.

In practice, the SERVQUAL instrument has been modified from nine factors in Carman's hospital research (1990) all the way down to only one in Babakus et al.'s survey of an electrical utility company's customers (1992). These researchers were not alone in concluding that with the exception of the findings of Parasuraman et al., their empirical data did not support the concept of service quality being generically described by the five SERVQUAL dimensions (Buttle, 1996). In support, Babakus and Boller (1992:265) added that, "the domain of service quality may be factorially complex in some industries and very simple and uni-dimensional in others". Basically, the service industry under review will determine the number of independent dimensions that will adequately describe it.

Not only is the number of dimensions being challenged by empirical research but also the lack of discrimination between several of the dimensions. Spreng and Sing for example found a correlation of 0.97 between Assurance and Responsiveness indicating that these were not discrete constructs (1993). Similarly, the 5 component structure proposed by Zeithaml et al (1988) for SERVQUAL could not be confirmed by the research of Cronin and Taylor which lead them to conclude that scale items that define service quality in one service industry may be different in another and in fact, "the number of constructs other researchers could add to the models is probably unlimited" (1992:65). These empirical results all suggest that service quality needs to be viewed as an 'umbrella' construct with the number of distinct dimensions depending upon the context in which it is studied and that the five explored by SERVQUAL are not generic.

Parasuraman et al. suggest two reasons for the differences in reproductions between empirically derived factors (1991). The differences may stem from different data collection and analysis procedures or there may exist across dimension similarities and/or within dimension differences in evaluations of specific companies in different contexts. They show that the five SERVQUAL dimensions do overlap in some instances but explain this through their approach to confirmatory factor analysis and rotation in a quest for factor patterns. It

thus appears safe to conclude that both contextual situation and analytical processes have some influence on the number of SERVQUAL dimensions and that the latter are not fixed and firm.

If, as appears to be the case, the dimensionality of service quality varies according to the industry or service under study, then the challenge for any researcher is to first identify the dimensions inherent in their area of interest and only once these have been established, to design and put into operation a service quality measurement instrument. In the electricity industry there are several sources that can be examined for clues as to what the dimensions that make up service quality in an electrical utility may be. Several that have been identified and explored and are summarized below.

2.5.7.1 – The Dimensions used in MaxiCare

Eskom's MaxiCare customer satisfaction measuring tool has eight elements namely; accounts, advice, call centre service, staff interface, environment, pricing, safety and supply quality. Table 5 summarises the eight sections and captures some example questions that are posed against each one.

➤ <i>Accounts</i>	Accounts from Eskom are accurate Accounts from Eskom are sent out on time Eskom deals efficiently with account queries The Eskom accounts are simple to understand
➤ <i>Advice</i>	Eskom provides sufficient advice on optimising your energy usage. Eskom's staff have the necessary technical knowledge about your business to provide quality energy advice Eskom provides information on how to keep your electricity bill low.
➤ <i>Call Centre Service</i>	Eskom's call centre answers your call promptly Eskom's call centre can be relied upon to deliver what it promises Eskom's call centre deals efficiently with your queries
➤ <i>Staff Interface</i>	Eskom staff are easy to contact. Eskom staff are quick to respond to customer requests.
➤ <i>Environment</i>	Eskom is concerned with the protection of the environment
➤ <i>Pricing</i>	Eskom provides electricity at a reasonable price
➤ <i>Safety</i>	Eskom promotes the safe usage of electricity
➤ <i>Supply Quality</i>	Eskom consults you when deciding on best times for planned interruptions Eskom informs you in advance of planned supply interruptions / Eskom advises you in good time of a planned interruption in the supply of electricity Eskom is quick to restore electricity in the case of failures Eskom electricity supply has minimal interruptions / Eskom supplies electricity with very few power failures Eskom supplies electricity of an acceptable quality Eskom supplies electricity at a constant voltage.

Table 5 - MaxiCare dimensions

2.5.7.2 – Dimensions uncovered through research by Isabel Jones

SA consumer advocate and journalist Isabel Jones was commissioned by Eskom executive management to visit every Distribution Region and interact with the customer base with a view to identifying the key performance gaps. She spoke with customers and staff to seek constructive input as to how to improve Eskom's service to the customer. She identified five

dimensions in the process which should be taken into account when formulating service improvement strategies (Brits, 2003:9).

- *Communication* – Having a conversation with the customer. Be an easy company to talk to, and listen to the needs of the consumer.
- *Professional Service* – Right first time and when things go wrong a structured and effective recovery plan.
- *Ownership* – Retain control over issues and pursue them until they are resolved. Do not pass issues on or sweep them under the carpet.
- *Empathy* – A critical ingredient that touches on many of the others. To have a feel for the customer, to walk in their shoes, to know what a service failure means to them and how it impacts their lives.
- *Personal Service* – Give the customer more than they expect and if possible do it to their face.

2.5.7.3 – Dimensions at play on the international stage

J.D. Power and Associate's annual studies are based on actual electrical utility customer satisfaction survey responses from millions of consumers around the world. For more than thirty years, the firm has been listening to consumers, analyzing their perspectives, and refining study methodologies. The result is one of the most comprehensive electrical utility customer satisfaction studies available. Originally known for its marketing information services for the automotive industry, the firm has expanded its scope in recent years to include electric utilities amongst others.

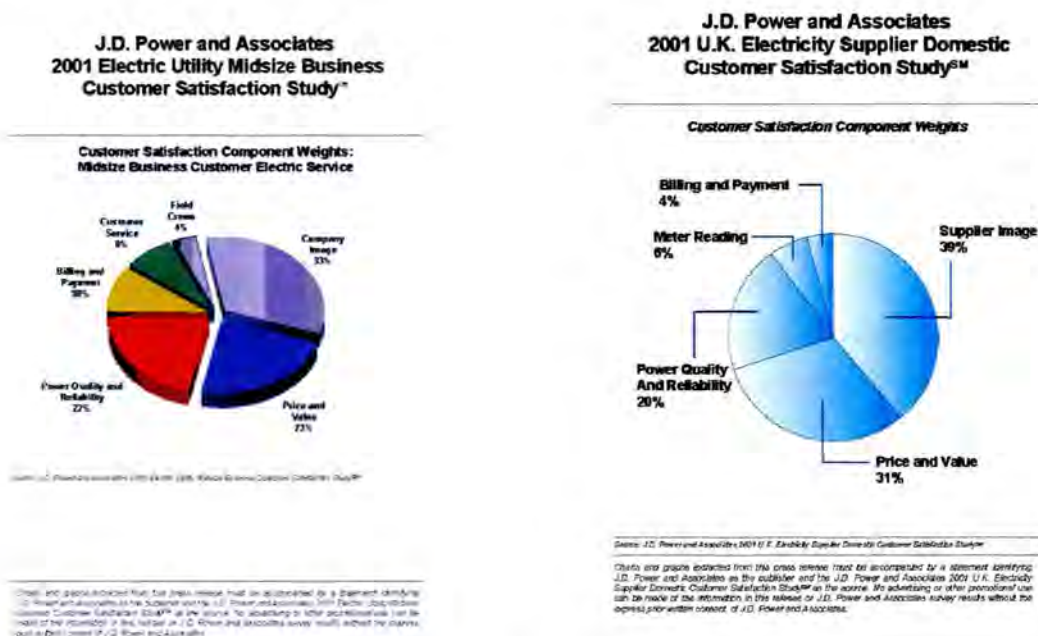


Figure 16 - 2001 Business (USA) and Domestic (UK) Customer Satisfaction Study Results from studies performed by JD Power in Electric Utilities.

Source: [online] <http://www.jdpa.com/studies/pressrelease.asp?StudyID=614&CatID=3>

Their analysis (see Figure 16) surprisingly shows that company image has the greatest impact on customer satisfaction, followed by price and value and only in third place, power quality and reliability. The other key components of overall satisfaction are billing and payment, customer service, meter reading and field crews. Table 6 is included to give examples of certain key dimensions identified and the ratings the best and worst utilities in the study achieved. For example, 45% of customers rated the top utilities a 9 or 10 on a 10 point scale when it came to quality products as opposed to 33% of customers who were served by the worst utilities. The reasons for these ratings is apparent from the average outage duration; 4.1 hours for the best, 8.4 hours for the worst.

Dimensions - what the best do best.	Utility Performance		Explanation
	Best	Worst	
Deliver a Quality Product	45%	33%	% of customers who rated utility 9 or 10 on a 10 point scale.
	4.1 hours	8.4 hours	Average Outage Duration
Deliver Value	35%	23%	% of customers who rated utility 9 or 10 on a 10 point scale.
	\$94.21	\$97.36	Monthly Electricity Bill.
Responsive Customer Service	50%	39%	CSR Solved Problem/Answered Question During 1st Call
	4 minutes	5.7 mins.	Average Hold Time
Communicate and Inform	37%	25%	Of companies effectively communicate changes affecting account or service.

Table 6 - JD Power selected customer satisfaction figures for key dimensions

JD Power conclude their findings by listing the most important factors to customers of electrical utilities as follows (in no order of importance):

- *Company Image* - Honest and ethical; Effectively communicates changes; Offer variety of services.
- *Price and Value* - Total monthly cost of service; Fairness of pricing; Helps reduce monthly bills.
- *Power Quality and Reliability* - Quality of electricity; Ability to avoid brief interruptions; Provide information during outages.
- *Billing and Payment* - Accuracy of bill; Quality of information on bill; Options to pay bill.
- *Customer Service* - Knowledge; Courteousness and friendly; Time needed to solve problem.

Research in New Zealand - As part of a restructuring of the former monopoly, the management of the Electricity Corporation of New Zealand (ECNZ) recognised an urgent need to ensure that its company culture and strategies become clearly focused on the customer. Consulting firm Colmar Brunton were very successful in identifying specifically what service attributes customers use to evaluate ECNZ, and current perceptions of ECNZ's performance. Individual interviews were conducted with industry decision-makers at their

business premises. Four key dimensions were revealed by the research as being uppermost in the customer's minds (Labett, 2003):

- *Reliability of Supply* – By far the most important for all users who feared restructuring would lower standards.
- *Relationships* - This was particularly important for operational decision-makers and larger power companies who felt a need to empowered to make decisions about who they wanted to deal with.
- *Information and Communication* - Sharing of information important to all, but especially so for smaller power companies who felt very out of touch and in the shadow of the larger corporations.
- *A Common Strategic Partnership* – Important that long-term strategic decisions and technology considerations were taken together by supplier and recipient.

2.5.7.4 – Dimensions identified by Ask Africa in their Eskom image study

In the first quarter of 2003, Q&A Research recruited and conducted six focus groups and nine in-depth interviews under the strict supervision of research house Ask Africa. The intervention was commissioned by Eskom's strategic marketing team to determine and quantify the main factors involved in how people form an image and perception of Eskom. The results were released in a report (Baughan, 2003) that primarily stressed the need for Eskom to listen to its consumers' problems. The research revealed a degree of isolation from the consumer on Eskom's part, due mainly to its sheer size. The way Eskom conducts business with ordinary customers needs to change according to the study and there is a need for more personal contact. At the moment, Eskom is perceived to be very impersonal and unresponsive. Many respondents appear to seek a closer and more understanding relationship with the giant monopoly. When asked about the ideal electrical utility, the following expectations were highlighted:

- *Accessible and Approachable*– easy to do business with.
- *Accommodating* – flexible and open to new ways of doing things.
- *Investment in Appropriate Technology* – strong perceptions that certain groups of customers were given inferior service and technology solutions.
- *Affordable, Transparent and Flexible Tariffs* – belief that certain segments are cross subsidizing others and that this needs to be out in the open. Cost was an obvious concern, the lower the better.
- *Open Communication Channels* – proactive information is readily available, complaints and issues dealt with in a personal way.
- *Efficient, Well organized and Cost effective* – is able to produce outputs of high quality, quickly and at low cost.
- *Honest, Transparent and Reliable* – the integrity of the organization must be above reproach, dishonesty, fraud and corruption must not be tolerated.
- *Knowledgeable trained staff*.
- *Safe* – the company must have a social conscience especially in the provision of a safe and environmentally friendly product.
- *Empathetic and Understanding*

- *Visionary* – consumers were concerned that the best electrical utility should be on the cutting edge and looking to stretch, learn and grow.

It is clear that there are many dimensions that make up customer satisfaction in an electrical utility context and that those covered by SERVQUAL are not exhaustive.

2.5.8 – SERVQUAL is inherently unreliable

“A measure is reliable to the extent that independent but comparable measures of the same trait or construct of a given object agree” (Churchill, 1979:65). Given this widely accepted definition, the research of Carman (1990) and Babakus and Boller (1992) casts doubt over the ability to replicate the SERVQUAL results in subsequent attempts and thus place question marks against its’ reliability.

Carman replicated and tested the SERVQUAL instrument and came to two important conclusions. Firstly he maintains that the wording and dimensions of the instrument are not completely generic and that they need to be adapted to the relevant context. His research confirms earlier arguments in this chapter that the delineation of the five components is not consistent when subjected to cross-sectional analysis. Some the items did not load on the same component when compared across different types of service providers. Carman suggests that the SERVQUAL factors were not so generic that users could not modify, add or even delete items. In fact this was highly recommended if they are important in the quality equation. Indeed, “the approach, customisation and testing required by any particular user is somewhat more substantial than suggested by PZB” (1990:36).

Secondly, Carman proposes that any complete model that purposes to measure service quality must include the effects of importance of individual attributes on overall perceptions (1990:51). Although PZB discuss importance in the SERVQUAL analysis they do so more as a validity check of their instrument (they infer values for importance from the measurements of perception and expectation) rather than as an explicit measure and but a discussion regarding the inclusion of importance has already been covered.

Babakus and Boller performed an empirical assessment of the SERVQUAL scale with the co-operation of an electric and gas utility in the USA. They first ascertained from executive and operational personnel that the attributes of SERVQUAL are applicable to their industry before mailing out 2375 questionnaires to residential customers (1992). Their assessment of

reliability yielded similar results to those obtained by Parasuraman et al (1988) but are seen to be "generally unimpressive". So too, after assessing the dimensionality of the tool, Babakus and Boller conclude that "the proposed dimensionality of SERVQUAL is problematic" (1992:259).

Babakus and Boller went on to explore the correlation between the scores for overall quality perceptions and those for perceptions of performance, expectations and the difference scores between the two. They found a correlation factor of 0.59 for the difference score (which would be expected to show the greatest correlation if the underlying gap theory of SERVQUAL is valid), -0.01 for expectations and highest of all, 0.66 for perceptions of performance (1992:264). Hence the expectations scores did not contribute materially to the difference scores and that by far the most dominant component was the perceptions of performance scores. These results support Carman's (1990) conclusions regarding the difficulties associated with the measurements of expectations and their valid use to gauge overall service quality perceptions.

Also, SERVQUAL proved to be essentially one-dimensional in this study and hence Babakus and Boller propose that the possibility exists that consumers may form an overall singular dimensional notion of service quality for utility services similar to Eskom. They add that this may be due to the degree of consumer involvement with the service and in most cases services are delivered in a continuous fashion with face-to-face contact only required when a specific problem arises. As long as the basic continuous provision of electricity or gas continues uninterrupted, the customer has little, if any, contact with the service provider (1992). As with Eskom, the utility in which they performed this study was a monopoly which denies the consumer a frame of reference with which to compare service levels. Babakus and Boller maintain that under these conditions, which are very similar to those found in South Africa and Eskom, that it is reasonable to expect relatively simple constructs of perceived service quality as opposed to factorially complex and multi-dimensional domains. The relationship between levels of consumer involvement (low/high) and provision of services (continuous/discrete) is proposed as an area for further research.

Although the studies of Carman (1990) and Babakus and Boller (1992) failed to replicate SERVQUAL's five distinct dimensions and validity, perhaps the most intense criticism of the SERVQUAL scale has come from Cronin and Taylor (1992) who developed a "performance-

based alternative" service quality measurement scale they christened SERVPERF. SERVPERF was designed after taking into account most of the criticisms levelled against SERVQUAL up until that time.

2.6 - SERVPERF, an alternate approach to SERVQUAL?

Despite all the debate in the literature, as recently as 1992, Cronin and Taylor concluded that "important relationships between service quality, customer satisfaction and purchasing behaviour were still little understood and needed to be examined further" (1992:55). Cronin and Taylor reviewed alternate attitude models and literature and reached three main conclusions (1992):

1. Perceived service quality is best conceptualised as an attitude.
2. That the empirical research of Mazis et al. (1975) into 'adequacy-importance' models (as christened by Cohen et. Al. 1972) as the most effective models for management who aim to predict consumer behaviour and intention (1992:57) is valid. These models determine an individuals attitude by their *importance weighted* evaluation of the *performance* of specific dimensions of a product or service.
3. Current performance adequately captures consumer's perceptions of the service quality offered by a service provider.

Cronin and Taylor then set about testing these conclusions empirically through a performance based alternative to SERVQUAL, namely SERVPERF. Basing the scale on the earlier work by Bolton and Drew who concluded that recent performance ratings powerfully influence attitudes while the effects of disconfirmation are in the main insignificant and momentary (1991a), Cronin and Taylor initially accept the validity of the 22 individual items that make up the SERVQUAL scale and support the procedures used to develop the items (1992). They believe that the 22 items satisfactorily cover the domain of service quality and so use the same items in their SERVPERF alternative.

They tested four alternatives,

- A. SERVQUAL: Service Quality = (Performance – Expectations).
- B. Weighted SERVQUAL: Service Quality = Importance * (Performance – Expectations).
- C. SERVPERF: Service Quality = Performance.
- D. Weighted SERVPERF: Service Quality = Importance * (Performance).

Based on Bolton and Drew's findings (1991b), the addition of weights was not expected to improve either scale and indeed, Cronin and Taylor found that both the unweighted versions of SERVQUAL and SERVPERF explained more of the variation in the measure of service quality than the weighted alternatives (1992). Cronin and Taylor conclude that their unweighted performance based measure of service quality (SERVPERF) is a better measure of service quality than either SERVQUAL, or weighted SERVQUAL and weighted SERVPERF and that, "SERVPERF explains more of the variation in service quality than does SERVQUAL" (1992:64).

This important empirical study confirms and supports the mass of literature support for the notion that service quality should be conceptualized and measured as an attitude and that modern approaches to customer satisfaction measurement should be based solely on performance measures. "The weight of evidence clearly supports the use of performance-based measures of service quality" (Cronin and Taylor, 1992:64). Further, Cronin and Taylor's results highlight that the 5 component structure proposed by Parasuraman et al. in 1988, "is not confirmed in any of the research samples" (1992:61). The items that define service quality in one industry may be different in another. They also suggest that the number of constructs a researcher could add is almost endless. In practice, a balance needs to be found between a tool that is practical but also encompasses the key dimensions of the service sector (1992).

Subsequent research shows practical support for the strong focus on performance perceptions to measure service quality. Churchill and Surprenant's study investigating the full set of inter-relationships among expectations, perceived performance, disconfirmation and satisfaction attempted to fill this important gap in the research up until that time. The study explored whether it is necessary to view disconfirmation as a major variable driving satisfaction as is commonly argued. They modelled two types of products, a non-durable good (chrysanthemum) and a durable good (video disk player) and manipulated levels of expectation and performance independently whilst studying the effects on overall satisfaction (1982). Surprisingly, the results differed for the two products. For the plant, the results were as hypothesized, that disconfirmation could be translated into customer satisfaction i.e. that there was a strong correlation between the two. When subjects perceived the product to be performing better than expected they were more satisfied with it and vice versa. However, for

the durable good, neither disconfirmation, nor the subject's initial expectations affected their satisfaction with it. Importantly, they found that performance was determined solely by the performance of the durable good. When it performed well, they were satisfied with it and when it performed poorly, they were not. The direct performance – satisfaction link accounted for 88% of the variation in satisfaction (1982:502). Whilst several reasons are suggested for this discrepancy, Churchill and Surprenant conclude that, whilst the statistical significance may vary, performance levels per se have a direct impact on satisfaction judgments (1982:503). Given this, managers must pay more attention to what levels of performance create the highest corresponding levels of satisfaction with products and in their context and should encourage research that provides evidence to aid them in that decision. Given the earlier discussion regarding the provision of a continuous service, these findings are powerful. Parallels can be drawn between durable goods and continuous services which imply that performance alone appears to drive long term overall impressions of customer satisfaction in industries which provide continuous services such as telecommunications and electricity.

As if in confirmation, using the results from an empirical study, Teas examines the criterion and construct validity of eight different SERVQUAL models: un-weighted and weighted versions of the SERVQUAL (P-E), revised SERVQUAL (P-E), normed quality (NQ), and evaluated performance (EP) formulations. On the basis of correlation coefficients reflecting criterion and construct validity, he concludes that his EP formulation outperforms the others (1993). Another strong proponent for the performance based measure. Later that same year, Oliver (1993) shows that quality is largely a performance construct and thus it follows that performance has a direct impact on service quality judgments which directly affects customer satisfaction.

The SERVQUAL vs. SERVPERF debate is ongoing and researchers from both sides have released further arguments to support their positions, PZB 1994 and Cronin and Taylor 1994. However, most recent articles have supported Cronin and Taylor's (1992) performance-based paradigm over PZB's (1985) disconfirmation-based paradigm (Babakus and Boller 1992, Babakus and Mangold 1992; and Oliver 1993). One of the most telling reviews is provided by Boulding, Kalra, Staelin, and Zeithaml who state, "our results are incompatible with both the one-dimensional view of expectations and the gap formation for service quality. Instead we find that service quality is directly influenced only by perceptions" (1993:24). The weight of support for performance only measures of service quality and customer satisfaction appears to

be gaining momentum especially in the context of a monopoly provider of a continuous service such as Eskom.

2.7 - Summary of the literature reviewed and impact on research methodology

Customer satisfaction and service quality are essential constructs for management to internalise since they are directly linked to consumer behaviour and specifically purchase intentions. If a firm wishes to increase its overall financial position and long term sustainability, it is imperative that the decision makers in the organisation have a sound and common understanding of the satisfaction drivers in its particular market. Return on investment, return on assets and customer purchase intentions are all positively correlated to customer satisfaction and numerous organisations have started to focus on ascertaining the customer perceptions of service quality and subsequently devising strategies to deliver the same (Cronin and Taylor, 1992, 1994; Teas, 1993a; Zeithaml et al., 1990). The inability of Southern Region's management team to arrest the decline in customer satisfaction scores obtained through MaxiCare indicates that either the instrument is not providing them with sufficient detail upon which to act or that the tool itself is flawed. Either way, the satisfaction drivers amongst electricity consumers in the Region deserves further attention; hence this research endeavour.

From the start however, it is clear that there is a lack of consensus in the literature and among researchers about the definitions of customer satisfaction and service quality and the causal link between the two constructs (Parasuraman et. al. 1994). Specifically the view that many service quality researchers hold that customer satisfaction leads to service quality is contradictory to the causal direction implied in models specified by customer satisfaction researchers. This is most likely due to the global, overall macro attitude focus found in much of the service quality literature in contrast to the transaction specific focus in most customer satisfaction literature. Ultimately, this debate is of little value and whether a customer's long term opinion regarding a firm is called their attitude or whether it is called their perception of service quality, the fact remains that it is a cognitive formation of a belief towards a particular service provider formed over a long period of time. It is based on the cumulative effects of all the prior service encounters and the satisfaction or dissatisfaction thereof. Thus for the sake of this research, and for all similar exploratory research, attitude and perceived service quality are used interchangeably and similarly that macro customer satisfaction issues and overall

service quality be seen to be analogous. Since it is this attitude towards the firm/overall satisfaction/global perception of service quality (it is argued that in the long term these are the *same*), that drives consumer behaviour, it is this phenomenon which is studied in this empirical research as opposed to transaction specific experiences. It is only *transaction specific* satisfaction and service quality that should be viewed as a separate constructs and the distinction between the two possibly explored further in future research.

The SERVQUAL survey tool was designed to be applied across a broad spectrum of service industries and provided the basic framework for much of the early empirical service quality studies through its perceptions-expectations format covering the five service dimensions discovered by Parasuraman et al. It is this expansive approach to SERVQUAL that is one of it's weaknesses. In an attempt to design a survey tool that can be applied across many service sectors, it becomes generalized and the results thereof less meaningful to the researcher. This is similar to the criticisms of MaxiCare, that it is correct in establishing a declining customer satisfaction trend but does little to indicate to management how to arrest the decline and turn it around. There are further criticisms from many quarters.

The early research that went into the creation of SERVQUAL did raise important questions and theories regarding the process of attitude formation in the mind of the consumer. Amongst these was the 'Gap Model' and in particular, gap 1 which forms a delimitation of this research; to seek an understanding of the gaps (if any) between customers' expectations of performance and managements' perceptions of those expectations in Eskom Southern Region. Bottom line, the research methodology is designed to explore whether Southern Region's management team are in synch with the needs of their customers.

Despite the fact that SERVQUAL can be adapted where necessary to fit the context and research needs of a company by supplementing the existing five dimensions if necessary, and that the 'disconfirmation of paradigms' continues to garner support, many limitations indicate that it is not a complete picture of satisfaction formation or an ideal solution. There is little theoretical or empirical evidence to support the expectations-performance gap as a basis for measuring service quality and particularly the role and definition of expectations in the formation of long term impressions about service quality is strongly contested. As a result of these criticisms, and others, an alternate method of assessing service quality is employed in this study.

Firstly, the aim of the research is to study global impressions about the firm and is undertaken on the premise that this construct is analogous to both customer satisfaction and service quality in the long term. It is not intended to measure specific transaction satisfaction. To achieve this, the research must first explore the service quality dimensions specific to the context of the electrical industry because it is clear that these are variable and industry specific. Qualitative methods will reveal what is at the core of the customer's service needs and prove invaluable in designing a quantitative instrument which addresses the key dimensions with appropriately worded items. The SERVPERF instrument can be used as the foundation of the next phase because it has proven superior reliability to SERVQUAL and also takes into consideration many of the criticisms levelled at it. SERVPERF does away with the measurement of expectations and the disconfirmation paradigm in line with the contemporary thinking discussed in the preceding sections. It is thus solely a performance based measure of overall satisfaction. But since SERVPERF does not address the importance of items explicitly, these are added to take cognizance of the support for capturing importance perceptions (in addition to performance) and to explore the added usefulness and richness this may bring to the research.

"Excellent service is mostly a function of common sense and passionate leadership. The problem is that common sense is not that common" (Berry and Parasuraman, 1992:14). This literature review provides excellent guidance and advice upon which the methodology of this research is built to bring some common sense to Southern Region's leadership. The detailed methodology is described in the next chapter.

Chapter 3 – Research Methodology

3.0 Introduction

A post positivist paradigm has been adopted in that it was assumed that customer's subjective experiences were real and that these experiences could be understood through interaction. Also, that a convergent methodology of triangulation whereby both qualitative and quantitative data is gathered, was best suited to this task. Method triangulation as described by Denzin (1978:291) as "the combination of methodologies in the study of the same phenomenon" has been chosen as a vehicle of cross validating the two data sets in the search for congruent, comparable data. Method triangulation was achieved as the themes discovered through qualitative interview research were further investigated through quantitative research in the form of questionnaires. Within method triangulation was also achieved within the interview process due to the existence of two independent sample populations, namely Eskom customers and senior management.

In accordance with these broad goals, a three stage research process was followed as illustrated in Figure 17. Stage One, initial exploration of the topic through qualitative research and literature review; secondly, in stage two, utilizing the results and knowledge gained from the first phase to predict the drivers of customer satisfaction in Eskom and test these by way of a quantitative questionnaire. Finally, in the third stage, statistically analyzing the results from the questionnaire to test its reliability and validity, as well as to identify the customer satisfaction factors that are specific to the electrical industry through exploratory factor analysis. Each of these three stages and their constituent steps will now be outlined.

3.1 Stage One – Literature review and qualitative research

3.1.1 – Exploration of the theory and concepts that underlie the research through literature review

The previous chapter was devoted to an in depth analysis of the theory and contemporary literature in order to gain a thorough understanding of the underlying constructs of service quality and customer satisfaction. Academic as well as industry specific publications were examined for patterns that would give clues as to the satisfaction drivers in service industries in general and the electricity industry in particular. Significant findings were recorded and documented for use in the next phase.

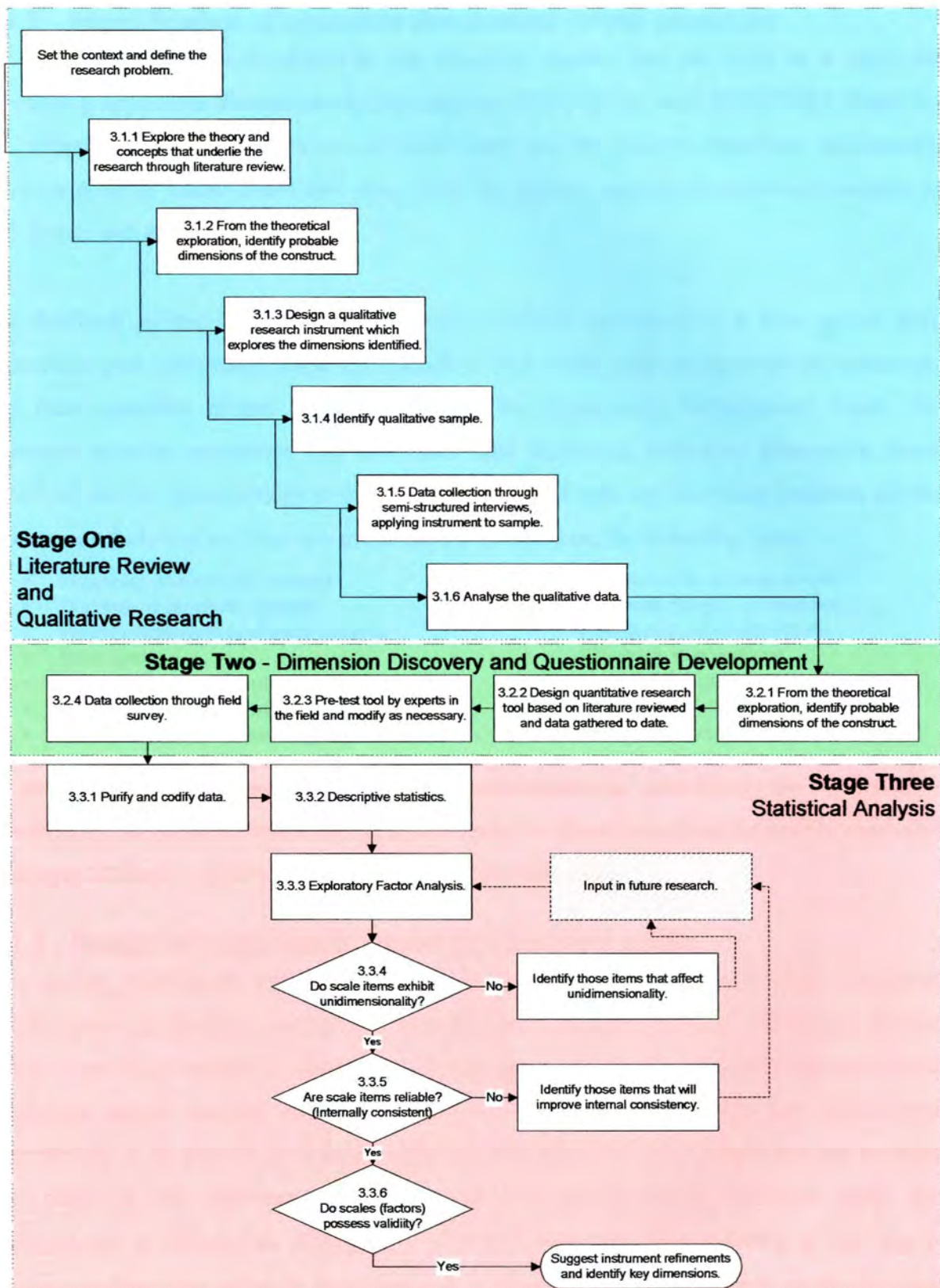


Figure 17 - Three stage research methodology process diagram

3.1.2 – Identification of probable dimensions of the construct

Six main sources were identified in the literature review, and are used as a basis for identifying applicable dimensions in this context; SERVQUAL and SERVPERF literature, the information from the MICare database (built on the Eskom MaxiCare instrument), research done by Isabel Jones and Ask Africa for Eskom, and the international research of J.D. Power and Associates.

The feedback gained from these sources was carefully examined by a four person team (researcher plus three others) selected because of their close relationships with the consumer. The team consisted of one senior manager of the Engineering Management Team, two customer account executives and the Sales and Marketing Manager. Discussion about perceived service shortcomings in the business combined with the MaxiCare feedback led the team to conclude that an interview guide should be based on the following areas:

- Frequency of electricity outages
- Duration of electricity outages
- Proper notification of planned outages
- Price issues.
- Communication – proactive notification
- Communication – plausible explanation
- Quality of Supply – dips, surges etc.
- Accuracy of accounts
- Provision of a one stop service
- Corporate Image – governance, competence, environment etc.
- Efficiency in operations
- Identification of positive performance
- Identification of areas for improvement
- Call centre operations and performance

It was agreed that, during the course of semi-structured interviews, the formulation, terminology and order in which the questions would be posed would not be strictly controlled as long as all the key issues and themes above were addressed.

3.1.3 - Design of a qualitative research interview guide

Interviewing techniques have been shown to be much more effective than a standard questionnaire in studying perceptions, attitudes and motivations (Judd, Smith and Kidder, 1991). It was thus decided to supplement the literature review with a series of semi-structured interviews before moving into the quantitative phase. Given that the root of in-depth interviewing is an interest in understanding the experience of other people and the meaning they make of that experience (Seidman, 1991), a semi-structured interview guide was designed and is included as Appendix 3. It is still important when working in this way to produce an interview schedule in advance, as it forces the designer to think explicitly about what they would like to have covered in the interview. Thus, the guide was little more than a basic checklist prepared to ensure that all relevant topics were covered and constructed logically so that one question would flow into the next as seamlessly as possible. This was a simple five step process of:

1. Defining the broad range of themes or question areas the interview needed to cover. These have been identified in section 3.1.2.
2. Putting these areas into the most appropriate sequence by following on one question with another in a logical sequence.
3. Thinking of appropriate open and non-leading questions related to each theme in order to address the issue of interest.
4. Suggesting possible probes and prompts which would assist the interviewer to gain an in depth response from the interviewee and to assist with the flow of the interview process.
5. Writing out the guide and testing it with colleagues, editing and re-testing until it was deemed a satisfactory tool.

3.1.4 - Identifying the qualitative sample

The complete customer details of the entire population of 887 large power users in the Eskom Southern Region Cordaptix database (as at the end of May 2003), were downloaded to an Excel workbook. This sampling frame contained all the relevant units of analysis, which may vary only slightly throughout the period of the study, and thus ensures that valid conclusions will be drawn. The data was sorted by customer service areas and separated into four separate lists; one per operational area: East London, Umtata, Colesberg and Port Elizabeth. The four subsets were then further sorted into the four biggest LPU customer segments: industrial, commercial, agricultural and residential. From within each of these sixteen strata, one customer was chosen using a random sequence generator (random.org, 2003). Thus, two codifying variables were chosen to arrange the data into stratified random sample of sixteen customers (one customer from each of four customer segments in each of four service areas). This overcame the potential bias a small sample may contain if it were to coincidentally contain more from one region or category than another. Such maximum variation sampling is recommended as the most effective strategy for interview studies (Seidman, 1991). Additionally, a smaller sample is required with stratified random sampling than with simple random sampling to ensure that important strata are represented in the sample. Given the time frames for the research, as well as the time taken to conduct interviews, it was important to keep the sample as small as possible.

3.1.5 - Data collection through semi-structured interviews

The interview guide that was developed (Appendix 3) was approved by senior management. The researcher then briefed and trained the team in proper interview techniques in an effort to improve method reliability. Semi-structured face to face interviews were held with the sample

population, as well as four members of the Southern Region management team, in an effort to seek a better 'thick description' of the perceptions, attitudes and motivations of the subjects (Judd et al, 1991:260). The interviewer was encouraged to interact with the individual being interviewed and to probe the respondents for further information if necessary. Contact names, telephone numbers, physical and e-mail addresses were confirmed for the sample. An interview and travel schedule was designed and letters sent to the customers outlining the importance of the interviews and how their valuable input would be used to improve Eskom's service to them. Telephonic follow up confirmed the arrangements for the date and time of the interview. These were scheduled for forty-five minutes but varied in length depending on the depth of responses offered and the skill of the interviewer in probing for additional information. Interviewers were asked to follow up all interviews with a letter of thanks and a small gift. The interviews were recorded to tape and transcribed into MS Word.

3.1.6 - Qualitative data content analysis

Content analysis is about organising the substantive content of the interview: the content that is of substance. Thus, there were two key parts to the content analysis. First, identifying the essential substantive points and second, putting these into exhaustive and exclusive categories. These categories simply have headings which in themselves do not amount to much but when used to group the direct quotations that led to their discovery, they become potent and descriptive.

The process as described by Gillham (2000) was used to perform the content analysis.

1. The MS Word transcripts were studied individually.
2. Substantive statements, 'quotes' were highlighted. Repetition was ignored, but similar statements were highlighted if they added value.
3. The process was repeated, each transcription being read again and looking for errors, omissions, or oversights.
4. The highlighted transcripts were then read by different members of the original research 'team' to seek agreement. Changes were made as necessary after consensus was achieved.
5. Highlighted statements that shared a common underlying theme were then grouped and given simple headings such as 'empathy', 'price' etc.
6. A table listing the identified category headings was constructed, one heading for each column of the table. The highlighted statements were 'cut' electronically from the

transcripts and 'pasted' under the relevant heading, one row per customer. The first transcript revealed several new headings or themes, but these became progressively fewer as essentially similar points were repeated in subsequent interviews. This table formed an analysis grid for the subsequent qualitative data analysis and is included as Appendix 4.

7. The analysis grid was further studied and some themes added, deleted, combined or split if the combined volume of all the responses revealed new insights into the data.

In this way, statements were grouped using the organising principles that naturally underlay the material. Categories of information were labelled and themes identified that adequately described the data. Wolcott (1990:33) advocates beginning with sorting basic data into very broad categories which adequately cover all the data. Then asking the question, "What is going on here?" to discover recurring themes across different categories. In accordance with Agar, the aim of the analysis was to identify those themes that summarises participants key concerns that recur in the data and that appear to the "scanning of a qualitative eye" when viewed in totality (1980:164).

Given that the critical task in qualitative research "is not to accumulate all the data you can, but to 'can' (i.e. get rid of) most of the data you accumulate" (Wolcott, 1990:35). This method ensured efficient storing of the textual data in a systematic and ordered fashion and allowed for connections between categories to develop higher-order conceptual structure. From which it was possible, in the next step, to develop a theoretical and conceptual definition of the constructs that match the themes identified in the qualitative research.

3.2 Stage Two – Dimension identification and quantitative questionnaire development

3.2.1 - From qualitative analysis, refine probable dimensions of the construct

The knowledge gained from the interview process, and that uncovered through the extensive literature review, allowed for further refinement of the emerging themes. These were captured in a tabular format which summarised the research thus far. Further analysis and refinement resulted in a collated framework of key satisfaction drivers upon which a quantitative research tool could be based.

3.2.2 - Design of quantitative research tool based on knowledge gained in previous stages

Bringing together all the themes uncovered by the literature review and the semi-structured interviews, a questionnaire was designed to further explore the factors that affect customer satisfaction and service quality. In order to validate empirically the identified factors of customer satisfaction, a survey instrument consisting of forty-one items was developed. Thus the qualitative observations were operationalised into observable indicators of the constructs using Likert scales. (The seven point likert scale has been retained from the SERVPERF instrument, contrary to the advice of Lewis (1993) and Babakus and Mangold (1992). This was done to enable comparisons to be made with the SERVQUAL and SERVPERF instruments. To compensate for these criticisms, guidance was specifically offered in the questionnaire introductory paragraph as to how they should consider a score of 4 i.e. the mid-point of the scale).

The instrument content and design was based on a thorough review of the relevant literature and contemporary thinking in the areas of service quality and customer satisfaction modelling and measurement. The tremendous insight gained through the semi-structured interviews was key to developing and revising the wording and design of the tool. This methodology was chosen to improve the measurement criterion validity of the instrument – i.e. that the questions did indeed probe the themes identified from the literature and qualitative research.

The questionnaire was developed with specific reference to the electrical utility business using the original SERVPERF instrument as a basis for the final questionnaire design. As discussed in Chapter 2, a large body of contemporary literature strongly favours the SERVPERF instrument as being the most suitable and valid tool to use in this context. Items were added, modified or removed from the original Cronin and Taylor SERVPERF instrument as a direct result of the findings of the literature review and interviews. Table 7 shows five of the original SERVPERF items have been removed, only one remains unchanged, and the remaining sixteen have been slightly modified. The reasons for the modifications have been included in Table 7 but they are mainly as a consequence of the knowledge gained from the semi-structured interviews with customers. Items have been customized largely because it is felt that a modified statement will represent a better and more distinct measure of the construct under investigation. These changes were made to improve the content validity of the final instrument.

Item	Original SERVPERF item	Modified items in the present instrument.
1	Eskom has up to date equipment.	<i>Revised.</i> Eskom invests in appropriate technologies and equipment. <i>Reason.</i> The customers appear more concerned with what technology is being used than the age thereof. The perception is also aired that Eskom does not invest enough in new technology.
	Eskom's physical facilities are visually appealing.	<i>Removed.</i> <i>Reason.</i> Unlike a high contact service industry, Eskom's customers seldom enter the company's facilities and did not raise this as an issue during qualitative interviews. Eskom is a low contact service provider. Unlike a bank, most of the contact with the customer happens on the customer's premises. This reduces the importance of the 'servicescape' in the service encounter.
2	Eskom's employees are well dressed and appear neat.	<i>Revised.</i> Eskom's employees are well presented, neat and professional. <i>Reason.</i> Minor change, several customers mention the word 'professional' when describing how employees should or do behave.
	The appearance of the physical facilities of Eskom is in keeping with the type of service provided.	<i>Removed.</i> <i>Reason.</i> The meaning of this is unclear and ambiguous. Also, servicescapes do not appear to be as important to customers. When pre-testing, it was recommended that this item be removed. See above.
3	When Eskom promises to do something by a certain time, they do so.	<i>Revised.</i> When Eskom makes commitments regarding time, it sticks to the schedule. <i>Reason.</i> The focus here is on sticking to time commitments, not what is actually promised. There could be confusion with dependability, queried by item 5.
4	When you have problems, Eskom is sympathetic and reassuring.	<i>Unchanged.</i> When you have problems, Eskom is sympathetic and reassuring.
5	Eskom is dependable.	<i>Revised.</i> When Eskom says something will happen, it does. <i>Reason.</i> The meaning of the word 'dependable' is not consistently interpreted.
	Eskom provides its services at the time it promises to do so.	<i>Removed.</i> <i>Reason.</i> This will be interpreted as a repeat of 5. It is important to keep the instrument as short as possible.
6	Eskom keeps its records accurately.	<i>Revised.</i> Eskom's accounts and records appear accurate. <i>Reason.</i> The customer does not know if the records are accurate or not, they make a judgment call based on the evidence received, the account being the main evidence in an electrical utility.
7	Eskom does not tell its customers exactly when services will be performed.	<i>Revised.</i> Eskom gives its customers accurate, proactive information regarding what services it performs. <i>Reason.</i> To improve the clarity of the instrument in line with qualitative interview findings and ask in a positive way.
8	You do not receive prompt service from Eskom's employees.	<i>Revised.</i> You receive punctual service from Eskom's employees. <i>Reason.</i> To ensure all questions have a positive inflection.
9	Employees of Eskom are not always willing to help customers.	<i>Revised.</i> Employees of Eskom are always willing to help customers. <i>Reason.</i> Positive inflection.
10	Employees of Eskom are too busy to respond to customer requests promptly.	<i>Revised.</i> Eskom responds to customer requests promptly. <i>Reason.</i> This is quite specific to a high contact service firm. With Electrical utility staff, the customer does not know why the staff do not respond because they can't see them.
11	You can trust employees of Eskom.	<i>Revised.</i> Eskom employees act ethically and are trustworthy. <i>Reason.</i> Ethical principles are enforced strongly in Eskom, need to see if the customers pick this up. Raised by management as an important issue in modern corporations.
	You can feel safe in your transactions with Eskom's employees.	<i>Removed.</i> Very similar to 14 and safety during transactions less of a concern in an electrical utility than in a high contact industry.
12	Employees of Eskom are polite.	<i>Revised.</i> Eskom employees are polite and courteous when dealing with customers. <i>Reason.</i> The customers spoken to felt strongly that this was very important.
13	Employees get adequate support from Eskom to do their job.	<i>Revised.</i> Eskom employees are empowered to do their jobs. <i>Reason.</i> The original statement is pure speculation.
14	Eskom does not give you individual attention.	<i>Revised.</i> Eskom gives customers individual attention regardless of their size. <i>Reason.</i> Positive inflection and expanded for greater clarity.
15	Employees of Eskom do not give you personal attention.	<i>Revised.</i> Eskom and its employees give you personal attention. <i>Reason:</i> Positive Inflection.
16	Employees of Eskom do not know what your needs are.	<i>Revised.</i> Eskom knows what your needs are as a customer and puts its customer's interests before it's own. <i>Reason.</i> More descriptive and positive rather than negative statement.
	Eskom does not have your best interests at heart.	<i>Removed.</i> <i>Reason.</i> Combined with above. Qualitative research showed these were one and the same.
17	Eskom does not have operating hours convenient to all customers.	<i>Revised.</i> Eskom makes it easy for customers to do business with them. <i>Reason.</i> Unlike a bank, operating hours are not a major issue in an electrical utility (it is on standby 24/7) but accessibility is.
18	New	<i>Added.</i> Eskom employees have the knowledge and competence required to provide a proper service and instill confidence. <i>Reason:</i> Raised in Ask Africa survey and several times by customers interviewed who expressed the opinion that some Eskom staff appeared to lack the necessary competencies..
19	New	<i>Added.</i> Eskom is a model corporate citizen that is striving for a better South Africa for all. <i>Reason:</i> Corporate responsibility is becoming increasingly important and managers interviewed believed Eskom's 'clean' reputation was a competitive advantage.
20	New	<i>Added.</i> Eskom communicates well with customers regarding <i>planned</i> interruptions for maintenance. <i>Reason:</i> Low scoring item of MaxiCare, identified by Isabel Jones and communication issues raised repeatedly during qualitative interviews.

21	New	<i>Added.</i> Eskom keeps the duration of power outages to an acceptable level by restoring the power efficiently and effectively when you experience <i>unplanned</i> interruptions. <i>Reason:</i> Low scoring item of MaxiCare, highlighted by Isabel Jones, Ask Africa and JD Power. Customers confirmed that duration of faults is very important.
22	New	<i>Added.</i> Eskom supplies electricity with an acceptable number of interruptions. <i>Reason:</i> Low scoring item of MaxiCare, highlighted by Isabel Jones, Ask Africa and JD Power. Customers confirmed that frequency of faults is very important.
23	New	<i>Added.</i> Eskom consults with you when planning their operations. <i>Reason:</i> Testing the power relationship and the perception of the customer as to the empathy of the organization to their needs.
24	New	<i>Added.</i> Eskom resolves queries quickly and effectively. <i>Reason:</i> Isabel Jones and Interviews in particular raise the responsiveness of the organization and its ability to resolve problems first time and quickly.
25	New	<i>Added.</i> Eskom supplies electricity of an acceptable quality. <i>Reason:</i> Core service, raised in interviews with customers and in MaxiCare. Major issue in the minds of all customers.
26	New	<i>Added.</i> When you talk to Eskom they listen. <i>Reason:</i> Listening is a key communication skill, communication raised by all research sources as a weakness of Eskom.
27	New	<i>Added.</i> The current methods I have to communicate with Eskom meet my needs. <i>Reason:</i> Testing accessibility and exploring communication issues further. All customers interviewed expressed a desire to have a better communication channel with the company.
28	New	<i>Added.</i> The price of electricity is fair and acceptable. <i>Reason:</i> All literature research and the interviews pointed to price as a key determinant of customer satisfaction with a service.
29	New	<i>Added.</i> The Eskom bill is an accurate reflection of my energy usage. <i>Reason:</i> The accuracy of the account is fundamental to service quality and if found lacking will quickly break down the trust relationship. Raised as a key issue in all research.
30	New	<i>Added.</i> Eskom gets back to me when I ask them to. <i>Reason:</i> Highlighted in the Ask Africa survey and test/s the reliability of the organization.
31	New	<i>Added.</i> I can do business with Eskom easily because it is an accessible and approachable company. <i>Reason:</i> Ask Africa study showed many customers feel there is a one sided power relationship with Eskom and that they do not receive personal attention. In interviews, most customers expressed a desire to have a more personal contact with the company.
32	New	<i>Added.</i> Eskom is a transparent, open and honest company. <i>Reason:</i> Isabel Jones, Ask Africa and Customer Interviews raised trust issues between some customers and the company. There are still perceptions that Eskom does not give customers honest service.
33	New	<i>Added.</i> Eskom's accounts are simple and easy to understand. <i>Reason:</i> In almost every interview, this was raised as an issue. Also one of the lowest scoring MaxiCare items.
34	New	<i>Added.</i> Eskom gives caring and individual attention to customers having their best interests at heart. <i>Reason:</i> Ask Africa study showed many customers feel there is a one sided power relationship with Eskom and that they do not receive personal attention. In the interviews, most customers expressed a desire to have a more personal contact with the company.
35	New	<i>Added.</i> Eskom uses feedback from customers to improve their service standards. <i>Reason:</i> Communication and a learning culture believed to be absent but important attributes of a successful company by interviewees. Also a prime driver into this research is the belief that Eskom does not use customer feedback sufficiently.
36	New	<i>Added.</i> I have someone to talk to on a personal level inside Eskom about my service issues. <i>Reason:</i> Raised by almost all customers interviewed and as a result of all the criticism of the contact centre highlighted by MaxiCare and the Ask Africa image survey.
37	New	<i>Added.</i> Eskom has visually appealing signage, symbols, advertisements, pamphlets and facilities. <i>Reason:</i> Other instruments put a lot of emphasis on 'servicescapes', Eskom has recently changed its logo so it is worth measuring the impact of this.
38	New	<i>Added.</i> The Eskom Call Centre (086 number) effectively meets my communication needs as a customer. <i>Reason:</i> Added after pre-testing suggestions due to the frequent complaints received specifically regarding the call centre. It is also one of the lowest scoring MaxiCare items.
39	New	<i>Added.</i> Eskom's service has improved over the last five years. <i>Reason:</i> Added after pre-testing suggestions to test whether customers perceive an improvement over the long term.

Table 7 - List of SERVPERF items, removed or modified, as well as additional items

Brief instructions were included at the beginning of the tool to instruct the respondent on how to score the items on the seven point likert scale. Specific mention being made to how to interpret the extreme scores of 1 and 7 (these were also given labels to improve understanding) and also importantly, given criticisms of a seven point scale, what is to be interpreted by scoring an item at the mid point of the scale. The questionnaire was designed to fit neatly onto a maximum of three pages and includes three columns per item, the statement

itself in the first column and the performance and importance ratings in the subsequent columns. Two additional items were added to gauge the customer's perceptions towards overall service quality and loyalty, items 40 and 41. The respondents were also invited to add written comments should they wish to and space was allocated for this. The final questionnaire is included as Appendix 5.

3.2.3 - Pre -test of tool

The first draft of the questionnaire and covering letter were given to eighteen Eskom employees. The questionnaire was handed out cold, the background and reason behind it were not given. The only instruction was to behave as if they were customers and critically evaluate the instrument through the eyes of a consumer. Once the group had finished, feedback was sought from the recipients who verbally gave suggestions to improve the content and readability of the tool. The questionnaires were also taken in and examined for comments and editions that had been made upon them.

The pre-test highlighted several areas for improvement which are summarized as follows:

- Suggested to move the cell-phone incentive (which was initially included as a footnote) to a position of prominence on the cover letter. This was done.
- The opening paragraph of the questionnaire should be broken up into smaller paragraphs to improve readability. This was done.
- Two spelling issues were highlighted, 'favor' was changed to 'favour' which is a more acceptable spelling in South Africa and the 'an' was added to question 29.
- The pre-test was also timed to ensure the '15 minute' promise was not empty – most recipients finished well within the 15 minute period.
- Questions 8 and 10 were deemed to be very similar and it was suggested that they be combined. These questions pertained to the promptness of Eskom's service. Both questions were re-worded.
- Two questions (2 and 33) were highlighted by three of the group as being extremely similar in content and question 33 was replaced.
- Change 'it' in question 3 to 'they'. This was done.
- One person felt a five point scale would be better than a seven point one but could not elaborate. It was decided to stick to the seven point scale to allow direct statistical comparisons with SERVQUAL to be made if required.

- The group debated whether to group similar questions (communication questions for example) or to spread them throughout the instrument. Agreement could not be reached so the original order was retained.
- The original question 14 wording was said to need revising. This was done.

The following areas were suggested for further exploration i.e. questions should be added which investigate the following:

- How well informed Eskom keeps the customer.
- How well the customers understand the bill (account) and the various electricity tariffs.
- Whether the perception of Eskom's service has improved over a time period.
- Whether the customer was happy with the options open to them to contact Eskom.
- Specific questions need to be asked around the call centre such as the perception of it as an impenetrable wall.
- It was suggested that the customers be asked whether they were informed about possible changes in the Electricity Distribution Industry that may affect them.
- Many of the group felt more probing questions should be asked concerning the ease of communication with Eskom and their need for a personalized service.

This resulted in the addition of two questions to the instrument (38, 39) that brought the total number of items to thirty nine. Including the two items assessing overall service quality and loyalty and the final forty-one item questionnaire as finalised and published as in appendix 5.

3.2.4 - Data collection through field survey

The questionnaire was mailed to five hundred and fifty two consumers throughout the Southern Region. (It should be pointed out that although there are eight hundred and eighty seven LPU points of supply in the Southern Region, there are only five hundred and fifty two consumers i.e. individuals or firms that receive an account. Spoornet for example has ten points of supply in the Region and yet only one account is produced since only one firm pays the account). Besides the questionnaire, each mailing packet included a covering letter stressing the importance of the survey (see appendix 5). Among the factors likely to have a major impact on whether a recipient fills out a mail survey and returns it, is the accompanying cover letter (Parasuraman, 1991a). Studies have shown that the layout and content of the cover letter can directly affect the response rate to a mail survey (Houston and Nevin, 1977: 374) and to a large degree, the cover letter will affect whether or not the respondents complete the questionnaire (StatPac, 2003). The cover letter used in this survey was carefully designed

to convince the recipients of the importance of participating in it, whilst remaining concise and objective. The cover letter also detailed an incentive to reply by 1 October, a Nokia cell-phone being offered to the first name drawn from the respondents. A self-addressed, postage paid, envelope made up the mailed packet's contents.

One of the most powerful methods for increasing the response rate of a survey is to follow up the survey with a reminder; however the impact on improved return rates is variable. StatPac research shows a follow up telephone call (the most successful method) only increased response rates on average three and a half percent (2003:1). In spite of these discouraging figures, fourteen days after the questionnaire was posted, an innovative feature of the Southern Region Call Centre, the ability to SMS customers in a batch, was used to remind customers to respond. The feature allows the operator to identify customers, group them together and send them a common message. Of the five hundred and fifty two LPU customers targeted, five hundred and three had current cellular telephone numbers in the call centre database and a SMS message was duly 'mailed' to them. This provided a quick, simple and relatively cheap way to follow up on the questionnaire in an attempt to improve the response rate.

One hundred and thirty five useable responses were received, yielding a response rate of 24,5 percent. This response rate is not inconsistent with previous studies. At Pacific Gas and Electric in the United States of America, there is an ongoing monthly customer satisfaction survey which is mailed to between 11 000 and 13 000 customers. The surveys response rate runs at between 25% and 35% (Amsden, 1989). Babakus and Boller achieved a 29,0 percent response rate in their survey of a gas and electrical utility (1992). These results confirm that postal surveys tend to have the lowest response rates of all survey methods (Welman and Kruger, 2001).

In addition, in order that Southern Regions' management team perceptions could be compared with those of the customers, twenty eight managers were sent a slightly adapted version of the questionnaire and asked to put themselves in the mind of the customer and answer accordingly. As if they were a customer, they were asked to rate Eskom's performance against each item and to rate the importance of each item to the customer. A 100% response rate was achieved.

3.3 Stage Three – Statistical Analysis

3.3.1 - Purification and codifying of data

Each completed questionnaire was examined for completeness, coded and recorded in an Excel spreadsheet for use in the data analysis phase of the study. Fourteen responses were discarded that either contained incomplete responses (certain questions left out), obvious bias (all questions marked 1 or 7) or were 'spoilt' for some other reason. Using the technique suggested by Babakus and Boller (1992), non-response bias was assessed by examining the relationship between return dates and study variables. As responses were received they were dated and t-tests were used to compare response differences between early recipients (those that responded within 10 days of mailing) and the rest that were labelled 'late'. No significant differences were found so non-response bias was not seen to be an issue.

3.3.2 – Descriptive statistics

Histograms reflecting the spread of scores on the 7 item scale for performance and importance were plotted for both customer and management categories (four in total). Further descriptive analysis of the data displayed the distribution of scores on each variable by plotting and tabulating *mean* performance (P) and importance (I) scores. These were also ranked and large performance-importance gaps were highlighted identified to assist management to focus on the scores with greatest deviation from the mean. *T-tests* were run to determine significant differences in mean performance and importance scores and this analysis was complimented by a series of importance-performance *scatter plots*. The latter enabled quick identification of high focus items and customers, those that had a low performance score but were perceived to be of the highest importance. A series of *box and whisker plots* were produced to evaluate the differences in population means between the results from the customer surveys and those from management as well as between various other categories (coded variables) to seek patterns and a deeper understanding of the data. Finally, *correlation analysis* was undertaken to allow conclusions about the relationship between perceived performance and overall service quality and customer loyalty to be drawn as well as between perceived importance and overall service quality and customer loyalty.

3.3.3 – Identification of relationships through exploratory factor analysis

Exploratory Factor Analysis techniques were applied to the data using STATISTICA to detect structure in the relationships between variables in an attempt to classify them. Applying the criterion proposed by Kaiser (1960) to establish factors in accordance with the number of eigenvalues greater than one, factors were extracted, varimax normalised and factor loadings

sorted in a descending manner. In this way, scales were formed by grouping together variables that loaded moderately onto the same factor. Logical names and descriptions were then given to the extracted factors. Scales that loaded on more than one factor were identified for further explanation and analysis.

3.3.4 – Tests for unidimensionality

To assess the dimensionality of the instrument, two techniques were applied. Firstly, *item to total correlations* were explored which were followed by *confirmatory factor analysis* using principle component analysis. This was required to explore the relationship between the observed and latent factor variables as this was unknown. Internal consistency or 'goodness-of-fit' of items within a scale were established by checking for rough equivalence of the mean and standard deviations of all items within a scale. Also, the items to scale correlations were calculated and those with values of 0.40 or greater considered to display item internal consistency validity. The purpose was to confirm whether the number of dimensions conceptualized could be verified empirically and to reduce the starting set of variables to a set of new factors or dimensions. In other words, to arrive at the minimum number of factors that will explain the co variation among the observed variables.

3.3.5 – Reliability analysis

Internal consistency tests were performed to test scale reliability using *Cronbach's coefficient alpha* to estimate the average inter relation correlation and thus the quality of the instrument in line with Churchill's recommendations. Churchill teaches that "coefficient alpha absolutely should be the first measure one calculates to assess the quality of the instrument" (1979:68). The alpha level quantifies the relationship between a specific group of measurement items and the underlying theme that the grouping of items is intended to measure. Thus, a low coefficient alpha indicates the sample of items performs poorly in capturing the construct that motivated the measure. Items that would cause a rise in the scale's alpha level were identified. If the item is well fitted to its scale, the alpha level change should be minimal. However, if deletion of an item causes a substantial rise in the scale's alpha reliability score, removal of the measurement item was considered to improve internal consistency and thus reliability.

3.3.6 – Validity tests

Confusion appears to exist in the methodological literature with respect to the variety of labels or tags and the way they are organized to describe the validity of scales and measures (Sureshchandar et al., 2002). Different validity terms are used to illustrate various aspects of

construct validity. In this research, face validity, content validity, internal consistency validity (goodness-of-fit) and criterion related validity were explored.

Face and content validity checks were subjective and based upon the research methodology i.e. the depth of the literature review and the correctness of the qualitative interview analysis. Internal consistency or 'goodness-of-fit' of items within a scale was established by checking for rough equivalence of the mean and standard deviations of all items within a scale. Also, the item-to-scale correlations were calculated and those with values of 0.40 or greater considered to display item internal consistency validity. Criterion validity was established by correlating the scale scores with two criteria, viz. overall satisfaction and loyalty to Eskom.

3.3.7 Suggest improvements for future research.

The research methodology outlined in the preceding sections, is designed to be first and foremost an exploratory foray that flows from interpretive qualitative research into quantitative data analysis. The goal is to discover the essential key strategic leverage points for improving customer satisfaction in the electricity industry. As part of the second phase of the journey, a questionnaire is used that is intended to form the basis of future work and revisions. Ultimately, these should lead to the development of a valid and reliable strategic management information tool. Any suggestions that stem from the statistical analysis in phase three of this research will thus feed naturally into future research endeavours and be of immense value to potential researchers. As such, all proposals are clearly identified and recorded to conclude this research.

Chapter 4 - Results

The research data was gathered by following two approaches in an attempt to improve the reliability, validity and thoroughness of the results obtained. Firstly, a qualitative study, involving a series of semi-structured interviews and subsequent analysis. And secondly, the design and dissemination of a quantitative survey instrument. Similarly, the results of the research are split into two sections; a section on qualitative analysis in which the interview data is discussed and presented and a quantitative statistical analysis section, covering the feedback from the questionnaire that was designed largely around the results from the first section.

4.1 Qualitative research results and analysis

4.1.1 Summary of customer visits and interviews

During the period July to September 2003, sixteen Southern Region LPU customers were visited and interviewed using a specially prepared semi-structured interview schedule. An analysis of the transcriptions of these interviews (using the analysis grid in Appendix 4) highlights clear and consistent messages which are coming through from the customers. Despite choosing the customers to visit on a random basis, the issues which are uppermost in their minds are remarkably similar regardless of geographic location or customer segment.

The responses could be grouped into eight main categories: communication; pricing and accounts; quality of supply; reliability, personal service, proactive service, empathy and finally professionalism.

4.1.1.1 Communication

Every customer visited raised communication with Eskom as one of their main concerns.

"I need better contact with Eskom."

"The communication channel essentially is really what it's about."

"The communication is a shocker and I think part of the problem is ownership, a sense of urgency does not exist."

"So for me the one thing would be communication with the customer in the crises time."

"Improvements in communication are required. Communication is important."

It would appear that use of the Call Centre, as the main communication medium, is most problematic.

"The call centre sometimes can take a very long time to come back."

"Yes I do find it frustrating. First of all going through the Call Centre is a painful process"

"Nothing pisses you off more when your power has gone off than to talk to a mechanical voice."

The main issues identified are the quality of information supplied by the call centre staff and a lack of proactive, useful feedback to the customer during power interruptions.

"but there was an occasion that we had a problem where the guys phone in and the call centre cant tell you what the progress is on it, for whatever reason they just give you a new number and other numbers, and eventually you would have 3 numbers for the same enquiry."

"I am 98% happy with Eskom. Our biggest frustration is on the operational side. Its purely just frustration with the call centre, when we report a fault and x hours later you haven't seen anybody and you don't know where they are. The feedback does not always come."

"The purpose of the call centre is to give some feedback but I don't think it is working out that way."

"Sometimes it takes very long to get an answer back from the field"

These sentiments were strongest amongst customers not serviced by a customer executive since the call centre remains there only communication channel with the company. This leads to extreme frustration on occasion. *"Don't even talk to me about the call centre....."*. It is very apparent that customers that are served by a customer executive are far happier with this personal form of communication and are less scathing of the call centre as a result.

"The one thing I don't like about the call centre is the relationship. We speak to somebody that does not know you or they don't have that personal relationship."

The overall impression from all sixteen customers was a greater need for personal contact with the organisation. Customers need a human face to open a hole in the perceived *"brick wall"* which is believed to surround Eskom and to get some response from the giant.

"Its nice to have the communication channels open to the senior management rather than just working through a process which is laborious. Its efficiency levels have to be professional, they really have to be."

"Is Eskom's Senior Management more important than the ministers of this country? Right up to the state president's number is in the telephone directory. But Eskom is too high and mighty to have their line managers telephone numbers listed."

"I have thought of approaching Buffalo City to ask if we can link up with them because I am tired of talking to Eskom."

"It is difficult to get hold of a guy who has the power to make a decision."

4.1.1.2 Pricing and accounts

The customers interviewed were clear and concise on issues pertaining to pricing and their accounts despite lacking a frame of reference to compare Eskom against.

"We can't actually compare Eskom to anybody else because you are the sole supplier."

"Like I say, the account is still too high but what can you do. I can't compare prices to anybody else."
nine of the sixteen customers interviewed expressed the sentiment that current electricity prices are too high.

"I mean you guys are very expensive."

"The price has gone up a lot in the last few years."

"The Eskom bill is easy to understand but the tariffs are unacceptable. Far too high"

Some customers however grudgingly admit that the prices are reasonable and even cheap so perceptions differ.

"I think it is the cheapest form of energy."

"We just have to accept the price because there is no competition in electricity."

Interestingly, price is considered to be the main competitive advantage in this industry by seven of the customers questioned.

"People will always go for price. I want the cheapest source"

"I think anybody who tries to get into this thing (competition) in whichever way; the obvious thing is that they are going to look at the pricing. What are you going to pay for the service?"

"In a competitive market, the first thing I will look for is price."

"If another company would surface – I would go for price and service."

"The first competitive priority would probably be price. The pocket is important."

4.1.1.3 Quality of supply – Q.O.S.

All but one of the customers mentioned concerns with their electricity supply; a high frequency of faults and long repair durations:

"It was a big eye-opener for me to see sometimes how many interruptions we have, especially in the rural areas."

"Because the power is so bad I am thinking of moving to East London."

"Poor power quality is always on our meeting agendas."

"Yesterday we had a power failure three times"

"When the thunder claps, the power is gone, when the wind blows, the power is gone. In Winter time it is OK, but in summer time it is off all the time."

"The most important thing is people want their power all the time, in the 21st century, if the power goes off you sit. In the factory, R22 million turns to scrap without electricity."

Consumers obviously require that the frequency of power interruptions be minimised and that once an outage has occurred, that it be repaired as soon as possible. Perceptions of the ability of the company to keep the lights burning range from poor, *"but the amount of unplanned outages in a year – I have just never seen something like that you know"* to reasonably good.

"The quality of supply is excellent."

"the quality of the supply, if I have to average the last ten years, very good, outages minimal"

"We don't have as many power failures as we used to."

"The quality of supply is better and has improved."

"The quality of electricity, I think is fair."

It is obviously important not to generalise QOS perceptions as poor across the board since there is wide disagreement even amongst the sixteen interviewed. Where there appears to be no dissent however, is that quality of supply issues remain one of the key drivers of customer satisfaction in an electrical utility.

"You know my main concern. It is the amount of unplanned outages and even planned outages."

"The biggest issue, is unplanned outages and quality of supply"

"But I think the bulk of the problem that we have here in terms service from Eskom is interruptions"

4.1.1.4 Reliability

As one customer put it, *"It's all about service. Everybody has problems, but it's the way in which it is handled."* It is the reliability of the firm, the consistency with which it performs that customers look for. Customers want their utility to be dependable, to follow through on what it says it will do.

"Eskom is not responsive to problems when we call the call centre, it can take up to a week and seven faxes to get someone from Eskom to call you back."

"There is not one consistent answer, which you get from the Eskom people, one person will tell you this and the next will tell you some thing different. There must be one consistent story coming out of Eskom."

"They say that they will get back to me and they don't."

"If we discuss something, you want to actually see something happening, like keeping of promises, you can see improvements where there is promised improvement."

For example, a major issue (mentioned by eleven interviewees) is the failure by Eskom to provide feedback when asked to

"My satisfaction turned to frustration until somebody called me back to tell me what's going on."

"My disappointment there was that nobody came back to me."

"She never came back to me."

"Six months ago, or eight months I spoke to somebody and so what!"

"We tried to work up the ladder was to try and get some sort of response. It just never materialized."

"The worst thing is I didn't get any feedback."

"I phone to your call centre, they say the people on the way – finish. They never come back to me."

They also request Eskom not to drag issues out indefinitely.

"Because they took two months to credit us."

"If there is an issue we want it to be sorted out quickly."

Judgements of Eskom's reliability are by nature very subjective. They are swayed by the interactions and service experiences that the customer has been exposed to. If the company fails to perform reliably, its credibility suffers, it is perceived as a poor performer and customer satisfaction will drop accordingly.

"In the past when you reported a problem, Eskom would call you back to see if your problem got fixed, now they don't do that."

4.1.1.5 Personal Service

Related to the communication issues but distinct from them, are requests from the customers to establish a relationship with Eskom over and above the official call centre channel. Without exception, customers who were serviced by a customer executive were high in praise for the service they received from them.

"Excellent – total co-operation, total support. Very happy with the way communication is at the moment. Good communication channels with Bob Vermaak – e-mails or phones. Slip ups very infrequent."

"Those channels were continuously open and his cell phone was available twenty four hours a day and he went that extra mile. That makes a difference."

However, those who did not have the luxury of such a contact (only customers with maximum demands greater than 500kVA do) voiced strong dissatisfaction with existing methods of contacting the company.

"We would like to know who we are dealing with. I'm sure those people would like to know who they are dealing with, who their customers are and become more actively involved and make their channels more open. So that you can actually talk to this guy and say, 'listen, this is what the situation is'."

"I never know what is happening." "The worst thing is I didn't get any feedback." "For me the call centre is not such a good idea, the people are too far away."

"I haven't spoken to anyone on a personal basis in a long time. I would talk to the manager if only I knew how."

4.1.1.6 Proactive service

Eight customers made specific reference to examples where they had experienced service encounters that they deemed to be proactive and thus highly satisfactory. Customers like to be consulted about issues that affect them. It shows the organisation cares and is forward thinking.

"Like I say, if you work proactively towards that, that is where things improve."

"I would like them to ask me what a suitable time would be for me, because there are alternative dates and before the power is switched off I will always be contacted before the power is going to be switched on and then I know exactly where I stand."

"Normally what we like is when we get contacted beforehand, even if it is unplanned and they ask us or notify us, the reasons and why."

"I would like to know what day we will be off, what maintenance is going to be done here and from when to when"

Customers appear delighted when Eskom takes the initiative to do something good for them without being asked to.

"Another ten out of ten is that we are always informed if there are going to be outages. I have never once had a phone call, hey listen you are going to be out tomorrow, you know it's always well planned within advance."

"Selwyn normally phones me 40 – 50% of the time before I can phone him to relate the problem."

"But on the planned side, for your maintenance and all that, last Sunday we had one (an outage), but we knew about it, it was planned so I am happy about that."

Conversely, when the company refuses to act, even after repeated requests, they despair.

"No we have never received a call for a planned outage? No, never!"

"I knew I was not going to get a reaction from her side because she is not going to be proactive with what I am going to tell her."

4.1.1.7 Empathy

"The way the Eskom people feel about their customers comes out quickly" according to one customer and he doesn't appear to be wrong. More than half the sample expressed beliefs that

Eskom is somewhat removed from the customer, that there is not an appreciation of their side of the fence.

"If you don't know what your customer is doing with your product, I don't think you understand the customer because you have got to be able to appreciate the problems he has when he doesn't have power. If you don't do that, I think you are fighting a losing battle. You will never appreciate his side of the story."

"A drop of phase, a storm comes through or anything like that, but sometimes the guys are not, in my opinion, sensitive enough to the customers."

There appears to be frustration amongst customers based on the perception that Eskom does little to walk in the customer's shoes to gain a better understanding of their needs, their uses of electricity and thus the effect poor QOS has on their operations. As a result they are quick to expound on these issues:

"Really it must be resolved now; these power failures are costing us big time. You guys need to understand what power failures do to my business."

"If I lose one of my three or four big plants, then it becomes a problem and the guys that reported it they just don't see anybody."

"If the power is off for more than an hour we have to throw away all the fabrics. You are losing money as soon as that power stops, workers are idle, heaters go cold and that can cost R20 to R30 thousand."

Finally, one customer summed it up for the rest, *"If you can solve my problems you will have a very grateful person. It is not fun to run a hospital in the dark. Show me some empathy, some understanding!"*

4.1.1.8 Professionalism

As discussed, price is a key concern of customers. On the whole they believe that they are paying too much for the product. Given this mindset, they become even more demanding about value for money. If they are paying more than the should, logic tells them they should receive a highly efficient and professional service. In fact, four customers expressed the view that they would gladly pay more for better service quality:

"He is not the cheapest but the service I get from him and the quality I get from him, I would pay fifteen percent more for him"

"If you talk pricing, I don't usually go for the cheapest pricing. If his service and quality is not the same as the guy who is a bit more, I would rather go for the service quality."

Service quality goes hand in hand with competence and efficiency, something Eskom seems to be doing well in some areas,

"By large I cannot think of any other organization which I would deal with other than Eskom. Eskom are always able to solve problems, they are more than accommodating and helpful. If Eskom had competition they would have to be good."

"I really enjoy Eskom. I think it's very professional. Professional, upright, good clean business, not unplanned duck and dive."

"Every guy I have seen here has pride in what he is doing"

"I think Eskom as a company is a very professional operation. We are very happy with it."

And yet for others the perception is completely the opposite;

"They don't know what is going on."

"I phone Eskom and I get the impression they are all on lunch."

"I can see that the people are not working with great efficiency"

"You phone in there and you get language choices, I push the button for Afrikaans and I get an English speaking Xhosa person."

"I don't think their repair crews are very quick, especially after hours. You can't get hold of someone to come and sort out the problem quickly."

"I reported the fault at night, they only came at 07h30 the next morning."

"They don't have sufficient manpower. The skill level is not there."

"They have no expertise here to sort this problem out."

It seems clear that as the customers weigh the costs of electricity with the service they receive, issues pertaining to professionalism will dominate their thoughts, *"overall, once again I use the word professional to describe the service required and that's it."*

Table 8 is a summary of the dimensions uncovered through the various literature sources and the interview process. Each column represents one of the main sources, each row a dimension it highlighted as critical to the industry. Each cross indicates which dimension is then postulated by each source.

Dimension	SERVQUAL (Original 10)	SERVPERF	MaxiCare	Isabel Jones	International (JD Power and Colmar Brunton)	Ask Africa	Qualitative Interviews
Reliability	×	×			×	×	×
Responsiveness	×	×				×	
Competence	×					×	
Communication	×			×	×	×	×
Understanding Empathy	×			×		×	×
Courtesy	×						
Security	×						
Access	×					×	
Credibility	×						

Tangibles	X	X					
Assurance		X					
Empathy		X		X			X
Quality of Supply			X		X		X
Price			X		X	X	X
Accuracy of Accounts			X		X		X
Call Centre Service.			X				X
Staff Interface			X				
Advice			X				
Safety and Environment			X			X	
Professional Service				X	X	X	X
Ownership				X			
Personal Service				X	X		X
Ethical and honest dealings.					X	X	
Proactive Service							X

Table 8 - Summary of dimensions discovered by literature review and qualitative research

No attempt has been made to combine dimensions at this stage as this would generalise the findings and cover up some of the detail required to design the quantitative questionnaire built upon these findings. It is clear however that there are too many dimensions in Table 8 for it to be practically useful. It throws too many focus areas onto the table and its use as a reliable and valid strategic tool is limited. However, it was instrumental in the design of the questionnaire tool, the results of which are examined in the next section.

4.2 Quantitative results

The research method requires that after initial description of the results, the presence of an underlying factor structure must be explored and this section presents these findings in the same order. Results of unidimensionality tests follow, to confirm or disprove the findings of the exploratory factor analysis and finally, the reliability and validity tests on the results are discussed.

4.2.1 Descriptive statistics

A comparison of mean scores, on the importance (I) of service attributes and an organisation's perceived performance (P) in delivering those attributes, provides management with a straightforward measure of how well a particular service meets an individual customer's

needs (Ennew et. al, 1993). This section is a summary of the performance and importance scores per item and details some comparisons between the two. Large P-I gaps are highlighted and the scores are plotted in an Importance-Performance matrix for easier interpretation. Differences in data between different subsets of the population are shown and discussed using box and whisker plots and finally, correlation analysis is used to explore the relationship between performance and importance scores and the concepts of overall service quality and loyalty.

One hundred and thirty five customers and twenty eight managers replied to the questionnaire and the frequency distributions of their responses (on the seven point scales) are shown separately in Figure 18 to Figure 21. The replies for importance and performance perceptions are shown separately for both management and customer groupings.

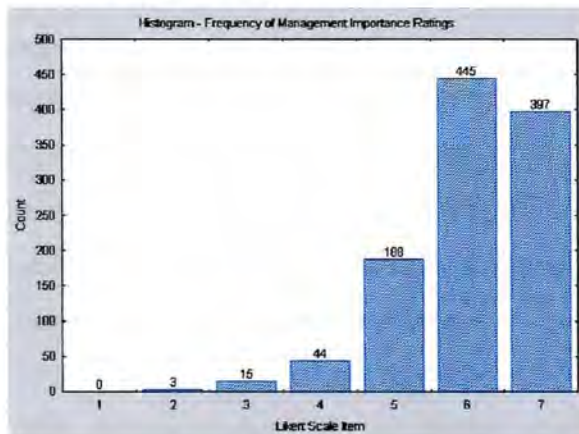


Figure 18 – Frequency distribution of importance scores – management.

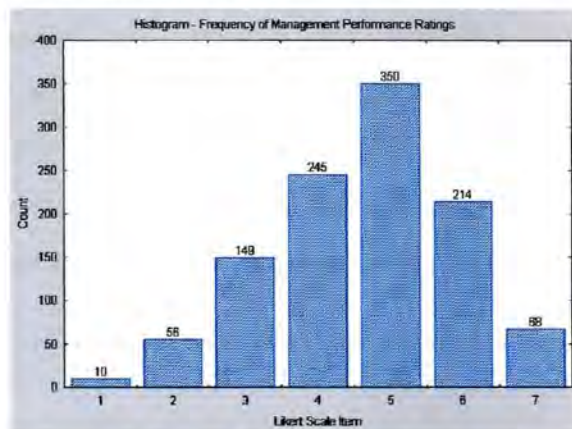


Figure 19 - Frequency distribution of performance scores - management

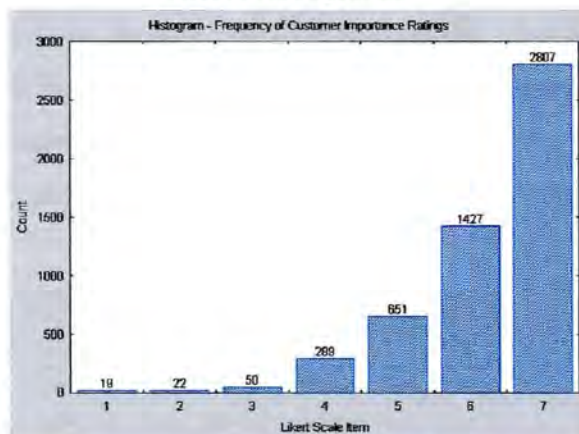


Figure 20 - Frequency distribution of importance scores - customers



Figure 21 - Frequency distribution of performance scores - customers

What is immediately discernable is the skewed distribution of the importance responses towards high importance scores from both populations. Over seventy seven percent of importance items rated a 6 or 7 by management and an even higher eighty percent in the

customer responses. The fact that very few importance items (less than one percent) were scored a 4 or less, and that 53% of all customer importance scores were a 7, indicates that the areas explored by the questionnaire items are indeed essential to the customers and thus, the interpretation of the qualitative data and subsequent questionnaire design was valid.

The performance distribution follows a more normal distribution with the exception of five hundred and twenty one (9.9% of the total) '1' ratings by customers that suggest high levels of dissatisfaction amongst certain respondents (see Figure 21). Further analysis of the results in the following sections will identify the most dissatisfied customers and the items in the survey they found to be least acceptable in terms of performance by Eskom.

4.2.1.1 Performance - importance analysis.

The measurement of both perceived performance and importance per item allows greater depth of analysis than if either of these is measured alone. An item that is deemed to be of high importance and yet is rated low on perceived performance obviously requires more management attention than one that is low in importance and is perceived to be performing acceptably. The magnitude and direction (positive or negative) of the difference between performance and importance allows management to focus their resources and prioritise areas which require improvement actions.

Table 9 presents the mean scores per questionnaire item of the customer responses (n=135) for both performance and importance sections. The difference in performance and importance scores is also included as are the 't-test' analysis results to determine any significant differences in mean performance and mean importance of items. The t-test result indicate a significant negative difference in means for all items, except item 37, the only area that Eskom's customers rate the firm's performance higher than the believed importance.

Questionnaire Statement	P - Mean Performance	I - Mean Importance	P - I.	Std. Dev.	t
1. Eskom invests in appropriate technologies and equipment.	5.141	5.948	-0.807	1.538	-6.099
2. Eskom's employees are well presented, neat and professional.	5.104	5.363	-0.259	1.820	-1.655
3. When Eskom makes commitments regarding time, they stick to the schedule.	4.370	6.563	-2.193	1.991	-12.798
4. When you have problems, Eskom is sympathetic and reassuring.	4.622	6.326	-1.704	2.070	-9.563
5. When Eskom says something will happen, it does.	4.563	6.252	-1.689	2.031	-9.660
6. Eskom's accounts and records appear accurate.	4.644	6.756	-2.111	2.232	-10.992
7. Eskom gives its customers accurate, proactive information regarding what services it performs.	4.970	6.081	-1.111	1.915	-6.742

8. You receive punctual service from Eskom's employees.	4.667	6.311	-1.644	1.839	-10.393
9. Employees of Eskom are always willing to help customers.	5.163	6.370	-1.207	1.626	-8.629
10. Eskom responds to customer requests promptly.	4.533	6.415	-1.881	1.981	-11.033
11. Eskom employees act ethically and are trustworthy.	5.296	6.304	-1.007	1.528	-7.659
12. Eskom employees are polite and courteous when dealing with customers.	5.511	6.096	-0.585	1.340	-5.072
13. Eskom employees are empowered to do their jobs.	4.948	6.059	-1.111	1.642	-7.862
14. Eskom gives customers individual attention regardless of their size.	4.741	5.800	-1.059	1.848	-6.661
15. Eskom and its employees give you personal attention.	4.889	5.978	-1.089	1.777	-7.121
16. Eskom knows what your needs are as a customer and puts its customer's interests before it's own.	4.119	6.119	-2.000	2.185	-10.633
17. Eskom makes it easy for customers to do business with them.	4.526	6.163	-1.637	2.068	-9.196
18. Eskom employees have the knowledge and competence required to provide a proper service and instill confidence.	4.785	6.193	-1.407	1.788	-9.144
19. Eskom is a model corporate citizen that is striving for a better South Africa for all.	5.000	5.830	-0.830	1.814	-5.313
20. Eskom communicates well with customers regarding <i>planned</i> interruptions for maintenance.	5.407	6.652	-1.244	1.743	-8.297
21. Eskom keeps the duration of power outages to an acceptable level by restoring the power efficiently and effectively when you experience <i>unplanned</i> interruptions.	4.926	6.637	-1.711	1.812	-10.975
22. Eskom supplies electricity with an acceptable number of interruptions.	4.341	6.607	-2.267	2.250	-11.705
23. Eskom consults with you when planning their operations.	4.644	6.356	-1.711	2.000	-9.943
24. Eskom resolves queries quickly and effectively.	4.311	6.296	-1.985	2.196	-10.505
25. Eskom supplies electricity of an acceptable quality.	4.956	6.659	-1.704	1.833	-10.800
26. When you talk to Eskom they listen.	4.696	6.333	-1.637	1.855	-10.252
27. The current methods I have to communicate with Eskom meet my needs.	4.230	6.533	-2.304	2.444	-10.951
28. The price of electricity is fair and acceptable.	3.822	6.422	-2.600	2.074	-14.566
29. The Eskom bill is an accurate reflection of my energy usage.	4.696	6.563	-1.867	2.080	-10.429
30. Eskom gets back to me when I ask them to.	4.548	6.311	-1.763	2.008	-10.200
31. I can do business with Eskom easily because it is an accessible and approachable company.	4.556	6.237	-1.681	1.965	-9.943
32. Eskom is a transparent, open and honest company.	4.889	6.133	-1.244	1.822	-7.935
33. Eskom's accounts are simple and easy to understand.	4.719	6.237	-1.519	2.091	-8.439
34. Eskom gives caring and individual attention to customers by having their best interests at heart.	4.393	6.052	-1.659	1.865	-10.334
35. Eskom uses feedback from customers to improve their service standards.	4.348	6.119	-1.770	1.916	-10.736
36. I have someone to talk to on a personal level inside Eskom about my service issues.	4.274	6.393	-2.119	2.273	-10.831
37. Eskom has visually appealing signage, symbols, advertisements, pamphlets and facilities.	5.422	4.874	0.548	1.872	3.403
38. The Eskom Call Centre (086 number) effectively meets my communication needs as a customer.	3.852	6.519	-2.667	2.299	-13.479
39. Eskom's service has improved over the last five years.	4.252	6.363	-2.111	2.125	-11.541

Table 9 - Mean performance & importance customers scores per item, difference scores and t-tests.

Table 10 summarises the ten items with the biggest P-I gap and is useful as a strategic tool since it indicates clearly where the customers believe the problems lie. It highlights those issues that are most important to them *and* where Eskom's performance is deemed to be sub

par. The issues raised mirror the findings of the qualitative research; that the call centre, price, communication and quality of supply form the cornerstones of good customer satisfaction.

Questionnaire Statement	P-I Rating
38. The Eskom Call Centre (086 number) effectively meets my communication needs as a customer.	-2.667
28. The price of electricity is fair and acceptable.	-2.600
27. The current methods I have to communicate with Eskom meet my needs.	-2.304
22. Eskom supplies electricity with an acceptable number of interruptions.	-2.267
3. When Eskom makes commitments regarding time, they stick to the schedule.	-2.193
36. I have someone to talk to on a personal level inside Eskom about my service issues.	-2.119
6. Eskom's accounts and records appear accurate.	-2.111
39. Eskom's service has improved over the last five years.	-2.111
16. Eskom knows what your needs are as a customer and puts its customer's interests before it's own.	-2.000
24. Eskom resolves queries quickly and effectively.	-1.985

Table 10 – Top ten customer mean difference scores between performance and importance by item..

Areas of underperformance by Eskom are also reliability issues (items 3, 6 and 24) and a perceived lack of empathy (item 16). This again is in line with the concerns raised repeatedly by the customers interviewed.

4.2.1.2 Performance per item

Figure 22 shows the mean performance scores per item that were obtained from the one hundred and thirty five customer responses. Figure 23 shows these same scores but ranked from lowest perceived performance (item 28) to highest (item 12). The relative rank order of attributes of importance and performance must be considered in addition to the absolute magnitude of their values.

The worst 10 performing items have been circled on the graph and highlighted for closer attention. A similar exercise was performed (results not shown graphically) for the management responses. It is thus possible to compare mean customer performance ratings per item with mean management performance ratings per item. This has been achieved in Table 11, which lists the lowest and highest 10 perceived performing items by the customer and their corresponding management ratings. Items that appear in both lists (i.e. where customers and management 'agree') are shaded.

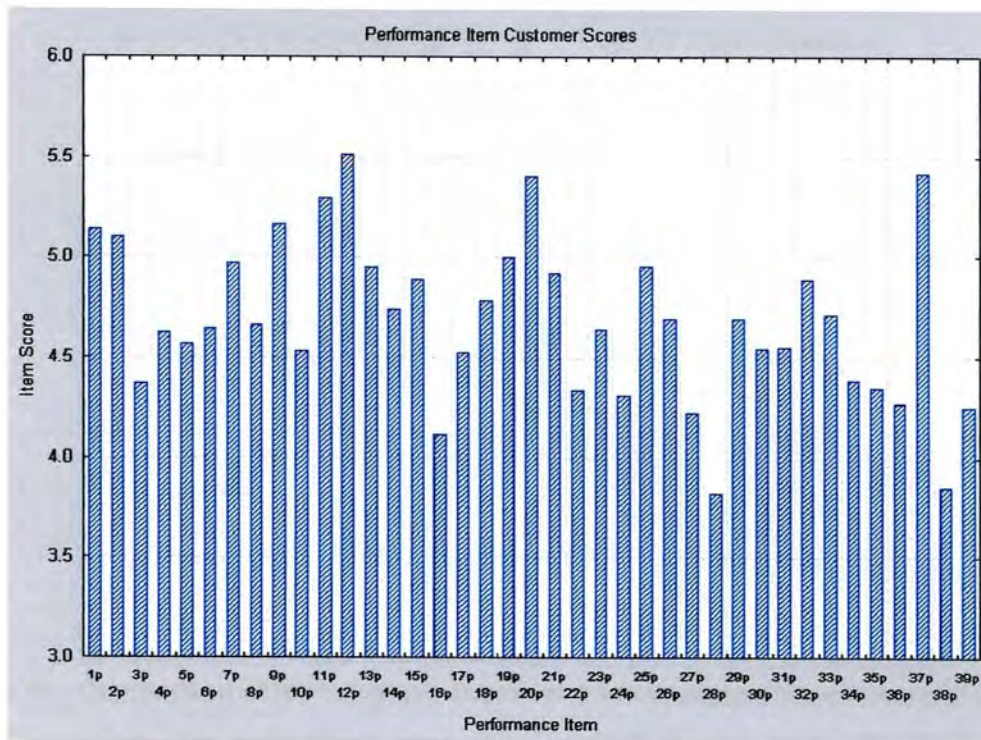


Figure 22 - Mean Customer Performance Scores per Item

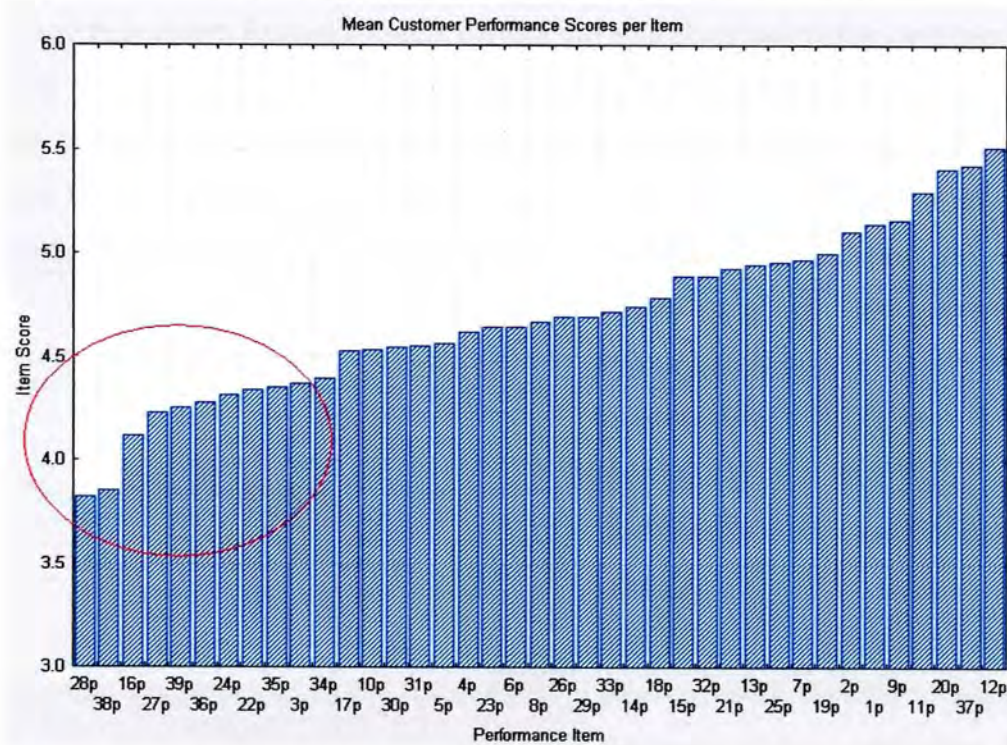


Figure 23 - Mean Customer Performance Scores Ranked in Ascending Order.

Worst 10 Performance				Top 10 Performance			
Customers		Managers		Customers		Managers	
Item	Mean	Item	Mean	Item	Mean	Item	Mean
28p	3.82	14p	3.35	12p	5.51	19p	6.35
38p	3.85	38p	3.57	37p	5.42	37p	6.10
16p	4.11	15p	3.60	20p	5.40	28p	5.92
27p	4.22	24p	3.64	11p	5.29	1p	5.75
39p	4.25	16p	3.78	9p	5.16	32p	5.46
36p	4.27	3p	3.82	1p	5.14	11p	5.32
24p	4.31	6p	3.89	2p	5.10	12p	5.25
22p	4.34	21p	4.00	19p	5.00	13p	5.21
35p	4.34	7p	4.03	7p	4.97	33p	5.10
3p	4.37	8p	4.07	25p	4.95	35p	5.07

Table 11 - Comparison of top ten mean customer and management performance scores

Item 28 questions the consumers perception regarding the price of electricity (see questionnaire details in Table 9 or Appendix 4 to cross reference item number with the question) and is Southern Region's lowest performing area according to the customers. This is followed by the perceived lack of service from the call centre (item 38) and an apparent lack of empathy by the organisation (item 16). Of the ten worst customer rated items, only four are in common with management's perceptions of what customer perceive to be the Region's

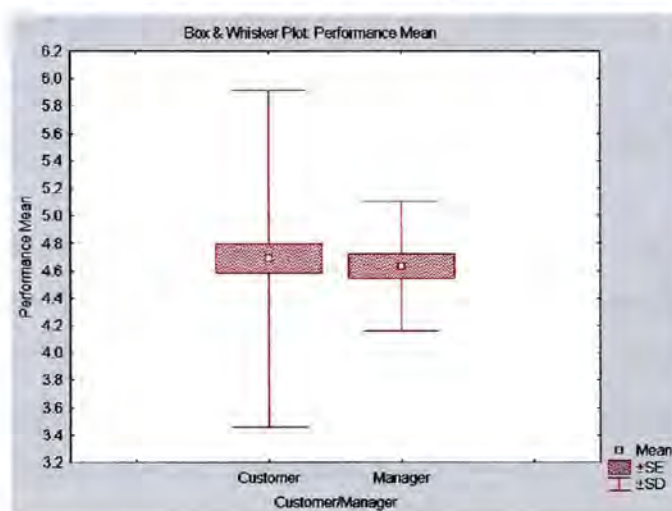


Figure 24 - Comparison of mean customer and management performance ratings.

performance. For example, although identified as the area requiring most improvement, price did not feature in management's worst ten. In fact, it appeared in the latter's *top* ten, being rated third best performing area by management. This would seem to confirm the existence of a lack of understanding between customers and managers in line with Gap 1 of the Service Quality Gap Model. For individual items this would appear to

be the case however overall, the mean ratings of the customers and managers are very similar. Figure 24 compares mean scores of the customer group with those from management and although the latter group appear more homogenous in their beliefs (lower standard deviation),

the mean scores are very similar. The customer performance ratings are on the whole slightly higher than management but the difference is not significant. It appears that at on aggregate, there is little to separate the two groups and it would appear that management are 'in tune' with their consumers however, a study of the individual areas that drive overall satisfaction shows that this is not the case. This example also highlights the shortfall of using summated or overall ratings for consumer satisfaction; it may mask the real underlying issues and provide a false picture of the true situation which needs further investigation.

For example, when the lowest scoring customer performance items are analysed further by plotting histograms to indicate the frequency of responses for both customer and management groupings, it becomes clear that amongst customers, there are a very dissatisfied group who scored performance on these items either a 1 or 2. This has the effect of lowering the mean in a non-normal way and if discounted, not only do the mean scores improve dramatically; the response distribution also becomes more normal. The response to item 38 (call centre performance) highlights the impact of these 'disgruntled few' most significantly (see Figure 26). Thirty four customers rated item 38 a '1' on the seven point scale, one quarter of all responses! This had a profound effect on the mean score for this item. If the thirty four responses are included, the mean of all responses is 3.85. If they are excluded (treated as outliers) the average jumps to 4.81, a very reasonable response from the other one hundred and one customers who seem reasonably satisfied with the call centre. The disenchanted few cannot obviously be discounted but if they are included, they may skew the results abnormally with the result that management interpret the results incorrectly.

Figure 25, Figure 27 and Figure 28 show a similar pattern for the other three items that make up the worst four; a fairly normal pattern of responses with the exception of a large proportion of obviously highly dissatisfied customers who responded with a '1' rating. This pattern is not unique to these examples, it continues throughout the range of responses. Thus, using the simple mean as a measure to identify areas of the business which management should focus their resources on, is problematic. The mean (as used by MaxiCare) is a useful indicator of areas of discontent but must be analysed more deeply (by examining the frequency of responses in a histogram for example) before being used as a strategic tool and commitment of scarce resources.

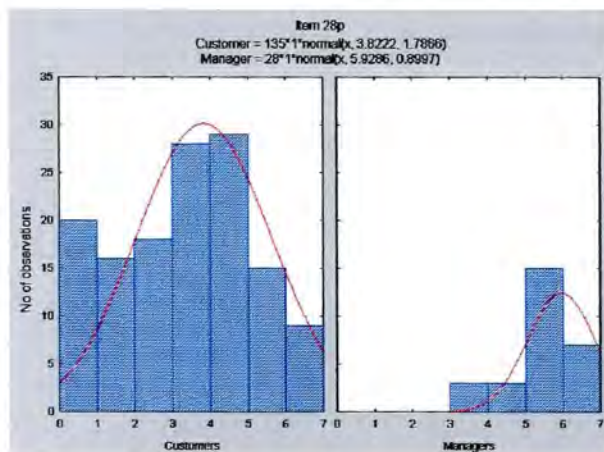


Figure 25 - Item 28, frequency of performance ratings.

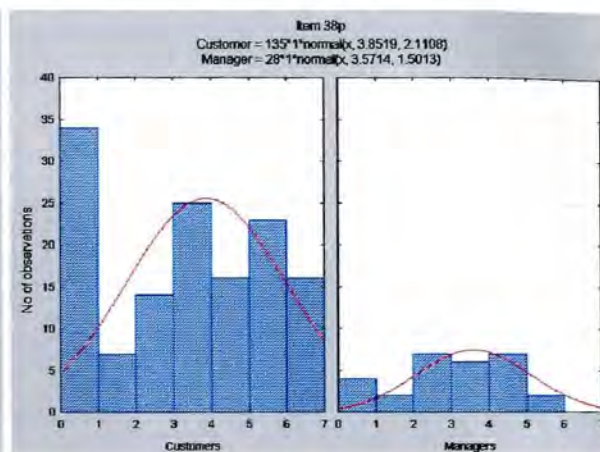


Figure 26 - Item 38, frequency of performance ratings.

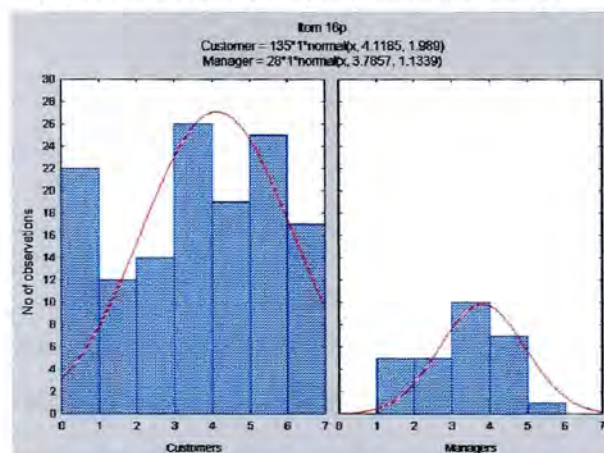


Figure 27 - Item 16, frequency of performance ratings.

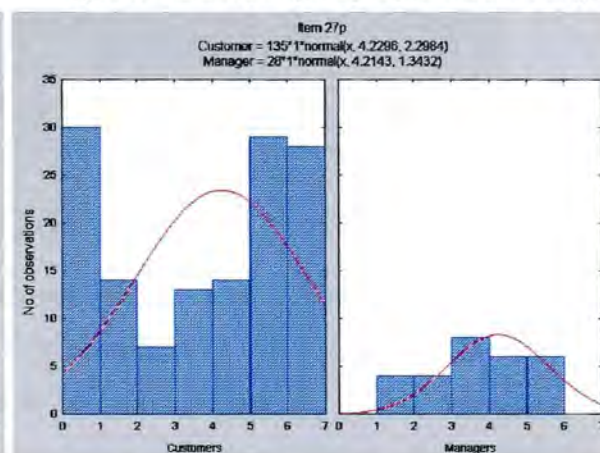


Figure 28 - Item 27, frequency of performance ratings.

4.2.1.3 Importance per item

The mean perceived importance scores per item in the questionnaire are shown ranked in Figure 29 from highest to lowest. The relatively high levels of importance obtained are not surprising given the methodology which from the beginning set out to establish the pertinent service marketing attributes from the literature and qualitative research. In fact, this is encouraging, it shows the questionnaire items are 'on the money'. If returns were received from the survey that rated the importance of items low, it would cast doubt over the validity of the research methodology and findings that lead to the inclusion of that item in the first place. Only item 37 averaged a score of less than five which would indicate that issues pertaining to tangibles such as signage, symbols, advertisements, facilities etc. are not of great importance to Eskom consumers. Similarly, the appearance of employees (item 2) was the second lowest scoring item, a mean of 5.4.

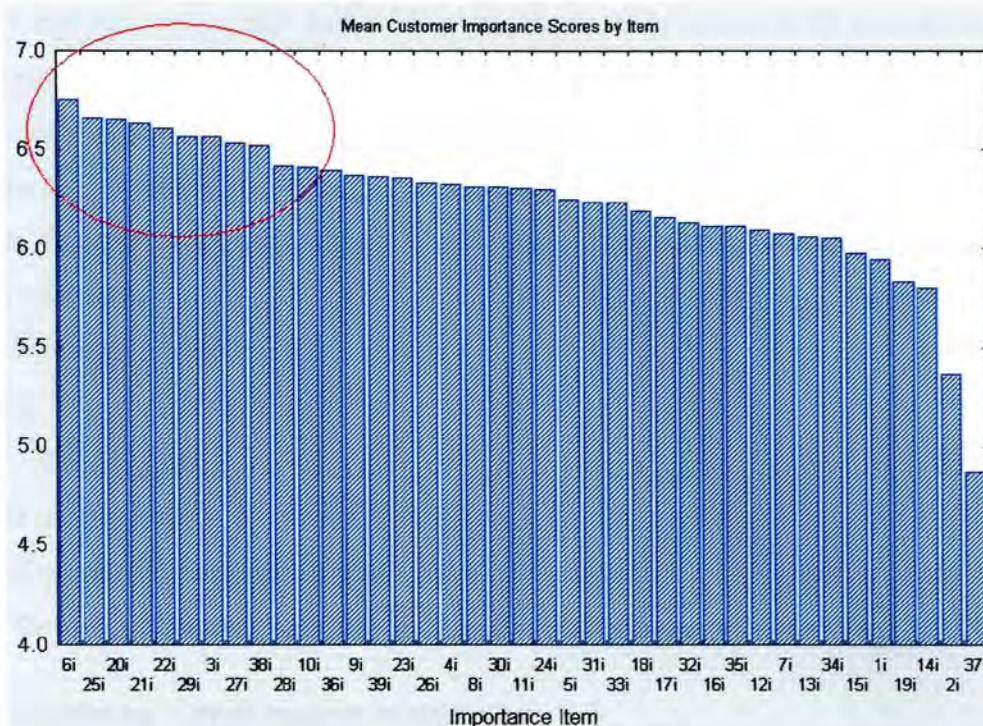


Figure 29 - Ranked customer importance scores per item

Also circled in Figure 29, at the higher end of the scale, are the top ten importance items as rated by the customers. These have been sorted in descending order in Table 12 and compared with the importance scores as rated by management. The high scores are immediately apparent (not unexpected given the thoroughness of the literature study and qualitative analysis that went into their formulation), as is the fact that management and the customers who responded agree on five of the top ten items (shaded grey).

Top 10 Importance Items			
Customers		Managers	
Item	Mean	Item	Mean
6i	6.76	6i	6.64
25i	6.66	20i	6.57
20i	6.65	30i	6.54
21i	6.64	3i	6.43
22i	6.61	5i	6.43
29i	6.56	21i	6.43
3i	6.56	29i	6.43
27i	6.53	36i	6.43
38i	6.52	10i	6.36
28i	6.42	17i	6.36

Table 12 - Top ten customer and manager mean importance scores

Items 25 and 22 are second and fifth respectively in importance to customers and both concern supply quality but interestingly do not appear in management's top ten. As in the discussion on relative performance ratings, this tends to indicate a lack of consensus between customers and management on the importance of supply quality to the end consumer (although they do agree on item 21, the duration of power interruptions). In summary, accuracy of accounts, communication, quality of supply, reliability and price issues dominate the customers top ten importance concerns.

Rank and mean scores are useful to management when displayed with the requisite level of detail, but other methods too can add richness to the data and must be pursued. One alternate method is to plot the mean performance and importance scores graphically for each item and for each customer separately in a pair of importance-performance scatter plots.

4.2.1.4 Importance – performance scatter plots

An attractive feature of the importance-performance analysis is that the results may be graphically displayed on an easily interpreted two-dimensional grid. "...importance-performance analysis has been found to be a useful technique for evaluating the elements of a marketing program" (Martilla and James, 1977:77). Essentially, the mean importance and performance values for each attribute under study are calculated and plotted on a two dimensional graph with importance plotted on the vertical y-axis and performance plotted horizontally on the x-axis.

Martilla and James suggest two important criteria when drawing such importance-performance grids. Firstly, the determination of which attributes to measure is crucial to successful interpretation and thus the overall usefulness of the resulting pattern. The research methodology of this study has been rigorous in identifying relevant and valid quality attributes and the results of the customer importance scores indicates that this has been largely achieved. Secondly, the positioning of the vertical and horizontal axes on the grid is a matter of judgment. Intersection positions which indicate relative, rather than absolute levels of performance and importance, should be chosen to get a good spread of results around the intersection of the two axes. Thus, a meaningful four element grid will be obtained. In line with this latter recommendation, the response mean has been used as a 'centre-point' for the plots to achieve a good spread of results around the mid point of the diagram. These means are indicated on the relevant plots.

There are numerous ways in which the importance-performance scatter plot can be interpreted. Hawes and Rao (1985) use the forty five degree diagonal line from the origin (which represents points where the importance and performance are equal) to differentiate between items above and below the line. Items above the line have importance ratings that are greater than the performance rating. The further away from the line, the bigger the gap and thus the greater the likelihood of dissatisfaction. This is the area in which customers would not be fully satisfied and the area in which the company needs to identify marketing opportunities and performance improvements. If a plot is performed using this approach with the data gathered in this research, they will fall mainly above the diagonal due to mostly negative I-P ratings from the population. This makes the positioning of the line largely redundant as it does not effectively separate the data in a meaningful manner as designed. Similarly, the need for symmetry in axis alignment reduces the ability to plot graphs that zoom in on a specific quadrant, making data interpretation more difficult.

Ford et al (1999) favour a break up of the I-P grid into four quadrants and this approach is followed in this research. The mean importance and performance scores of the total responses are plotted as a single point on the grid and used as the intersection of two perpendicular lines, one horizontal and one vertical which divides the plot into four. The position of each resulting quadrant indicates the appropriate strategy for each measurement: concentrate here ($I > \text{mean}$, $P < \text{mean}$), keep it up ($I > \text{mean}$, $P > \text{mean}$), low priority ($I < \text{mean}$, $P < \text{mean}$) and possible overkill ($I < \text{mean}$, $P > \text{mean}$), as labelled in Figure 30 and Figure 32.

Figure 30 is a plot of the importance and performance means of the thirty nine questionnaire items using the guidelines provided by Martilla, James and Ford. The top left quadrant is the area of focus for management and is shown in more detail in Figure 31. The items that fall in this quadrant are of above average importance to the customers but below average perceived performance. In the strategic planning process, each item number could be read off the plot and cross referenced against the questionnaire, analysed using frequency plots such as those in Figure 25 to Figure 28, and action plans formulated.

This method of results presentation provides management with another analysis tool to analyse areas of their business which require improvement. However, the same technique can be used to identify which customers are the most aggrieved. Figure 32 shows all one hundred

and thirty five customer responses plotted according to the mean of their importance and performance scores.

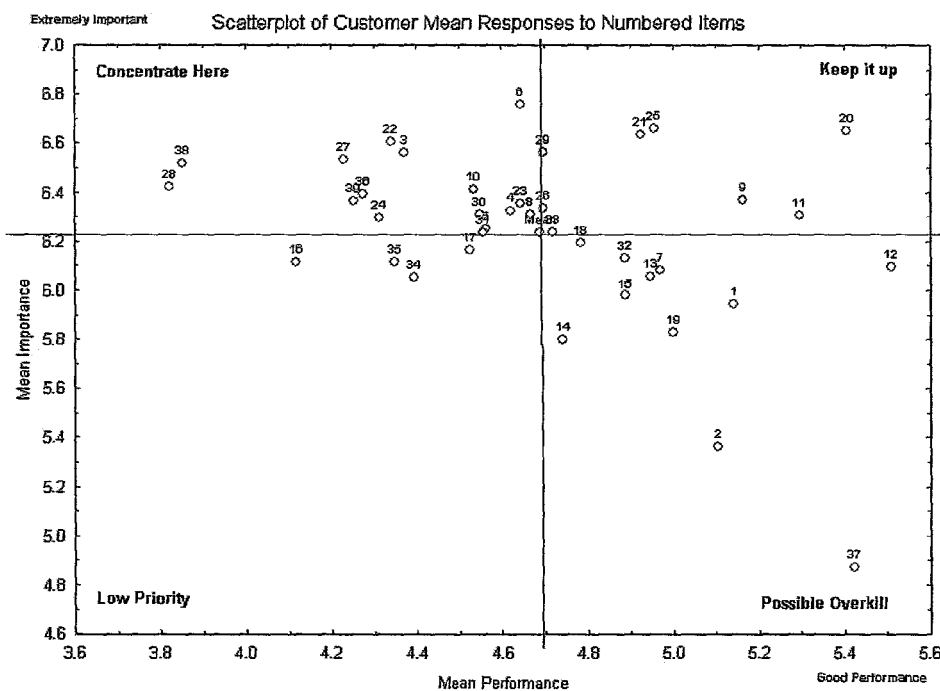


Figure 30 - Mean item importance-performance scores

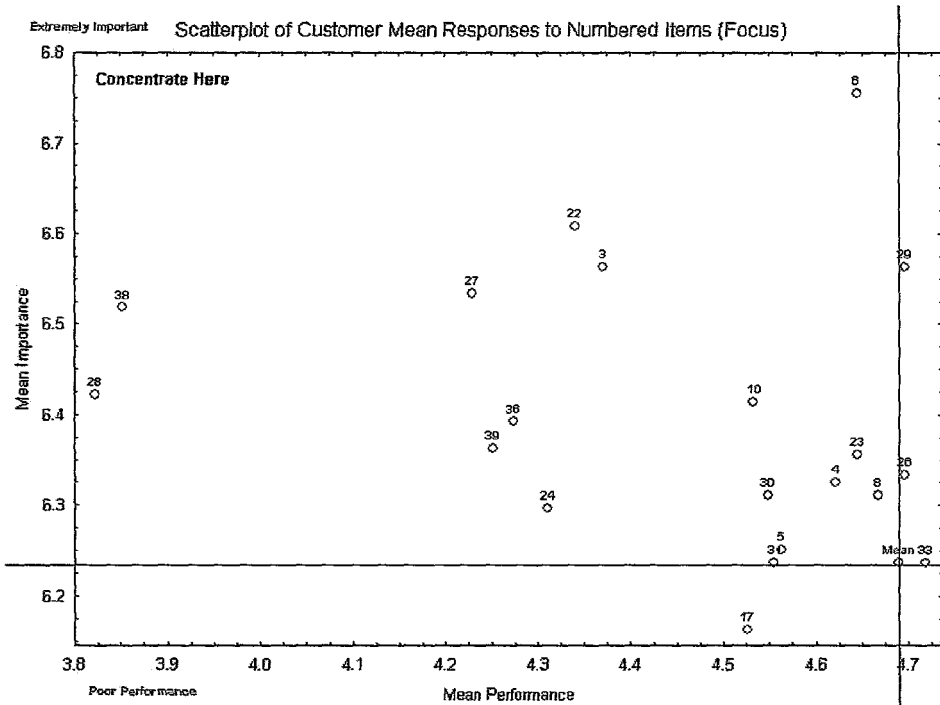


Figure 31 - Items requiring management attention

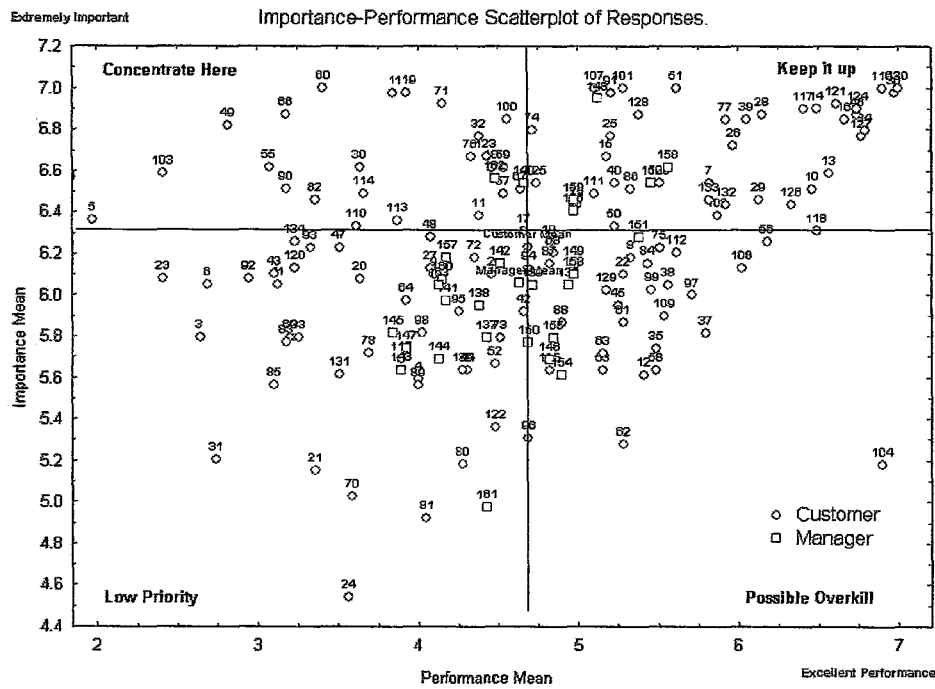


Figure 32 - Mean customer and management importance-performance scores

The population of points in the top left quadrant is expanded in Figure 33 for easier analysis. Twenty eight customers fall into this 'concentrate here' quadrant and are shown in Table 13. Such a table can be used by management to target these customers for further follow up, (most likely a personal contact of some kind) which indicates the simplicity and power of this analysis method.

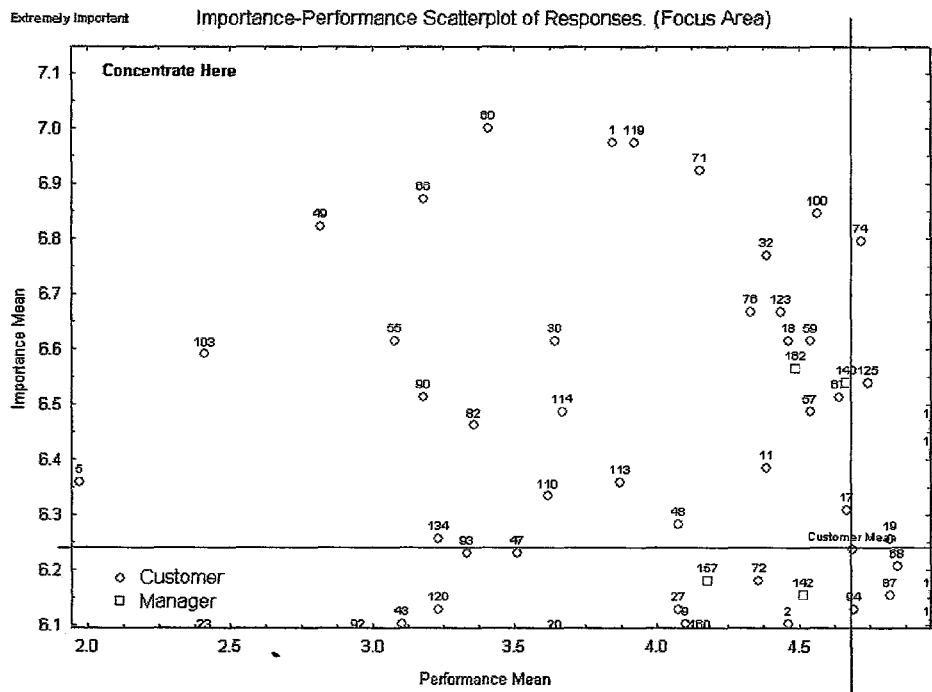


Figure 33 - Customers requiring further management attention

Customer Number	Customer Name	Account Number	Mean Performance	Mean Importance
1	A1 BAZAAR (PTY) LTD	8513918717	3.85	6.97
5	AMATOLA DISTRICT MUNICIPALITY	6724321728	1.97	6.36
11	BALDIE	8335135491	4.38	6.38
17	BOSWALD BRAHMAN (EDMS) BPK	6176714778	4.67	6.31
18	BOSWALD BRAHMAN (EDMS) BPK	5295361911	4.46	6.62
30	CLOETA FARMS	9898442051	3.64	6.62
32	DALTON JNR	6210746682	4.38	6.77
48	GARDNER INVESTMENTS (PTY) LTD	8237213305	4.08	6.28
49	GARIEP TRUST	5442570887	2.82	6.82
54	GROBLER	8499132792	1.82	6.51
55	HENNIE ANDERSON FAMILIE TRUST	8626293615	3.08	6.62
57	HEYDENRYCH	6756973382	4.54	6.49
59	INDEPENDENT CRUSHERS CC	8057629627	4.54	6.62
60	INDIGENOUS TIMBERS	6451939537	3.41	7.00
66	JET STORES	9096981992	3.18	6.87
67	JOCHWE (EDMS) BPK	6566550485	4.64	6.51
71	LANDMAN	5831930584	4.15	6.92
76	LEX GUTSCHE INVESTMENT TRUST	7052117535	4.33	6.67
82	MEYER	8870935910	3.36	6.46
90	NORTJE	9111895341	3.18	6.51
100	ROUX	8598896603	4.56	6.85
103	SCHLEBUSCH	7489140953	2.41	6.59
110	STEYN	7232773779	3.62	6.33
113	SUN ORANGE FARM PTY LTD	9823241339	3.87	6.36
114	SUN ORANGE FARMS PTY LTD	8546682919	3.67	6.49
119	UMBUMTU MUNISIPALITEIT	6383650672	3.92	6.97
123	VAN DER KEL BOERDERY (EDMS)	9887746678	4.44	6.67
134	WOLFAARDT	6229718889	3.23	6.26
	Mean score for all customers	n=135	4.69	6.24

Table 13 - Customers in 'concentrate here' quadrant of importance-performance plot.

Figure 32 also provides insight into the possible perception gaps between management and customers since the individual management responses are also plotted. Just as these plots can be used to identify dissatisfied customers, so too can managers whose perceptions appear to be out of touch (far from the norm, like manager '161') with the customer base can be approached for further understanding and education.

The key advantage offered by importance-performance analysis is the synergistic effect of their simultaneous examination of these measures (Hawes and Rao, 1985). Combined with the simplicity of the approach, ease of application and low cost, I-P plots are useful tools that identify features of the product or service that are worthy of subsequent attention. "Importance-performance analysis provides management with a useful focus for developing marketing strategies" (Martilla and James, 1977:78). As a strategic tool to identify areas in need of improvement, and thus resource allocation priorities, the use of this methodology is valuable.

4.2.1.5 Description of data using coding variables

During the data collection and clean up process, codifying variables were allocated to allow comparisons between different categories of respondents. Box and whisker plots have been

chosen to display the means between the different categories. Figure 34 indicates that customers who are served by a customer executive perceive the company's performance to be higher than those who are not. This is to be expected; customers interviewed expressed a strong desire to have some form of personal contact with the firm and communication issues feature strongly in the high importance, low performance responses to the questionnaire survey. Results of international research house, J.D. Power's electric utility midsize business customer satisfaction study suggest that to retain LPU customers, utilities will need to excel at the fundamentals of price and value, power quality and reliability. Adding the personalized touch of an account executive to this mix is the winning formula for success (Greywitt, 2000:2).

Similarly, Figure 35 reflects that urban customers are generally more satisfied with Eskom's performance than rural customers. This is most likely due to the poor quality of supply that rural customers experience. This in turn is due mainly to geographic factors and engineering solutions provided to remote and widespread rural customers which are not as robust as those for high density urban networks.

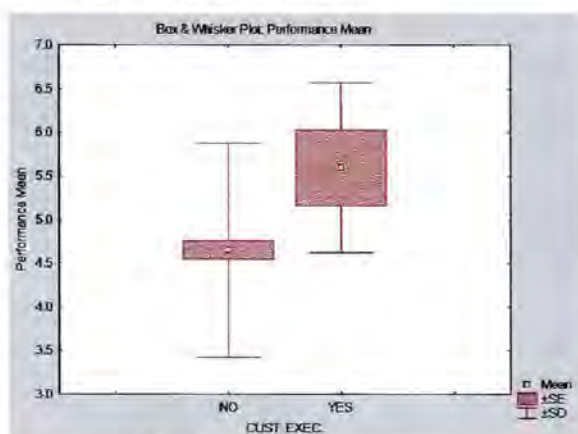


Figure 34 - Performance means - customer executive services provided

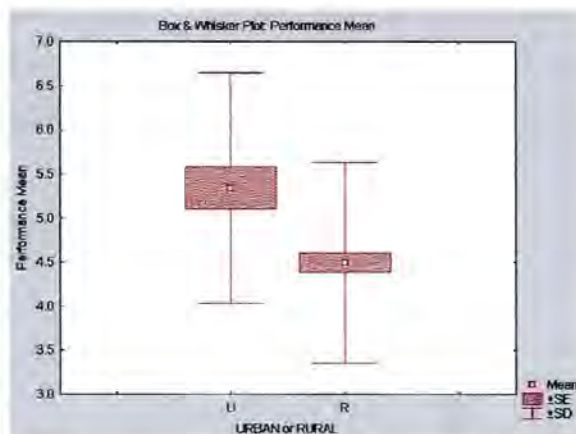


Figure 35 - Performance means - urban or rural

A comparison of responses from the four customer segments (Figure 36) shows a slightly lower satisfaction amongst agricultural and industrial customers than commercial and residential (municipal) customers, with the latter segment appearing to be the most satisfied. Interestingly, this same phenomenon is reported by MaxiCare; agricultural sector scores are consistently the lowest followed by industrial consumers. However, a comparison between the four customer service areas (Figure 37) does not indicate a significant difference in customer perceptions in the diverse geographic sections of the Southern Region.

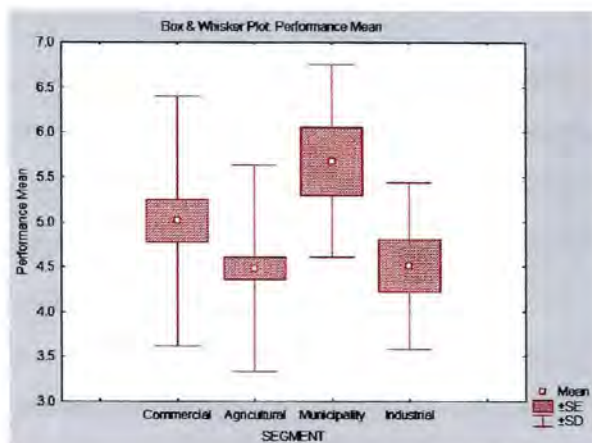


Figure 36 - Performance Means - 4 Customer Segments.

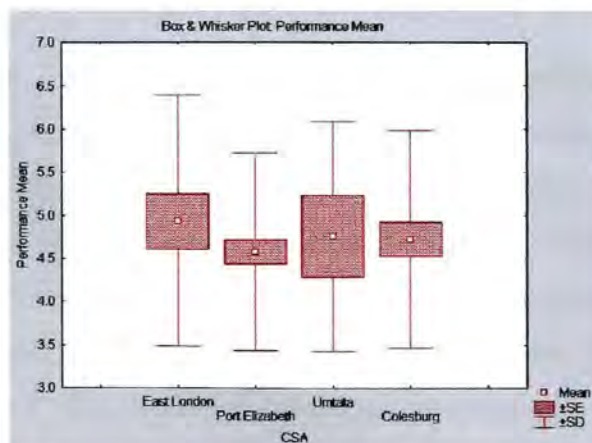


Figure 37 - Performance Means - Customer Service Areas

In order to understand the relationship between length of association with Eskom and customer satisfaction, the scatter plot in Figure 38 was plotted. The linear trend line indicates a downward trend in satisfaction for shorter connection time periods i.e. those customers who have been connected for over 10 years appear more satisfied than those who have been connected in more recent times. This is in line with Bolton's suggestion that the longer a customer had been with the service provider, the lower the perceived losses associated with transaction or service failures (1998). (A word of caution when interpreting these results, it would appear as if connection dates in the customer database may have been changed every time supply contracts are renegotiated. This would tend to indicate shorter relationships with Eskom than may be the case in reality.)

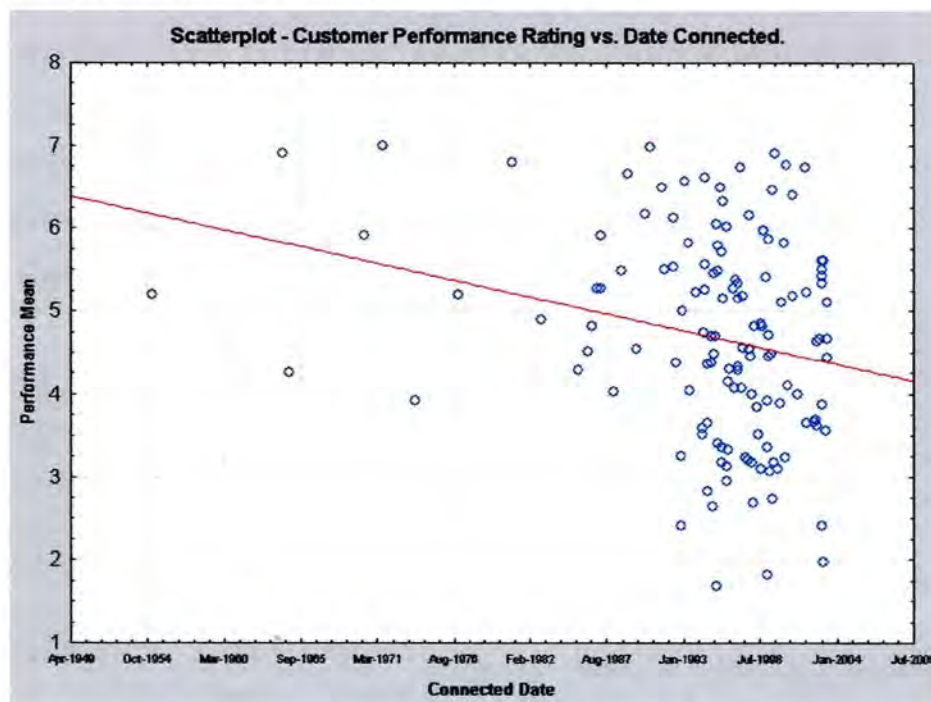


Figure 38 - Scatter plot: Performance Mean Score vs. Connection Date

4.2.2 Correlation analysis

Correlation analysis was used to determine the relationship between service quality performance and importance perceptions and overall satisfaction (item 40) and customer loyalty (item 41). Items 40 and 41 were included in the instrument to capture respondent's perceptions of overall service quality ("Overall, the quality of Eskom's services are....Very PoortoExcellent) and loyalty ("My feelings towards Eskom can best be described as....Very UnsatisfiedtoVery Satisfied") respectively. Figure 39 and Figure 40 indicate the frequency of responses to these items. The majority scored these either a 5 or a 6 on the seven questionnaire scale yielding means of 4.71 for overall service quality and 4.60 for customer loyalty.

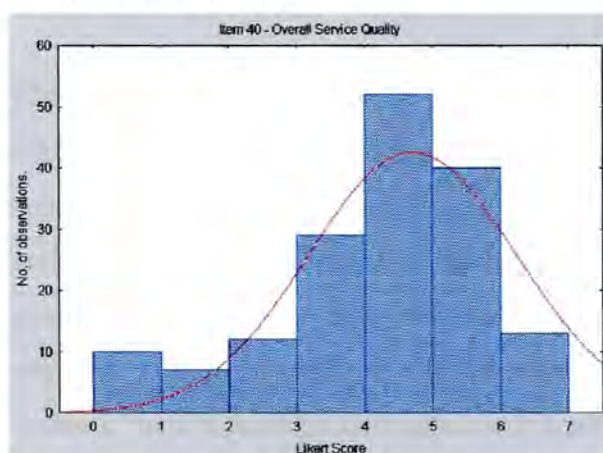


Figure 39 - Item 40 - overall service quality

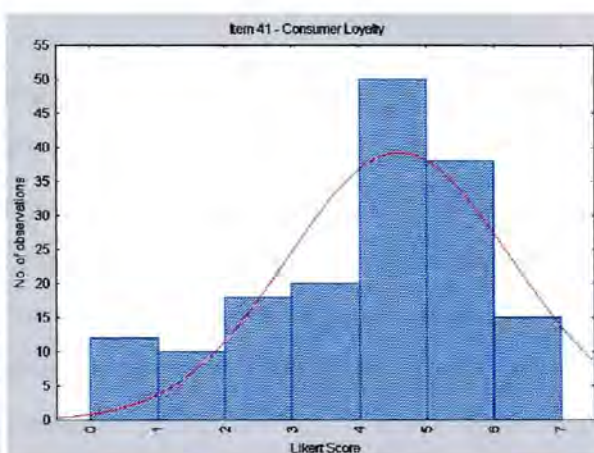


Figure 40 - Item 41 - customer loyalty

The Pearson r correlation coefficient determines the extent to which values of two variables are "proportional" to each other. If the correlation coefficient is squared, then the resulting value (r^2 , the coefficient of determination) represents the proportion of common variation in the two variables (i.e., the "strength" or "magnitude" of the relationship). In order to evaluate the correlation between variables, it is important to know this "magnitude" or "strength" as well as the significance of the correlation.

	Mean	Std.Dev.	Pearson (r)	r^2	t	p	n
Performance Mean	4.679409	1.134591	0.794935	0.631922	16.62549	0.00	163
40 - Quality	4.705521	1.527252					
Performance Mean	4.679409	1.134591	0.783701	0.614188	16.00941	0.00	163
41 - Loyalty	4.595092	1.657896					
Importance Mean	6.205915	0.508772	0.175073	0.030650	2.256271	0.025400	163
40 - Quality	4.705521	1.527252					
Importance Mean	6.205915	0.508772	0.203789	0.041530	2.641213	0.009075	163
41 - Loyalty	4.595092	1.657896					

Table 14 - Pearson Correlation between importance, performance, service quality and loyalty.

Table 14 details the correlation 'r' between performance mean scores and items 40 and 41 and also importance mean scores and items 40 and 41 for all responses received, customers and management (n=163). The correlation between performance and both service quality and customer loyalty is high (0.79 and 0.78), but there is only a weak correlation between these two measures and the importance means (0.18 and 0.20). Thus, these results show good convergent validity between performance and overall service quality, as well as performance perceptions and customer loyalty in support of the performance based measures of customer satisfaction. This is congruent with research results discussed in the literature. However, importance measures fail the same tests of convergent validity. There is very little correlation between the importance scores recorded and overall service quality and loyalty.

The statistical significance (p-level) of the results represents a decreasing index of the reliability of a result. The higher the p-level, the less we can believe that the observed relation between variables in the sample is a reliable indicator of the relation between the respective variables in the population. Specifically, the p-level represents the probability of error that is involved in accepting the observed result as valid, that is, as "representative of the population." The p-levels in Table 14 indicate that there is a low probability that the relations between the variables found in this sample are invalid.

Proportionality, or correlation is strong if variables are linearly related and can be approximated by a straight line plot, sloped positively or negatively. This line is called the regression line or least squares line because it is determined such that the sum of the squared distances of all the data points from the line is the lowest possible. Figure 41 to Figure 44 show the regression line for the four correlation calculations in Table 14.

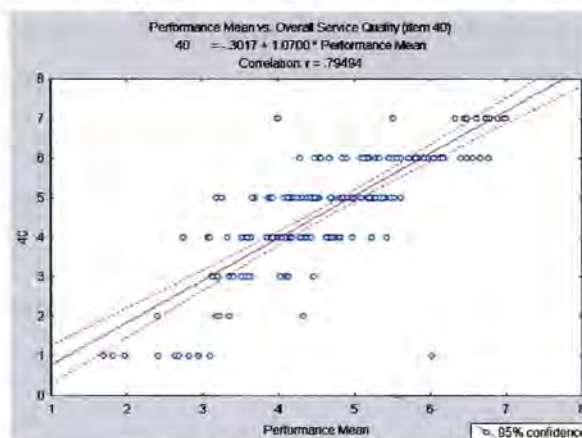


Figure 41 – Correlation: Performance mean and Service Quality

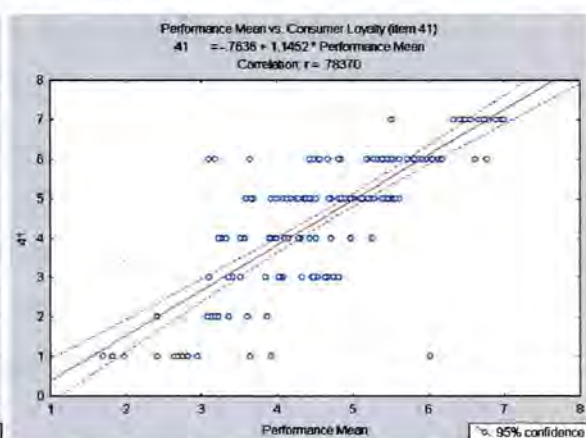


Figure 42 – Correlation: Performance mean and Consumer Loyalty.

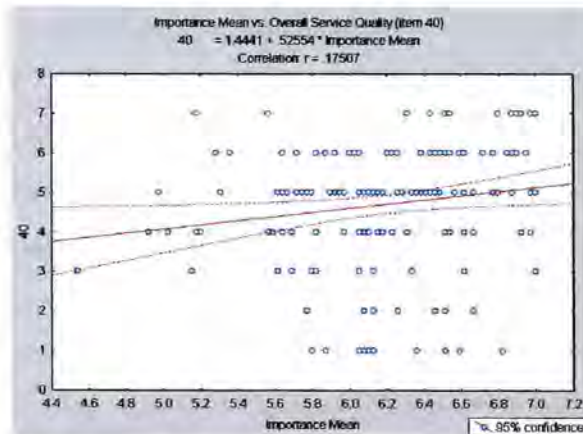


Figure 43 – Correlation: Importance Mean and Service Quality

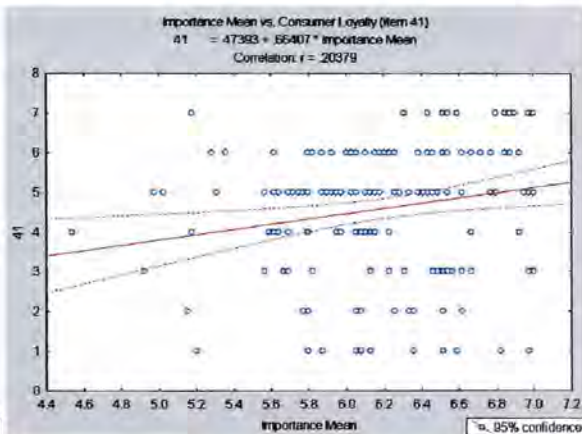


Figure 44 – Correlation: Importance Mean and Customer Loyalty.

The strong positive correlation (upward sloping line) is apparent for the performance means with the measurements grouped tightly around the regression lines (large r^2). Equally clear is the small gradient of the regression line for the importance means and the very scattered measurements indicating low levels of correlation.

As useful as these descriptive techniques may be, a critical aspect in the development of any measurement tool is the development of good measures to obtain valid and reliable estimates of the constructs of interest. Without establishing the reliability and validity, it is difficult to standardize the measurement scales, and hard to know whether they truly measure what they intend to. Conventionally, exploratory factor analysis is used as a first step in situations where the relationship between the observed and latent (factor) variables are unknown or uncertain.

4.2.3 Exploratory factor analysis

Exploratory factor analysis (EFA) is a useful scale reduction technique for reducing a large number of scales to a more manageable set. It is particularly useful in the preliminary stages of analysis in the absence of sufficient theory as to the underlying relationships between data and any possible constructs (Gerbing and Anderson, 1988). Churchill wrote, "...factor analysis can indeed be used to suggest dimensions, and the marketing literature is replete with articles reporting such use" (1979:69). EFA is most often used to factor a set of items, thirty nine in this instance, and then construct scales on the basis of the resulting factor loadings. Scales are formed by grouping items that load moderately on the same factor (and do not load to the same degree on other factors) and then giving logical descriptions to the item group or scale.

Factor analysis extracts factors that account for less and less variance and the goal is to come out with the minimum number of factors that will explain the co variation among the observed variables. Using STATISTICA to perform an exploratory factor analysis of the raw data gathered by the questionnaire yielded the variances accounted for by successive factors as summarized in Table 15, with the eigenvalues in the second column depicting the variance of each new factors that is extracted. In the third column, these values are expressed as a percent of the total variance (i.e. factor 1 accounts for almost forty five percent of the total variance, factor 2 for five point six percent, and so on). The fourth column contains the cumulative variance extracted. The question of how many factors to retain is by nature an arbitrary decision, however, there are some simple guidelines that are commonly used, and that in practice yield the best results; the Kaiser criterion and a line plot.

The oft used Kaiser criterion states that only factors with eigenvalues greater than one should be retained, which in effect means that unless a factor extracts at least as much as the equivalent of one original variable it is not used. This criterion was proposed by Kaiser (1960) and its application to this research yields the six principal components or factors of Table 15.

Factor	Eigenvalues	Total Variance (%)	Cumulative Eigenvalue	Cumulative Variance (%)
1	17.38623	44.58008	17.38623	44.58008
2	2.20214	5.64651	19.58837	50.22659
3	1.91068	4.89917	21.49905	55.12576
4	1.54747	3.96788	23.04652	59.09364
5	1.42104	3.64368	24.46756	62.73733
6	1.21884	3.12523	25.68640	65.86256

Table 15 - Principal component extraction (eigenvalues > 1)

Alternatively, the eigenvalues for successive factors can be displayed in a simple line plot. Cattell (1966) proposed that this 'scree' plot be used to graphically determine the optimal number of factors to retain. The scree test involves finding the place where the smooth decrease of eigenvalues appears to level off to the right of the plot. To the right of this point, presumably, you find only "factorial scree" - thus, no more than the number of factors to the left of this point should be retained.

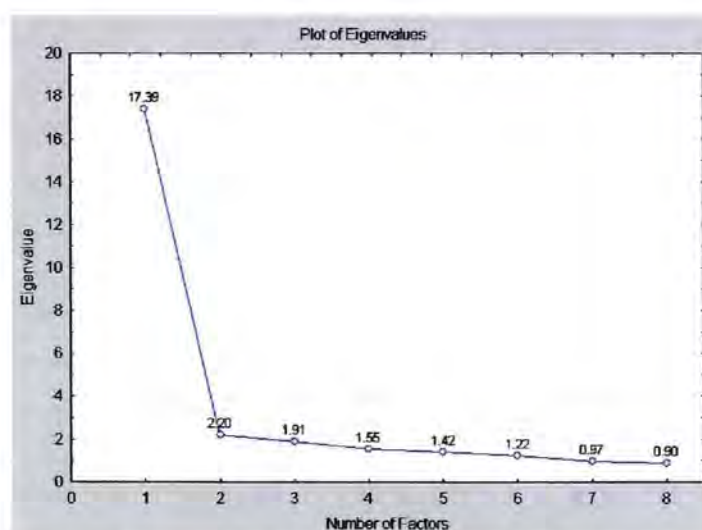


Figure 45 - Scree plot of eigenvalues

As can be seen from Figure 45, a scree plot of the eigenvalues levels off almost immediately after the first factor, no discernable scree point being evident to the right of factor two. This would be in agreement with Cronin and Taylor's observation that their SERVPERF instrument loaded onto a single factor which was confirmed by Burch et al. (1995) in the rental industry. However, given the exploratory nature of the research, the rather arbitrary approach to choosing the number of factors to retain offered by scree plots and the need to provide management with a useful strategic tool (one factor instruments being too generalised), the Kaiser Criterion was chosen as the retention criteria for factors and six factors were extracted.

In the current investigation a factor analysis was conducted using principle component extraction with varimax normalised rotation. Factor loadings, the correlation between the six factors and the underlying variables, represent the most important information on which the interpretation of factors is based. The factor loadings for all thirty nine questionnaire items are shown in Table 16.

Item Number	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
31	0.738504	0.231582	0.291952	0.157936	0.217271	0.012499
27	0.669593	0.200044	0.104225	0.311231	0.311156	0.146686
34	0.662949	0.262099	0.460560	0.118247	0.140126	0.046921
30	0.645535	0.132882	0.201874	0.176283	0.330449	0.099464
17	0.634755	0.201243	0.356247	0.265424	0.263022	0.085724
36	0.576300	0.517704	0.098245	0.007990	-0.026508	0.090706
16	0.552711	0.337006	0.408873	0.071323	0.243862	0.179936

35	0.536926	0.483466	0.226639	0.282352	0.191960	0.066416
15	0.529575	0.016947	0.523068	0.025351	0.140605	0.309438
24	0.508677	-0.022641	0.407198	0.159526	0.338411	0.217676
14	0.494181	-0.076878	0.448280	-0.131438	0.193295	0.352341
38	0.493071	-0.109477	0.264908	0.366378	0.287535	0.000731
23	0.413751	0.405567	0.212478	0.242000	0.275629	0.081889
37	0.057654	0.731593	0.030470	0.106186	0.116779	0.287123
1	0.119264	0.571922	0.206877	0.169716	0.215279	0.065812
28	0.097069	0.549907	0.133530	0.178821	0.519583	-0.262099
12	0.190471	0.288399	0.695583	0.073646	-0.062787	0.233780
8	0.282486	0.062878	0.678866	0.224362	0.164000	0.341788
11	0.157711	0.299635	0.656302	-0.030722	0.266414	0.136809
9	0.422679	0.205553	0.653521	0.196598	-0.072856	0.099584
13	0.194612	0.201637	0.616295	0.105405	0.315321	-0.110814
2	0.114840	0.391978	0.615203	0.265427	0.003868	0.176125
18	0.145694	0.131479	0.603553	0.285873	0.337508	-0.067324
4	0.482000	0.106618	0.602924	0.172955	0.184510	0.052247
39	0.310984	0.183825	0.586459	0.383352	0.136701	-0.296487
10	0.382690	-0.030234	0.550762	0.203344	0.392294	0.172689
26	0.443778	0.295305	0.523226	0.141360	0.240419	0.101916
5	0.307589	-0.025625	0.522331	0.209398	0.343892	0.073229
3	0.208442	-0.077361	0.433735	0.265676	0.318378	0.363717
32	0.360575	0.479280	0.412370	0.111197	0.284331	0.112209
22	0.151418	0.143004	0.157919	0.837257	0.132188	0.092081
25	0.237963	0.263020	0.119548	0.728219	0.157610	0.058154
21	0.149350	0.199954	0.330062	0.636991	-0.106897	0.353546
29	0.196049	0.251979	0.202475	-0.047576	0.722364	0.098477
6	0.344013	0.144377	0.144479	0.004454	0.710397	0.039220
33	0.211308	0.295259	0.028481	0.178257	0.661960	0.090162
20	0.206955	0.232602	0.222934	0.221015	0.034431	0.623729
7	0.240222	0.207904	0.220767	0.253099	0.319046	0.505686
19	0.190623	0.591941	0.403358	0.149097	0.209471	0.222858
Description	Communication	Tangibles	Assurance	Quality of Supply	Price and Account Accuracy	Empathy

Table 16 - Factor Loadings (varimax normalised) of thirty nine questionnaire items on six retained factors. Extraction: principal components.

The factor loadings are sorted in descending order to facilitate easy 'clustering' of like loadings. Items that demonstrated a factor loading of greater than 0.40 (suggested criteria, Hinkin, 1995) are highlighted using bold red typeface font. Those that logically cluster on an underlying factor have been 'grouped' and shaded grey for easier interpretation. Where an item loads onto more than one factor (and thirteen of them do), it has been clustered with the most relevant factor after an intuitive and often subjective comparison. The guiding principal used was the factor loading, the item being linked to the factor that it loads highest upon. However, in some cases an exception was made when it appeared more logical to do so. For example, item 32 (Eskom is transparent, open and honest) loads onto both tangibles and assurance but is surely more appropriately linked to the latter and has been shaded accordingly.

A six factor structure emerges at this early stage of analysis. By studying the content of the item questions and the factor loading pattern, it is possible to explore further and suggest the nature of the underlying factors and the relationships between the latent factors and the observed variables. Once this relationship was better understood, it was possible to give each factor a defining name and description as in Table 17 below.

It is encouraging to see that all items load clearly onto at least one factor, as this indicates a robust instrument. However, as highlighted, several items load onto more than one factor which is problematic. It is feasible (and in the early stages of research even probable) for this to happen. These 'common' items are highlighted (bold font) in Table 17, i.e. item 4 is common to both factor 1; communication, and factor 3; assurance. This is problematic since it indicates that the factors identified are not distinct. Ideally, every identified variable should load highly on only one underlying factor. Further scale purification and refinement is definitely required in future research to improve the uniqueness of each factor.

Item 19 (probes corporate citizenship) shows a strong factor score against both tangibles and assurance, but it cannot be reasonably categorised into either of these factor descriptions. Besides the fact that it loads onto more than factor, it is definitely not a 'tangible' and could only be grouped under 'assurance' at a stretch. The question itself also fails to sufficiently probe *performance* of the company, is very general in nature and open to misinterpretation. For these reasons, it is suggested that it be removed from future revisions of the instrument and has been struck through.

Factor	Chosen Factor Name	Items that load highly on this factor ¹	Description
1	Communication	4, 9, 14, 15, 16, 17, 23, 24, 26, 27, 30, 31, 34, 35, 36, 38.	Items logically group together and cover issues such as individual attention, open channels of communication, consultation, listening and understanding demonstrated by quick response to issues, call centre service etc.
2	Tangibles	1, 23, 28, 32, 34, 35, 36, 37.	Similar to the SERVQUAL definition, covers equipment, technologies, the product and signage, advertisements and other such marketing visibility.
3	Assurance	2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 24, 26, 32, 39.	Covers faith and comfort issues and perceptions a customer forms about the organisation based on the transaction experiences accumulated over time. These items probe perceptions of competence, keeping of commitments, reliability, punctuality and promptness, trustworthiness, courtesy, confidence in the company, honesty and hope for the future.
4	Quality of Supply	21, 22, 25.	These three items question Eskom's ability to keep the number and duration of power outages to an absolute minimum. Simple and clear message; the power must go off very seldom and when it does it must be restored quickly.
5	Price and Account Accuracy.	6, 28, 29, 33.	All four of these specifically probe customer perceptions of performance regarding Eskom's ability to produce an accurate account at the end of the billing period that is a reflection of their consumption but also perceptions regarding the price of electricity and value for money.
6	Empathy	7, 20.	Proactive action by the company because they know what the customer needs and take these into consideration. No other items load strongly on this factor and neither do items 7 and 20 have high factor loading scores on other factors. The fact that only two items loaded onto this factor makes interpretation difficult but the data seems to suggest that there is indeed a factor, distinct from all the rest that has to do with proactive and empathetic response from the organization. Requires further exploration.

Table 17 - Factor labels and definitions.

Note 1: Items that exhibit loading scores >0.4 on more than one factor are shown in bold.

4.2.4 Scale refinement and validation – tests for unidimensionality using confirmatory factor analysis

The importance of unidimensionality has been stated concisely by Hattie (1985:149), "That a set of items forming an instrument all measure just one thing in common is a most critical and basic assumption of measurement theory." There is mounting criticism that traditional EFA and item to total correlation tests for unidimensionality are not sufficient.

The construction of scales from an analysis of the underlying item factor loadings does not in itself prove the unidimensionality of these scales (Gerbing and Anderson, 1988). EFA is suitable only for constructs that are at a very emerging stage of research. EFA is a useful starting point for scale construction but confirmatory factor analysis (CFA) is needed to evaluate and refine the resulting scales. Confirmatory factor analysis is an extension of factor analysis in which specific hypotheses about the structure of the factor loadings and inter-correlations are tested.

Similarly, the use of item to total correlations is a tried and tested method for constructing one-dimensional scales and "...the items that correlate most highly with total scores are the best items for a general purpose test" (Nunnally, 1978:279). Although Nunnally prefers this method, Kline recognises the advantages of factor analysis in some situations but concludes that "there is little essential difference between the methods" (1983:49). The problem with just using item to total correlations alone is that it does not account for external consistency. It may fail to discriminate between sets of indicators that represent different, though correlated, factors (Gerbing and Anderson, 1988).

In line with these propositions, a new paradigm for evaluating unidimensionality has been proposed by Gerbing and Anderson (1988) and utilises confirmatory factor analysis. According to their paradigm, CFA is a stricter interpretation of unidimensionality than more traditional methods such as coefficient alpha, item-total correlations and exploratory factor analysis. Gerbing and Anderson maintain that of all these methods, only a CFA of a multiple-indicator measurement model *directly* tests unidimensionality.

The lack of consistency of thirteen items as discussed in the previous section was highlighted by a confirmatory factor analysis using the SEPATH Structural Equation Modeling Tool in STATISTICA. It demonstrated a decided lack of fit for the six-factor multiple indicator questionnaire used. The Joreskog good-of-fit index (GFI) value is 0.604, The Bentler-Bonett Normed Fit index 0.600 and the Population Gamma Index equal to 0.695 (see Table 18).

Fit Indice	Value
Bentler-Bonett Normed Fit Index	0.600
Joreskog GFI	0.604
Population Gamma Index	0.695

Table 18 - Selected results: goodness-of-fit indices

Joreskog GFI and population gamma index values above .95 indicate good fit (Joreskog and Sorbom, 1984, and Steiger, 1989). As these results show, the scales *do not pass tests for unidimensionality*.

It may be that CFA tests are premature at this early stage of scale purification, especially in light of the EFA results. It is clear that scale refinement needs to take place to improve the unidimensionality of the instrument which must be followed by a further round of factor analysis. This is in accordance with Churchill's beliefs (1979:69) that "Although this application (referring to EFA) may be satisfactory during the early stages of research on a construct, the use of factor analysis in a confirmatory fashion would better fit later stages."

4.2.5 Reliability analysis

Unidimensionality alone is not sufficient to ensure the usefulness of a scale. According to the scale development paradigm suggested by Gerbing and Anderson (1988), the reliability of the composite score must also be assessed once unidimensionality has been established. Reliability of a measure is the ability to yield consistent results (Nunnally, 1988) and thus unidimensionality and reliability are distinct concepts and both must be tested independently. Coefficient alpha (Cronbach, 1951) is the most widely used coefficient of equivalence (advantageous because it only requires one administration of the scale) and deemed to be the most effective, especially in field trials (Sureshchandar et. al., 2002). The reliability is operationalised as internal consistency; the degree of inter-correlations among the items that constitute a scale (Nunnally, 1988). The higher the alpha value, the higher the internal consistency, values greater than 0.7 are considered to indicate high reliability (Sureshchandar, 2002). The Cronbach alphas for all item variables are shown in Table 19. All the values far exceed the 0.7 criteria, indicating that all items are internally consistent and have acceptable reliability values in their original form. Further, the Cronbach's alpha values for all of the six factors identified in the EFA are shown in Table 20. All the values exceed the minimum benchmark thereby demonstrating that five of the six dimensions are internally consistent and have acceptable reliability values in their original form.

Summary for scale: Mean=182.497 Std.Dv.=44.2491 Valid N:163 Cronbach alpha: .965308 Standardized alpha: .966130. Average inter-item corr.: .429958					
	Mean if deleted	Var. if deleted	Std. Dev. If deleted	Item to Total Correlation	Alpha if deleted
1p	177.25	1888.29	43.45	0.5027	0.9650
2p	177.47	1866.85	43.21	0.6282	0.9645
3p	178.22	1848.44	42.99	0.6126	0.9645
4p	177.86	1830.31	42.78	0.7438	0.9639
5p	177.97	1845.15	42.96	0.6739	0.9642
6p	177.98	1840.99	42.91	0.5757	0.9648
7p	177.69	1851.28	43.03	0.6361	0.9644
8p	177.93	1839.70	42.89	0.7228	0.9640
9p	177.36	1855.63	43.08	0.6893	0.9642
10p	178.02	1834.42	42.83	0.7257	0.9640
11p	177.20	1869.70	43.24	0.6478	0.9645
12p	177.03	1880.09	43.36	0.6009	0.9647
13p	177.50	1862.24	43.15	0.6685	0.9643
14p	177.99	1859.28	43.12	0.5604	0.9648
15p	177.83	1847.81	42.99	0.6773	0.9642
16p	178.44	1819.65	42.66	0.7718	0.9637
17p	178.04	1821.04	42.67	0.7934	0.9636
18p	177.67	1847.73	42.99	0.6848	0.9642
19p	177.26	1863.54	43.17	0.5951	0.9646
20p	177.21	1877.22	43.33	0.4851	0.9651
21p	177.73	1865.61	43.19	0.5275	0.9649
22p	178.17	1851.73	43.03	0.5233	0.9651
23p	177.84	1840.78	42.90	0.6309	0.9645
24p	178.30	1831.59	42.80	0.6917	0.9641
25p	177.54	1861.59	43.15	0.5635	0.9648
26p	177.80	1835.67	42.84	0.7674	0.9638
27p	178.27	1809.78	42.54	0.7176	0.9640
28p	178.31	1862.62	43.16	0.5032	0.9651
29p	177.82	1853.62	43.05	0.5662	0.9648
30p	178.00	1832.55	42.81	0.6899	0.9641
31p	177.95	1830.46	42.78	0.7596	0.9638
32p	177.99	2165.11	46.53	0.754	0.968
33p	178.16	2176.96	46.66	0.560	0.969
34p	178.48	2145.81	46.32	0.799	0.968
35p	178.53	2151.27	46.38	0.763	0.968
36p	178.60	2160.88	46.49	0.542	0.969
37p	177.45	2224.22	47.16	0.442	0.969
38p	179.02	2159.68	46.47	0.594	0.969
39p	178.62	2149.49	46.36	0.677	0.968

Table 19 - Cronbach alpha reliability assessment of survey instrument performance items

The sixth factor consists of only two variables which make Cronbach Alpha calculations invalid.

Factor	Cronbach Alpha	Standardised Alpha	Avg. Inter-item correlation.
1	0.931457	0.933665	0.528387
2	0.705856	0.714105	0.456231
3	0.937673	0.939059	0.528425
4	0.816969	0.818022	0.602622
5	0.805635	0.806641	0.589353
6	Insufficient Items	Insufficient Items	Insufficient Items

Table 20 - Reliability indices for the six extracted dimensions

Additionally, Appendix 6 details item to total correlations for the six scales identified. All items are positively correlated, the strength of the correlation varying from a low of 0.54 to 0.81. These correlation scores will prove useful in future refinement of the scales, when items may be edited or removed to improve reliability. Alpha scores per item show high reliability for scales consisting of more than three items. Generally, scales with a small number of items exhibit lower reliabilities (measured by their alpha score) which explains the low scores for tangibles, price and quality of supply. Alpha scores for empathy could not be calculated since that dimension consists of only two items. These results suggest that either some items with low item to total correlations could be removed from the instrument or if retained, some of the scales will require additional items to be added to them to improve their reliability.

4.2.6 Validity analysis

The preceding steps have measured the reliability and internal consistency of the explored factor structures but these two conditions alone are not sufficient conditions to show the construct validity of a scale (Churchill, 1979). It is required show face validity, content validity and convergent validity. The latter is the extent to which the measure correlates with other measures designed to measure the same thing.

4.2.6.1 - Face validity

In face validity one looks at the measure to see whether "on its face" it seems a good reflection of the construct. As the satisfaction constructs were identified from the literature and from in depth analysis of interview data, their selection is justified, thereby ensuring the face validity of the instrument.

4.2.6.2 - Content validity

Content validity is the extent to which the instrument provides a sufficient demonstration of the theoretical field that it is designed to cover. As with face validity, content validity judgements are subjective and logical rather than statistical. If the items representing the various constructs of an instrument are substantiated by a comprehensive review of the relevant literature, content validity can be ensured. The present instrument has been developed based on a detailed analysis of the empirical and theoretical literature. Moreover, the content validity of the instrument was also ensured through thorough field research and analysis.

4.2.6.3 - Convergent and criterion-related validity

The basic idea of criterion-related validity is to check the performance of the measure against some criterion. In the present study, criterion-related validity is established by correlating the scales scores with two criteria, viz. overall service quality (item 40) and loyalty to Eskom (item 41). The Pearson correlations are shown in Table 21. It should be noted that all the scales have positive correlations with item 40 and 41. Thus criterion-related validity is suggested for all the scales.

Dimension	Overall Service Quality	Loyalty
Communication	0.723	0.731
Tangibles	0.506	0.479
Assurance	0.789	0.767
Quality of Supply	0.537	0.519
Price	0.548	0.547
Empathy	0.489	0.460

Table 21 - Correlations among the six factors discovered by EFA and the criteria.

Convergent validity refers to the degree to which the different approaches to construct measurement are similar to (converges on) other approaches that it theoretically should be similar to. When there is high correlation between a measure and other measures that are believed to gauge the same construct, convergent evidence for validity is obtained (Kaplan and Sacuzzo, 1993). Convergent validity is based on the correlation between responses obtained by maximally different methods of measuring the same construct. Although not maximally different and therefore not ideal, each item in a scale (e.g. items 40 and 41) can be treated as a different approach to measure the construct (Ahire et al., 1996). Thus the correlations in Table 21 hint at convergent validity and theoretical support for the constructs of customer satisfaction as revealed in this exploratory research. The results are not strongly

positive for tangibles and empathy however which makes a definitive answer as to their convergent validity elusive and inconclusive.

4.3 Conclusion

Literature Review and field study led to the identification of several dimensions that possibly formed the basis for customer satisfaction perceptions. These were operationalised in the form of a thirty nine item questionnaire which asked respondents to provide their perceptions regarding Eskom's performance and to rate the importance of each item. From an analysis of the returns it was possible to describe various phenomena, most notably the mean performance and importance per item and per customer. This allowed the ranking of items and the comparison of samples between customers and management. The identification of the top ten performance – importance gaps was also possible which provides further useful information regarding customer's perceptions to management.

Examination of the frequency of responses per item was proposed as a means of identifying those 'disgruntled few' customers who rated performance items a '1' on the 7 point scale against any particular item. These customers could be targeted for personal attention since their dissatisfaction is skewing the overall picture abnormally. Importance-performance plots are also suggested as an additional graphical means of identifying the customers on which to concentrate improvement efforts and the names of the actual customers that fall in this category are mentioned by name and account number.

Satisfaction perception differences are compared across various different subsets of the responses using box and whisker plots to graphically illustrate differences in means if they exist. Interestingly, there is very little significant difference between the customer and management samples on aggregate and also the four customer service areas of the Eastern Cape convey a similar picture of customer satisfaction. There is a significant difference however between customers who are served by a customer executive and those who are not. This finding is confirmed in later analysis. Also, management need to be aware that rural customers are less satisfied than those in urban areas and that agriculture and industry are the most dissatisfied customer segments. There is a strong correlation between performance and overall attitudes to service quality and customer loyalty however this positive correlation is much weaker between importance and these two constructs.

Exploratory factor analysis of the underlying data hints at the emergence of six factors and the loading onto each of these factors is studied and explained in some detail. Several items load strongly onto more than one item which is problematic and is the prime reason why additional confirmatory tests for unidimensionality fail. These results lead to the recommendation for further refinement and design modifications before the instrument is used in a practical business environment. Despite unidimensionality shortcomings, the instrument proves reliable, and passes face and content validity examination by virtue of the rigorous design process. Convergent validity tests are not strongly positive and thus largely inconclusive.

Thus, what should be considered a pioneering first round of exploratory research, has produced results of sufficient substance to allow sound recommendations to be made to management and upon which, future research efforts can be launched.

Chapter 5 - Discussion

This study was undertaken to learn directly from customers, served by Eskom in the Eastern Cape Province of South Africa, which factors most influence their perceptions of overall customer satisfaction (argued to be analogous to service quality in the long term). Analysis of literature and interview texts revealed several common themes which subsequently warranted further investigation. These were operationalised for quantitative analysis.

Based on the overall results from the qualitative and quantitative analyses, it appears that four independent variables are key factors that influence long term customer satisfaction perceptions; communication, quality of supply, assurance and price. The results of the research have several implications for management and also suggest issues that require further analysis and investigation. These are covered in the two sections that follow before final conclusions are drawn.

5.1 Managerial implications

5.1.1. Get specific

One of the goals of this research was to evaluate how closely aligned the Southern Region's Management Team are with the identified dimensions and to identify gaps that may exist in their understanding of them. It was found that overall, with a few exceptions; their aggregate responses match those of the customer sample quite closely. There is no evidence that they are completely removed from the feelings and perceptions of the customers and the average satisfaction scores from the two samples are closely aligned.

It would thus appear that Gap 1 in the Gap Model described, is relatively small and would not account for the current decline in satisfaction scores in the Region. There were a few managers, highlighted through importance-performance plots, that appear as outliers and thus seem to be of differing beliefs to the bulk of the population, both management and customer groups. These individuals can be identified by name and need to be approached by their peers for a better understanding of their perceptions. It may be that they need to be educated as to the real customers' issues and thus have their attitudes changed and aligned with customer reality. Similarly, two areas of seeming disagreement between managers and customers are evident; pricing issues and the performance of the call centre. Customers rated Eskom's performance in these areas as poor; whilst at the same time highlighting them as very

important. Management seems to have an opposite view, that they are performing well in both areas and that they are not high on the importance scale. These two areas of divergence however, are not sufficient to conclude that management is out of touch with its customer base. They are highlighted as areas that require management attention as they are cause for dissatisfaction amongst the customer base.

If gap 1 is small and yet satisfaction continues to decline, then the 'problem' must lie somewhere else. The research suggests that the cause lies in a tendency of management teams to aggregate customer satisfaction scores to report overall figures rather than specifics. Southern's team is no exception. MaxiCare is, by design, a collective index that can only provide detail to a certain level. It lacks specifics that the management team require to implement precise strategic initiatives which would simultaneously target both the correct issues and individual dissatisfied customers. For example, to say that all Southern Region customers are dissatisfied is not true. In fact, if the "disgruntled few" identified in the research are removed from the analysis then the overall picture is fairly good and satisfaction scores reasonably high. It is these disgruntled few that pull the mean score down significantly. But, because MaxiCare does not identify them by name and give sufficiently detailed information as to their reasons for dissatisfaction, the management team strategise at a level that never gets down to the required level of detail to improve the lot of the dissatisfied customer.

Thus, if the problem in Southern is to be diagnosed using the Gap Model, it must be done so at a lower level than the one currently at play in the boardroom. At an aggregate level, Gap 1 is not significant, but at a micro level it is large. If gap scores were calculated for each individual customer, they would range from small to very large and it is the latter scores that are being lost in the aggregation process. This problem then cascades through the organisation. A macro understanding of customer satisfaction will result in macro service quality standards being set. This means the management team will be guilty of Gap 2 on a micro level because they set these standards with insufficient understanding of the detail at ground level. Service quality standards invariably end up as front line individual employee work compacts. The difference between an employee being generally asked to speak to the customers generally about price issues and speaking to Mrs Smith specifically about her inaccurate bill, is where the management team is falling short. Their current satisfaction indicators do not provide sufficient detail for them to deploy their resources on the key areas of discontent, nor do they strategise with sufficient detail and focus. Leaving the detail to the

staff to figure out is a hit and miss approach and if the fundamental management roles of target setting, monitoring and control are to be effective, the detail on which to base these must be available. This leads to the next implication for management; the future of MaxiCare.

5.1.2 Revise MaxiCare or seek alternate sources of customer satisfaction information

A further aim of this research was to assess the content validity of the MaxiCare customer satisfaction tool in light of the results achieved. Content validity is the degree in which the instrument presents an adequate illustration of the theoretical domain that it is designed to cover. Conclusions can be drawn about the validity of both instruments by comparing the degree to which the new measures compare to MaxiCare measures of similar constructs.

The eight dimensions of MaxiCare (supply quality, pricing, accounts, call centre service, advice, staff interface, safety and environment) correlate reasonably well with the four that appear most crucial to satisfaction in this study (Communication, quality of supply, pricing and accounts and assurance). Seldom in the literature or interview researches were issues of safety and the environment uncovered. This is not to say they are unimportant, perhaps just not uppermost in customers minds and taken for granted as part of the service. Their inclusion in MaxiCare is not therefore seen as detrimental to the instrument, but they could make way for additional questions on other more important dimensions (such as communication) without increasing the size of the questionnaire. Similarly, given the low importance attached to tangibles in this study, questions pertaining to tangible issues in MaxiCare could be dropped and replaced with more that probe 'assurance' perceptions.

It is in this latter area, communication, which MaxiCare seems to show the biggest shortcomings. MaxiCare correctly probes call centre service issues (undoubtedly important and problematic to the customers) but does not sufficiently enquire as to satisfaction levels with the level of performance of other communication channels. The MaxiCare 'staff interface' questions are centered more around tangible and assurance issues than communication per se. Given the significance of communication in this research, MaxiCare should include more detail in this area.

The quantitative information a customer survey instrument provides is limited (even in a good one) and at best it will yield general indications of where service problems lie. More than this

is required. As discussed, MaxiCare does not provide sufficient detail in its present form to give front line personnel and management precise and detailed information upon which to base their service improvement strategies. Changing MaxiCare will not be easy. It is a widespread and entrenched Eskom tool, administered and influenced at a National level. Even if these comments and recommendations are tabled at that level, this may not result in a revision of the tool in the short term. In the light of this, it is strongly suggested that Southern Region Management continue research into a supplementary source of customer perception information which builds on the exploratory work contained herein.

To conclude the debate concerning MaxiCare, it does appear to cover most of the consumer satisfaction issues and thus does display content validity. It follows therefore, that the decline in customer satisfaction it indicates is most likely a valid phenomenon. However, it could be improved with the inclusion of more communication and assurance questions at the expense of some of the safety and environmental ones. Additionally, it does not provide sufficient detail to the management team for them to focus their resources effectively. The sample per Region is too small, the aggregate scores presented too general in nature and insufficient qualitative information is provided. If there is one thing that this research has clearly shown, it is the importance and value of using both quantitative and qualitative research to gain a deeper insight into the customer satisfaction drivers in a utility industry.

5.1.3 Visit the 'disgruntled few'

If the customer satisfaction scores are to be turned around quickly, then the customers responsible for lowering them need to have their dissatisfactions addressed as soon as possible. These visits should be in the form of personal appointments with the customers at their place of residence or business and made with the sole purpose of uncovering exactly the root cause of their dissatisfaction. In line with the above recommendations to seek both qualitative as well as quantitative information, the results of these visits must be documented and discussed with area management for attention and action. In many instances, this visit alone will improve the outlook of the customer since they will perceive that the organization has heard them and cares about their problems. It should also however, lead to improvement initiatives which can be communicated to the customer and the success thereof followed up during later visits.

5.1.4 Focus on the key dimensions

This explorative research was instrumental in gaining a deeper understanding of the key dimensions that underpin the large power users' perceptions of service quality and satisfaction. It is now up to management to heed the message and absorb these essential satisfaction levers into daily operations. At an absolute minimum, they must focus on the following areas of the business.

5.1.4.1 Communication

First and foremost, the role of the call centre in Southern's' business processes needs to be reviewed. Customers were scathing in their criticism of the service received. Interviews invariably turned to the call centre service (or lack of it) at some stage and the results from the questionnaire survey confirm this as the largest performance – importance gap. The consumers acknowledge the need for such a centre in times of high volumes (major weather patterns etc.), but are extremely disappointed with the quality of information and feedback they receive from the service agents on duty. Specifically during power outages, large consumers felt that the information they receive after logging a fault adds little value and does not assist them in making decisions related to the length of time the power will be off. Even when specifically asked to do so, the call centre does not contact the customer with feedback. If the customer called in with negative service perceptions, they are amplified by the service they receive. Management need to acknowledge that the feedback from the field to the customer in times of crisis is not good; that the front line service agents in the call centre require development and technical training and that not all customers' communication requirements can be provided by the call centre.

There is on overwhelming desire by customers to have personal contact with the faceless giant that is Eskom. It is not surprising therefore that those that are serviced by a customer executive are more satisfied than those who are not. Unfortunately, customer executives are expensive and it would not be sustainable to provide every one of the over four hundred thousand customers with access to one. This is not proposed. What is strongly recommended however, is that the lucrative and relative small large power user segment receives special attention. Eskom appears loathe to treat customer segments differently, by providing a customer executive to only a handful of customers and forcing the balance to rely on the call centre as their one and only communication channel. This must change, as it is one of the primary reasons for the decline in the customer satisfaction scores.

The task is not insurmountable. For example, there are sufficient numbers of suitably skilled employees in the organisation who could each be allocated a small number of LPU customers to ensure a more personal service. This would have two effects; not only would it meet the requirements of this most important segment, it would also improve the customer focus of the entire organisation. The more employees interact with customers, the better they understand what is perceived as acceptable performance and the stronger the customer focus culture of the company will become.

Communication also impacts positively on the other three dimensions. Many price, account and quality of supply issues can be resolved quicker and more effectively if they are talked through and fully understood by Eskom. Similarly, the 'disgruntled few' need personal contact as already discussed. Bottom line, the customers want to build a relationship with someone who can provide intelligent feedback, listen to their concerns and champion their cause inside the organisation. If they don't get it, they will continue to be dissatisfied and will most likely look to the competition when that day arrives.

5.1.4.2 Quality of supply

It is understandable that quality of supply will always be a key satisfaction driver in an electricity utility. The results from this research merely confirmed the importance that QOS plays in forming overall judgments of satisfaction. Assuming account issues are in order, the majority of interactions a typical Eskom customer has with the company are due to the power going off. The frequency of these service transactions, the duration and the professionalism displayed by the repair crews (real or perceived) are predominantly what the customer aggregates over time to form an overall attitude to service quality and satisfaction.

The subject of proper asset management is too vast to explore here, but the management team in Southern needs to ensure proper maintenance and refurbishment strategies are in place and being carried out; that repair crews and field teams are fully competent and equipped. The performance history and fault information should direct the deployment and focus of resources in an efficient manner. Finally, the importance of communicating with the customer in times of supply loss is stressed again here, as a way of mitigating the effect of this on the customers' perceptions. Being left in the dark, both literally and figuratively, is one way of dissatisfying even the most loyal customer.

5.1.4.3 Account accuracy and price perceptions

One area where there was a significant difference between the perceptions of management and customers was their attitude regarding issues of price. Customers dissatisfaction with price lead to the second highest (negative) performance – importance gap, the lowest performance rating of all thirty nine items. Two of the top ten importance items being concerned with price issues. In contrast, management rated price as the Region's third best performing area. No manager rated price less than '4' on the seven point scale whereas forty percent of customers rated it a '3' or less - a glaring lack of consensus that needs to be understood.

Within Eskom there is considerable pride that the company has consistently been rated as one of the world's cheapest electricity suppliers of recent times. This fact is widely communicated and often taken for granted by managers who tout it as a highlight in financial reports and the like. It does not appear that this message has penetrated through to the customers, who are not exposed to international comparisons and have no national competitor with which to compare Eskom's pricing policies. Without such a frame of reference it appears that the logic is that if the bill is high, then electricity is expensive. It is a judgement made without a full appreciation for the facts.

Southern's management team need to embark on a communication and education campaign, aimed at LPU's to begin with, which is designed to change customer perceptions about the cost of electricity. Customers need to be proactively supplied with information on topics such as global energy prices, comparisons with other energy sources such as gas and oil, and energy saving advice for their application. The most effective way of doing this would be through the personal contact suggested in the previous section.

The fact that price issues and value for money are inexorably intertwined must also be appreciated. A poor quality of supply combined with a lack of value added communication with the company will almost certainly sway a customer into believing that they are not receiving value for money and thus that the price is too high. Improve communication and QOS and negative perceptions regarding price may abate.

5.1.4.4 Assurance

This dimension addresses the competence of the firm, the attitude of staff towards their customers and the consistency and dependability of the firm's performance. As such, it can be perceived as a combination of the reliability and assurance dimensions of SERVQUAL. Customers need to feel confidence in a company and its employees. They need to believe that commitments will be met, that dealings will be conducted ethically and that services will be provided punctually and promptly. Employees, not systems, play the crucial role in building this confidence and instilling a belief in the customer that the service is good and will continue to improve because they are with the right provider. Front line staff must be sufficiently empowered and knowledgeable to deal with customer service requests. They must combine a willingness to help with a polite, courteous and professional attitude.

Since employees are at the core of the assurance dimension, proper human resource management principles are key to motivating those that are unable and/or unwilling to perform the service at the desired level. Maintaining high levels of customer satisfaction, then, does not only rely on understanding customer's needs, but in sustaining a workforce that is both willing and able to perform at required levels. The task of developing a competent and motivated workforce is vast and outside the scope of this research but at the very least, Southern's management need to ensure:

- Employees are given specific and frequent direction and communication in what their role in the organisation is and what is expected of them.
- Training is given that empowers staff to deal with issues in a confident manner. This would need to include technical training, interpersonal skills and teaching employees about customers' requirements and needs.
- Ensuring that staff who deal directly with the customer are the pick of the crop. Recruitment and selection processes must filter the correct individuals for the right positions. Proper attitude and customer focus can be taught but it is far more effective to hire someone who has it built in.
- That service performance is measured to enable instances of good service to be rewarded and that poor service is detected early and corrected. Instances of poor service and employees who do not display the correct service culture must not be tolerated.

In summary, the management team can build assurance (and thus increase customer satisfaction) by hiring the best people, giving them the best training on offer and developing

their service attitude through setting clear goals, proper reward and discipline. Finally, but most importantly, they must set the example.

5.2 Recommendations and areas for further research

In addition to the propositions for management, there are several suggestions for researchers who may wish to pursue similar research methods in future. The majority of these are to do with the design of the quantitative survey instrument used. It was an aim of this research to design an alternate customer measurement tool to MaxiCare and to assess its reliability and validity in measuring service quality in the electricity supply utility industry. Although it was built around the knowledge gained from literature review and field study in an effort to ensure validity, it failed tests of unidimensionality and displayed a lack of consistency when it came to factor loadings.

Measuring instrument composite scores are meaningful only if each of the underlying measures is unidimensional. They rely on the existence of a single trait or construct underlying each set of measures. The meaning of a measure may differ from the mind of the researcher to the mind of the respondent and because of this the scale development process must include an assessment of whether the multiple measures that define a scale can be regarded as alternate indicators of the same construct.

The instrument proved very reliable and the descriptive statistics that it yielded have added value to the field of study, but further refinement and iteration is required before it can be used as a valid instrument. These are detailed briefly below:

5.2.1 Reduce the number of factors

Despite concerns regarding the overall validity, the qualitative research phase and the follow up exploratory factor analysis consistently indicated the existence of four main factors that drive satisfaction in the industry; communication, quality of supply, price and accounts and assurance. The two others, tangibles and empathy, were included in the survey instrument mainly on the basis of their standing in SERVQUAL and SERVPERF empirical studies to date. They failed to produce a convincing case for their inclusion as distinct dimensions in this research however by virtue of their low correlations with overall service quality and loyalty and therefore weak convergent validity.

Two of the three items (2 and 37) in the 'tangibles' dimension were the lowest two importance items and the third showed strong factor loadings on the price dimension. In effect, two items could be dropped, one transferred and the tangibles dimension removed from future revisions of the tool. The empathy dimension may be worthy of future exploration despite the fact that only two items had high factor loadings on this scale. Because there were only two items in this dimension, several of the reliability and validity tests were invalid so no definitive conclusions can be drawn either way. Thus it would be premature to condemn 'empathy' as a customer satisfaction driver, rather it is suggested to explore it further in the next revision and then make an educated decision as to its inclusion.

This discussion is not in any way intended to suggest that tangibles and empathy are unimportant, merely that their relative importance does not warrant their inclusion. Any survey instrument needs to be concise, practical and uncluttered and removing two of the six dimensions discovered through EFA, will help to achieve that without detracting from the validity and usefulness of the questionnaire as a strategic tool.

5.2.2 Address the mix of items

Exploratory factor analysis loaded thirteen items onto factor one (communication) and only two onto empathy, the last factor. In spite of the fact that having only two items makes most validity tests invalid, it would be preferable to have a balanced questionnaire, one that has an equal number of items per factor. If only four factors are to be included in the next iteration (as suggested in the previous section), then perhaps five or six items should be chosen to probe each dimension. The resulting twenty to twenty four item tool would be both better balanced and shorter than the one used in this research and most likely pass tests for validity and unidimensionality.

This would imply reducing the number of items from the communication and assurance dimensions and adding additional ones to QOS, accounts and possibly empathy if it is included. When reducing items;

- Start with those that show the lowest item to total correlations. Reference to appendix 6 will show for example than for communication, this would be item 36 (0.55), then item 38 (0.57) etc. reducing items with low item to total correlations is also a sure way of improving the unidimensionality of the instrument.

- Also look at those that exhibit low factor loading scores on that dimension. Again, using the communication dimension as an example, item 23 shows the lowest factor loading (0.41), followed by item 38 (0.49) etc.
- Eliminate/consolidate on obviously duplicate items or those that are very similar such as item 14, "Eskom gives customers individual attention regardless of their size", and item 15, "Eskom and its employees give you personal attention". Both these explore essentially the same thing and one of them can be removed without losing any detail or substance.
- Eliminate the items that score very low according to the customers such as the tangible items number 2 and 37. This must be done with caution however because there is very little difference in importance between items higher up the scale and to eliminate one just because it is fractionally less than another would be unwise. Also, it needs to be borne in mind that the importance scores can be viewed individually and what may be very important to one customer may be inconsequential to another. To eliminate that particular item would not do justice to the former.

A final suggestion on the composition of items, is to eliminate any doubt as to what is being asked in a particular question so as to reduce the number of items that load heavily onto more than one factor. Consider for example item 26, "When you talk to Eskom they listen". This produced high factor loadings on factor 1 – communication, and factor 3 – assurance. This is not surprising as the way it is worded it could apply equally well to either and is therefore ambiguous. Far better to re-word it (assuming it is to be retained) so that it falls on one side of the line or the other. Changing the wording of items in this way will improve interpretation by respondents and thus the validity and unidimensionality of the tool.

5.2.3 Drop the use of importance from the instrument

Contrary to the earlier argument for the inclusion of importance as well as performance scores in the quantitative data gathering process, results of this research suggest that the importance scales may be removed. It was found that coefficients of importance were relatively high (mean of 6.21) and homogenous (standard deviation 0.51) which intuitively makes sense. Proper qualitative research should reveal the core facets of service quality, which will then obviously be rated as very important by the consumer. A homogenous response to items will add very little to the interpretation of the customers' satisfaction levels and may as well be omitted from the survey. Their inclusion unnecessarily doubles the length of the instrument

for very little gain. Besides, the importance items show a low correlation with either overall service quality or loyalty and thus they are an invalid indicator of overall perceptions of satisfaction. This finding is in agreement with the original creators of SERVPERF and has been reached in other empirical studies. This research serves to confirm their findings.

The inclusion of importance should not be totally discounted however. It is extremely useful in the early stages of exploratory research to indicate that the qualitative phase has indeed been successful so perhaps the suggestion to drop importance should carry the proviso that it is done so only when the importance scores have stabilized and show low deviation. This is in line with proposals that Carman made when referring to SERVQUAL in a new context; that future administrations of the instrument might only include the perceptions of performance section if, or when the factor structures stabilize (1990).

Without the inclusion of importance, it is obviously not possible to report on descriptive statistics such as the performance – importance gap, and importance-performance plots. The loss of the diagnostic value of these should be minimal once the validity and unidimensionality of the instrument has reached acceptable levels. It will then be sufficient to report performance only scores and prioritize accordingly for the required detail. Promisingly, this is in line with much of the contemporary literature on the measurement of service quality.

5.2.4 Retain the seven item likert scale

Criticism of the 7 point scale, which revolves around verbally labelling points '2' to '6' to avoid the overuse of the extreme ends of the scale and suggestions that the use of a seven point scale frustrates respondents, has not been found to be validated in this research. Barring the 'disenchanted few', the frequency response from customers to the questions was very normal in distribution. The high frequency of '1' scores can be attributed more to high levels of frustration and lack of customer satisfaction than to problems with the use of a seven point scale. This research found no reason to change from the seven point scale and in fact it has the advantage of spreading the response scores over a wider band which makes prioritisation easier. It is acknowledged however, that no educated comment can be made regarding the effect the seven point scale has had on the response rate and future researchers may wish to examine this in future studies. Other areas for future research are discussed briefly below.

5.2.5 Suggestions for future research

- This research has been exploratory in nature and the instrument needs to be refined and reworked in light of the shortcomings identified in this version. It can then be used in a further round of research. This process should be repeated until it passes reliability and validity tests.
- Further research may focus on studying the roles of service quality, product quality and price evaluations in determining *transaction-specific* satisfaction. The roles that each of these three constructs plays (if any) and the relative weighting thereof is not well understood.
- The effect of the type of service provision (discrete or continuous) and the context of the service setting on the formation of attitudes towards customer satisfaction is unclear and requires further study.
- If the disconfirmation paradigm is to be used it is important to understand the influence that the time elapsed between service encounters has on customer perceptions of service quality. If ten encounters were to happen over the period of a month, would the customer satisfaction level be the same if these same encounters occurred over the period of a year. The literature is largely silent on this issue.
- Similarly, the effect that the duration of the relationship a customer has with a service provider needs to be better understood. I.e., if global impressions about the firm are formed from a collection of transaction experiences over time, how much impact would the last experience have on a customer of twenty five years? Of one month?
- Finally, the relationship between levels of consumer involvement (low/high) and provision of services (continuous/discrete) needs to be ascertained and is proposed as an area for further research.

5.3 Concluding remarks

Given the current information at their disposal, it is little wonder that the management team in Eskom's Southern Distribution Region, are struggling to turn around declining customer satisfaction indicators. They are being presented with a high level macro picture, which is correct to the extent that it accurately depicts the current sentiment amongst customers. But, it fails to provide the detail necessary to put strategic action plans on the table which would turn the indices around. Thus, management are in touch with the mood of the customer base but not fully perceptive as to the underlying cause. The lack of detailed information at their fingertips is hampering their improvement efforts.

This exploratory research effort has produced several key insights into the course the team should plot in future. Firstly, they need to supplement the information they receive from MaxiCare with additional data. Unfortunately, you cannot simply pay someone else to talk to the customer on your behalf. The process of discovering and understanding the customer is just as crucial as the final results of such studies. It is through dialogue with the customer that real understanding is achieved and given the current communication methods in the Region, the greater mass of senior employees seldom get to talk to, let alone listen to, their customers. Ideally, those who need to act on the data are the ones who should collect it. The management team needs to be good at understanding, not just measuring. However, to achieve this they need to improve both their understanding and their measuring. And, to achieve this, they need to pursue a vigorous customer discovery initiative that incorporates both qualitative and quantitative methodologies.

This research has highlighted that some of the most profound insights into consumer needs have come from the qualitative research. Despite the subjective nature of qualitative research, it is an indispensable approach to seeking a greater understanding of the real issues behind the numbers that are uppermost in the mind of the customer. Approaches to measuring service quality, which entail complex statistical analysis and data reduction methods, have an inherent flaw that limits their usefulness as a practical strategic management tool. They necessarily result in a loss of detail regarding the quality of specific dimensions and generalize responses into a few scores that represent the collective view of the sample. While this may be of high interest to management, especially if trended over time, when attempting to use this information as a planning input to determine actions aimed at increasing performance and quality perceptions, they become disorientated by the generalization of the data. If, for example, they were presented with declining performing scores over time they would rightly be concerned and resolve to improve. What to improve however, and how to achieve sustainable improvement over time, becomes the strategic question. A survey instrument that offers only a few consolidated scores without any of the underlying specifics, becomes little more than an indicator of consumer discontent and is not useful in rectifying the underlying causes thereof. To get to these, management must get up from behind their desks and walk into the homes, offices and factories of their customers. They need to listen to their concerns, to feel their frustration, to walk a mile in their shoes.

This does not imply that quantitative research tools should be shelved. Rather, that both methods must be used to 'triangulate' in on the satisfaction drivers in the industry. The questionnaire survey used in this research needs to be refined and revised as suggested, and when it is valid and reliable, it should form the basis of future regular customer surveys. However, customer satisfaction surveys are merely indicators. They indicate where satisfaction improvement is required but seldom give detail as to what is required. A flashing red oil light in a motor vehicle indicates a possible oil pressure problem which the driver needs to be aware of. It does not indicate the exact cause, which could be one of many. To fix the problem, further investigation is invariably required. So too, it is proposed, with customer surveys. Properly designed quantitative survey tools are essential early warning systems that indicate customer 'hot spots' to management. The more detail they can provide in performing this function, the better. The targeted qualitative research that further investigates the hot spots, is where the real diagnosis and repair are effected. The two methodologies compliment each other and are both required. Currently, in Eskom, MaxiCare, the early warning system, is providing a rudimentary but correct signal that all is not well. It is not being effectively followed up in a qualitative manner by the managers responsible for planning strategic improvements.

If management use this combination of information sources as recommended, they will discover that the large power user customers served by Eskom in the Southern Distribution Region have a few, very simple messages for them. Firstly, the overall picture is not that bad. The majority of customers are reasonably happy with the service they receive. There is a significant group of very disgruntled customers and they should be the focus of immediate attention and action but on the whole, the needs of the rest are uncomplicated. They want a reasonable quality of supply. They need to feel confidence when dealing with the organisation and reassured by the service they receive that they are getting value for money. But above all, they require better communication with the company, preferably on a personal level. The fastest way to improve the service quality perceptions and overall satisfaction of the customer is to listen to him, hear him and respond to him. "Service leaders lead in the field, where the action is, rather than from their desks. They emphasize two-way, personal communications because they know this is the best way to give shape, substance and credibility to the service vision and the best way to learn what is really going on in the field" (Zeithaml et al, 1990:7). Customers have a lot to say; currently, very few employees inside Eskom Southern Region are getting the message.

Chapter 6 - Appendices

Appendix 1 – Eskom Distribution Customer Segments

Industrial Market Sector

Sectors	Products	Energy Uses	Equipment Used	Market Opportunities
Chemicals	Petro chemicals	Steam	Reactor	➤ Value added products and services ➤ New electro technologies ➤ Work with competitors not against (e.g. dual-fuel boiler) ➤ Increase drive for productivity improvement (provide energy solutions) ➤ Equipment upgrades ➤ Strategic customer alliances ➤ Corridor and cluster initiatives ➤ Transfer of technical knowledge ➤ Application of electronic boilers ➤ Microwave applications ➤ Electrochemical synthesis ➤ Quality of energy supply ➤ Powder coating ➤ Movable transformers ➤ Energy Management
Basic Metals	Steel Alloys	Materials	Boiler	
	Basic Chemicals	handling	Furnace	
Metal	Gold	Ore Reduction	Turbine	
Manufacturing	Paper	Drying	Generator	
	Bricks	Filtering	Oven	
Minerals	Explosive	Heating	Pump	
Food and	Cement	Fabricating	Kiln	
Beverages	Lime	Pasteurising	Conveyor	
	Fertilizers	Weaving	Mixer	
Textiles	Carbon Black	Water/waste	Cooker	
Pulp and	Aluminium	treatment	Pasteuriser	
Paper	Automobiles	Crushing	Stenter	
	Foundries	Drilling	Extruder	
Mining	Ceramics	Pumping	Fan	
	Beer, wine and spirits	Transport	Mill	
	Meat Products		Winder	
	Fabric			
	Yarn			
	Leather			
	Timber			
	Construction			
	Coal			

South African Energy Market Share						
Liquid Fuels	Electricity	Gas	Coal	Renewables	Waste Energy	Steam
26%	29%	4%	21%	10%	7%	3%

Commercial Market Sector

Sectors	Equipment/Application	Facilities	Eskom Market Opportunities
Construction	Steam generation	Catering	• Offer walk-through audits • Promote energy efficient lighting • Support energy efficient technologies • Refine air-curtain technology • Emerging Business Opportunities • Central and Regional Government development opportunities • Small baking ovens • Hot water systems • Capitalize on growth areas, infrastructural development, special events • Long term integration of electric transport systems and infrastructure • Influence energy efficient building designs • Offer technology solutions (water heating, climate control) • Develop a product package for uninterrupted power supply • Demand side management options • Networking with decision makers (government departments) to achieve synergy
Development	Water Heating	Cold Storage	
Trade	Space Heating	Accommodation	
Finance	Air-conditioning	Recreational	
Transport	Food Preparation	Sport	
Hospitality and	Refrigeration	Laundry	
Tourism	Drying	Bakery	
Community	Incineration		
and Training	Laundering		
Health and	Tools and Compressors		
Social Care	Computers		

South African Energy Market Share						
Liquid Fuels	Electricity	Gas	Coal	Renewables	Waste Energy	Steam
14.7%	63.5%	5.4%	12.2%	4.2%	0	0

Agricultural Market Sector

Sectors	Equipment/Application	Products	Eskom Market Opportunities
Field Crops	Water Pumps	Cereals	- Irrigation – Ruralflex application, energy conversion, water management - Drying of hops, lucerne, peanuts and onion seeds - Value adding cereal processing - Environmental control – heating ventilation, dual-energy systems, propagation, lighting - Vegetable and fruit processing – heating, cooling, storage and mechanical drying - Due to the pressure on margins of agricultural producers, productivity has increased (ie more is produced with the same amount of inputs) - Macro economic variables like price, import/export tariffs and the exchange rate will have a large effect on agriculture competitiveness in the international arena. - Due to the increased numbers of small and medium scale farmers, technologies and training courses have to be developed accordingly.
Horticulture	Water Heaters	Fodder	
Forestry	Refrigeration	Oil Seeds	
Large Livestock	Conveyors	Cattle	
Small Livestock	Milling	Sheep	
Poultry	Mixing	Sugar Cane	
Specialised	Milking Machines	Vegetables	
Farming	Air Conditioning	Legumes	
	Computer	Fruit	
		Goats	
		Chickens	
		Ostriches	
		Game	

South African Energy Market Share						
Liquid Fuels	Electricity	Gas	Coal	Renewables	Waste Energy	Steam
69%	29%	1%	1%	0	0	0

Residential Market Sector Size

Sectors	Appliances	Usage	Eskom Market Opportunities
Farm Workers	Hi-Fi	Lighting	- Customer education: to inform, advise and educate customers on safe/economic usage of appliances. - Safety education: home and public safety. - Loss Management: to reduce current energy loss levels. - Customer satisfaction: ensure customer service levels reach and exceed targets of 8 for Maxi & Precare - Residential Demand Side Management: through energy management, influence load by establishing Demand Side Management interventions. - Community development: provide support to Small Business Development. - Brand awareness: to improve on current levels of brand awareness amongst different sectors.
Houses	Fridge	Heating	
Rural	TV	Refrigeration	
Settlements	Stove	Cooling	
Emergent	Geyser	Cooking	
Farmers	Washing Machine	TV/Radio	
Established	Dryer	Tools	
Farmers	Kettle		
Informal Urban	Toaster		
Township	Microwave		
Suburban	Lighting		
	Computer		

Percentage of South African households using energy source						
Paraffin	Electricity	Gas	Coal	Wood	Batteries	Steam
83%	22%	12%	2%	51%	3%	0
Average amount (Rand) spent per month per energy type.						
R29	R118	R56	R49	R12	R19	0

Appendix 2 - MaxiCare Questions for Industrial, Commercial and Agricultural Segments.

Can you give me an example of how Eskom caused inconvenience when installing electricity?
Can you give me an example of how Eskom does not promote the safe use of electricity?
Can you give me an example of when the electricity supplied by Eskom was not of an acceptable quality?
Can you give me some examples of how these interruptions affected your production?
For what type of problems would you need to easily contact Eskom?
Has Eskom ever consulted you with regard to the best time for a planned interruption?
How did Eskom's work disrupt your operation?
How did it come to your attention that the electricity voltage supplied by Eskom is not constant?
How do you believe Eskom can pass cost benefits on to your organisation?
How do you know for certain that their readings are inaccurate?
How do you think Eskom should consult you with regard to the best times for a planned interruption?
How do you think Eskom should do this?
How do you want to contact Eskom in case of an emergency?
How does Eskom usually respond to your account queries?
How does this affect your perception of timeous receipt of accounts?
How long after the date promised by the Eskom staff was the installation complete?
How long did it take Eskom to install the electricity?
How long did it take Eskom to react to your request?
How long did it take Eskom to restore electricity?
How long did it take for your call to the call centre to be answered?
How long does it take Eskom to restore electricity?
How long in advance does Eskom usually inform you of planned interruptions?
How long in advance should Eskom inform you of planned interruptions?
How often in the last six months have you experienced power failures in your electricity supply?
How quick should Eskom respond to your request?
How quickly should Eskom restore electricity?
How should Eskom inform you of a planned interruption?
How soon in advance does Eskom usually inform you of planned interruptions?
How soon in advance should Eskom inform you of planned interruptions?
If you were in charge of Eskom, which three immediate changes would you make to ensure good customer service
In what areas do you believe that Eskom wastes money?
In what areas, specifically, would you say that Eskom's cost/charges are not reasonable?
In what way did the call centre not deliver the promises that were made?
In what way do you believe Eskom does not meet the needs of your community?
In what way should Eskom communicate this information to you?
In what way was the job not completed quickly and efficiently, ie what went wrong in respect to this?
In what way was your operation disrupted?
In what way was your query to the call centre not handled efficiently?
In what way would you like Eskom to teach you how to save on your electricity bill?
In what way would you like Eskom to teach you how to use electricity safely?
In what way would you say that the installation of Eskom electricity is not affordable?
In which schedules of the work done did Eskom not adhere to the promised deadlines?
In which way do you feel Eskom are inaccurate in metering your electricity usage?
In which way do you feel that Eskom is not concerned with the protection of the environment?
What difficulty did you have in contacting Eskom?
What do you believe Eskom can do in order to pass cost benefits on to you?
What makes contact with Eskom difficult?
What makes the accounts from Eskom inaccurate?
What suggestions do you have for Eskom that would make it easier for you to contact them?
What times would you say are the best times for planned interruptions?
What type of account queries do you usually have?
What type of information do you believe you need in order to keep your electricity bill low?
What type of information do you believe you need to order to know how to save on your electricity bill?
What type of information, if any, could Eskom add to the account to make it easier to understand?
What type of knowledge specifically with regard to administrative procedures should Eskom have?
What type of knowledge specifically with regard to job functions should Eskom have?
Would you know how to contact Eskom's Call Centre?

Appendix 3 – Semi Structured Qualitative Interview Sheet

When setting up the Interview, give the customer some notice both telephonically and followed up in writing some time before the actual interview giving them:

- A clear idea of why *they* have been asked.
- Basic information about the purpose of the interview and the research of which it is part.
- Some idea of the probable length of the interview and that it will be recorded in order that it can be transcribed for record purposes and in depth analysis.
- A clear idea of precisely where and when the interview will take place.

The semi-structured Interview.

Customer Name	Company Name
Account Number	Physical Address
Date	Time
Place	Town/City
Interviewer	

Introduce yourself in a manner similar to the following.....

Good morning/afternoon Mr/Ms, my name is from Eskom. Thank you for taking the time to see me and agreeing to an interview. Your input is extremely valuable to us and we need it to assist us in improving our customer service to you. We are interviewing over 20 customers (randomly drawn from our customer database) in this way and will also be holding customer focus groups (you may have already been invited to one). Our aim is to gain a deeper understanding of what your perceptions are of our company and to find out what is really important to our customers through dialogue with them. The goal is to be much more effective in our operations through gaining a better understanding of our customer's needs combined with a scientific measure of progress through *satisfaction levers*. We hope to identify these through discussions with customers such as yourself. If this is achieved, management can build a customer-centric organization by applying customer focus in strategic planning and measurement.

Do you have any questions about this?

It is our intention to record and transcribe all the interviews in order that they can be properly analyzed by our management team. In this way we can plan better strategies that are aimed at meeting your needs better. Do you have any problem if I record this interview with you?

Right, let's start with some questions. Please feel free to elaborate on any issues raised and it would greatly help if you could give specific examples where appropriate. If all goes according to plan, you should do most of the talking, I will listen and probe areas that I feel need more explanation. OK?

1]. Can you give me an overview of your business/farm/factory/operation please, and mention where electricity is used predominantly so that I can better understand how you use our product?

2]. What are your overall perceptions of Eskom's image as a company?

Prompt: Efficiency, Good Governance, Competence, Environment.....?

3]. In what ways do you interact with Eskom?

Prompt: Call Centre, Customer Exec, Advisors, Walk in centre, Bill, Not at all?

Probe: Do you feel the interaction is optimal? More or Less required?

What staff, if any do you come into contact with?

Have you ever phoned the call centre and could you describe the experience?

When dealing with Eskom do you find the person you deal with gives you a one stop service?

4]. Could you mention a few areas where you perceive that Eskom is doing things well?

Prompt: Electrification? Environment? Price?

5]. And similarly, where do you see improvement required?

Prompt: Communication?

QOS

Frequency and Duration of outages?

6]. What do you think of our product – electricity?

Prompt: Does it meet your needs?

Value for money? Price?

Where does it fall short?

Duration and Frequency of outages.

Probe: What is your expectation when it comes to the freq. and duration of outages?

Do you know about QOS issues such as dips, surges, spikes, harmonics etc. or do you consider it a simple case of lights on/off?

Do you understand the need for planned outages? When would they suit you most?

7]. How would you rate Eskom when it comes to communication with you as a customer?

Probe: Notification of Planned outages.

How would you like to be communicated with?

Explanation after incidents (outages, damage, loss etc.)

Advice on safety, consumption, usage?

8]. When you get one of our bills, what goes through your mind?

Prompt: WOW! Fair. Expensive. Easy to understand.

Probe: Do you believe that the bill you receive is accurate, a true reflection of your consumption?

9]. What are those key success factors that would make you switch between electricity suppliers if the market was competitive, i.e. you had a choice. What would influence you to choose company A instead of company B as your service provider?

10]. Given that your comments are going to be taken very seriously by Eskom and end up at the highest level, do you have any closing remarks you would like the company to hear?

Important!

Have the following with you to share with the customer:

- Contact the Customer Service Area Manager and Delivery Controller for the area and discuss this customer with them. Try to gain an understanding of previous issues with this customer and any current problems. Don't go in cold.
- A copy of all the customer's details from Cordaptix and PIC databases which can be confirmed with the customer.
- A record of any communications with this customer in the past.
- A map of the area showing major lines and sub-stations that can be used to educate them and inform them on where they fit into the big picture.
- Their Single Line Diagram and/or Network Diagram to show them where they are fed from and how they fit into the electrical network.
- Their account history (demand and monetary value). Get at least the last three accounts.
- Their system performance figures for at least a year.
- Network Development Plans and Capital Investment in the area.
- A small gift and a letter to say thank you, assuring customer of continued support and commitment.
- Any other relevant issues, brochures etc. Check with the communications department, they always have some materiel that can be disseminated.

Make use of the Ten Commandments of Interviewing

In keeping with the 10 commandments tradition please find below a summary of the basic rules for conducting a decent interview. Better interviews will result only from practice and interviewer self-development, but this gives you a place to begin. This has been adapted from Berg, B. L. (1995). *Qualitative research methods for the social sciences* (2nd edition). Boston MA: Allyn and Bacon, pp. 57-58.

1. Never begin an interview cold. Remember to spend several minutes chatting and making small talk with the subject. If you are in the subject's office, use what's there for this chatting. Look around the room and ask about such things as photographs, banners, books, and so forth. The idea here is to set the subject at ease and establish a warm and comfortable rapport.
2. Remember your purpose. You are conducting an interview in order to obtain information. Try to keep the subject on track, and if you are working with an interview schedule, always have a copy of it in front of you-even though you should have your questions memorized.
3. Present a natural front. Because your questions are memorized, you should be able to ask each one as if it had just popped into your head. Be relaxed, affirmative, and as natural as you can.
4. Demonstrate aware hearing. Be sure to offer the subjects appropriate nonverbal responses. If they describe something funny, smile. If they tell you something sad, look sad. If they say that something upset them, try to console them. Do not present yourself as uninterested or unaware.
5. Think about appearance. Be sure you have dressed appropriately for both the setting and the kind of subject you are working with. Generally, business attire is most appropriate. If you are interviewing children, a more casual appearance may be more effective. Remember to think about how you look to other people.
6. Interview in a comfortable place. Be sure that the location of the interview is somewhere the subject feels comfortable. If the subject is fearful about being overheard or being seen, your interview may be over before it ever starts.

7. Don't be satisfied with monosyllabic answers. Be aware when subjects begin giving yes-and-no answers. Answers like these will not offer much information during analysis. When this does occur, be sure to probe with questions such as, "Can you tell me a little bit more about that?" or "What else happened?" Even a simple pause and an uncomfortable silence might yield additional information.
8. Be respectful. Be sure the subject feels that he or she is an integral part of your research and that any answer he or she offers is absolutely wonderful. Often subjects will say things like, "You don't really want to know how I feel about that." Assure them that you really do!
9. Practice, practice, and practice some more. The only way to actually become proficient at interviewing is to interview. Although we can offer guidelines, it is up to you as a researcher to develop your own repertoire of actions. The best way to accomplish this task is to go out and do interviews.
10. Be cordial and appreciative. Remember to thank your colleague/participant when you have finished, and answer any questions he or she might have about the research. Other researchers may someday want to interview your participant and if you mess things up through inappropriate actions you may make this impossible.

Utilize Probes and Prompts

Probing is effective at gaining more information, try some of the following if the interview is stalling....

Clarification –

“I don't quite understand....”

“Can you spell that out for me...?”

Put the interviewee in control. They are helping you.

Appreciation and Understanding –

“That must have been very difficult...”

“How do you cope with that....?”

Justification –

If interviewee says that Eskom will not do so and so interject with, “What makes you say that?”

Relevance –

“You've lost me there...”

Giving an example –

“Please give me an example?”

“What exactly do you mean..?”

“Have you had any personal experiences of...?”

Extending the narrative –

“Tell me a bit more about...”

“Can you tell me more about it?”

Accuracy –

“Let me see if I have got that right...”

“I thought that was”

Reflecting –

Offer back what you have just heard with empathy and understanding.

Good Luck and Thank You for your commitment!

Appendix 4 – Analysis Grid of Interview Data.

	Communication	Proactive Service	Reliability	Price and Accounts	Professionalism	Personal Service	Quality of Supply	Empathy
Stutterheim Brick.	"I said that there has been no power restored to our factory so she gave me another reference number." "unfortunately our call centre didn't tell me, they are supposed to let me know when the bigger customers are out and I was not aware that you guys were out" "Yes I do find it frustrating. First of all going through the Call Centre is a painful process" "So for me the one thing would be communication with the customer in the crises time."	"The other information we get is, as we need it, you know if there is going to be an outage." "another 10/10 is that we are always informed if there are going to be outages. I have never once had a phone call, hey listen you are going to be out tomorrow, you know its always well planned within advance."	"My disappointment there was that nobody came back to me" "I said please contact me and nobody phoned me." "My satisfaction turned to frustration until somebody called me back to tell me what's going on." "Possibly in the crises communication with the customer" (is the most important.)	"but we do find that our accounts are high and its quite difficult to understand them" "We can't actually compare Eskom to anybody else because you are the sole supplier."	"I really enjoy Eskom. I think it's very professional" Professional, upright, good clean business, not unplanned duck and dive." "Every guy I have seen here has pride it what he is doing" "The offices there are always immaculate." "They are polite, well dressed."		"the only time there is a problem is when we have an outage and that is unfortunately business" "the quality of the supply, if I have to average the last ten years, very good, outages minimal"	"Sometimes the people are a little office bound, they don't understand that I can be down in the quarry when I get a phone call to say the power has gone"
White Clay Hotel	We do have our days where Eskom goes off at 8 o'clock in the morning and comes on that evening. We don't really get warned. I believe it is on the radio, but we don't listen to your radio programmes and no one notifies us.	"We didn't really report power failures and things like that. We knew it was happening in the area and we just left it." "No we have never received a call for a planned outage? No, never."	"Because they took two months to credit us."	"We look at price, price that's important."	"I think Eskom as a company is a very professional operation. We are very happy with it."	"They don't do anything, we don't see anybody."	"We don't have as many power failures as we used to." "We had very bad surges at one stage."	

Ocean View hotel	"we actually had our power cut off and I think that was based essentially on communications problems and I think we have communicated better, from both sides." "the communication channels essentially is really what its about." "Its nice to have the communication channels open to the senior management rather than just working through a process which is laborious. Its efficiency levels have to be professional, they really have to be." "those channels were continuously open and his cell phone was available 24 hours a day and he went that extra mile. That makes a difference." "We would like to know who we are dealing with. I'm sure those people would like to know who they are dealing with, who their customers are and become more actively involved and make their channels more open. So that you can actually talk to this guy and say, "listen, this is what the situation is"."	"The work management side, that was great. There have been some very helpful people" The guys here operate, we don't even know, they come here and say they are going to switch the power off. They are doing line maintenance, but we don't even know about it."	"I had a complaint, she did not listen to the complaint, I just said that I had a problem in the way which it had been dealt with. She said she would speak to Mr Mahadeo. She never came back to me." "We tried to work up the ladder was to try and get some sort of response. It just never materialized." "having to go to media people, to people at MegaWatt Park,(Head Office) little bit disappointed with the responses, particularly from Mr Maroga". "It's all about service. Everybody has problems, but it's the way in which it is handled."	"It's cost effective. We know the costs of running a generator per day, so economically its expensive." "I wouldn't say I have got total confidence in it yet (the bill)"	"Contractors don't do what they are supposed to do and then somebody has to regularly come down and check up on work that has been done by the contractors." "They don't have sufficient manpower. The skill level is not there."	That certainly has changed, largely due to your personal input, it has certainly paid off. its nice to know that I can pick up the phone at any time of the day, phone Selwyn and say listen, this is what the situation is and you get a response within an hour or within 15 minutes, depending on the actual problem. You know the rapport that one builds up between yourself and your suppliers is imperative particularly in a rural area environment like this. Also, just their general appearance, they are not very professional and I am sure that is not Eskom's standards. I think that they should knock down Mega 1 Park and send every single one of those guys out here to one of the regional offices for a week or a month and let the guys come, particularly to the rural areas. Let the people come in here and experience first hand what the technical guy's problems are and what he faces and encounters every day.		
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ChipBoard Industries

"Sometimes it takes very long to get an answer back from the field"
 "The call centre sometimes can take a very long time to come back."
 "then the guys on the floor battle to find out what to do with the labour basically. Are we going to be down for one hour, are we going to be down for two hours?"
 "I think communication on the planned outages is fine."
 "Remember, we had six winter months and six summer months, then we went over to the three, but they did not let us know."

"Selwyn normally phones me 40 - 50% before I can phone him to relate the problem."
 "I think that seminar was great for me as a person because I picked up a lot of things there that I could implement straight away when I got back."
 "I knew I was not going to get a reaction from her side because she is not going to be proactive with what I am going to tell her."
 "Like I say, if you work proactively towards that, that is where things improve."

"If we discuss something you can actually see something happening, like keeping of promises, you can see improvements where there is promised improvement."
 "There is a definite commitment in whatever is wrong, to do the improvements, that I can see."
 "Six months ago, or eight months I spoke to somebody and so what!"

"as a business I pay too much. I am not going to lie about that. One thing that took us for a major knock is the new structure over the winter period although it balances out over a year."
 "Like I say, the account is still too high but what can you do. I can't compare prices to anybody else."

"My other major problem is the guys come out to the substation and a link has blown or broken, they have to go all the way back to Umtata to pick it up."
 "they have no expertise here to sort this problem out."
 "this should be tackled more professionally and keep the guys informed on what is going on."
 "He is not the cheapest but the service I get from him and the quality I get from him, I would pay 15% more for him"

"Selwyn played a big part in it." "Well, you know 90% of the time I deal directly with you and I would say 10% of the time I deal with the call centre."
 to be able to phone Selwyn as a single person to be accountable for whatever's happening in your region and you get a true reflection of what is actually going wrong."
 think its done in a very professional way now. We have got no problems. The times are kept within 10%, its not that we run 10 hours over or 5 hours over. I would say 10% is reasonable."
 ve got a good guy having Selwyn Meise on their team. That is my personal opinion. I think you have done a lot work for Eskom."
 al opinion that 85% of the time I talk, I talk to Selwyn so the channels must go through him for whatever proactive action we got, the communication side and for me that is the best thing."

"You know my main concern. It is the amount of unplanned outages and even planned outages."
 "but the amount of unplanned outages in a year - I have just never seen something like that you know"
 "The quality of power, like I said to Paul, it has improved but I am still not happy with it."
 "The biggest issue, is unplanned outages and quality of supply"

Langeni Forests

"I usually call the call centre and Selwyn and we do get feedback from that in a very short time."
 "Like I said, we had our meeting and I think communication between Eskom and Hans Merensky, the sawmill itself is very important"
 "I think if you call the call centre, they give you a reference number and all that, but I don't have a problem with that and communication between Selwyn and myself, that's good."

"But on the planned side, for your maintenance and all that, last Sunday we had one, but we knew about it, it was planned so I am happy about that."

"Reaction time, we had a few points, it might just be a bit slack there. The technical service engineers reaction time to get to the point."

They are always expensive; I mean you guys are very expensive.
 "The finance person will tell you its very expensive because they don't know how much we draw. I think its fair. I can see the trend, its increased; I think its fair, because I know we use a lot of electricity."

"I mean from when I was kid I knew Eskom. I think they are very professional."
 "The service here is excellent, that I must tell you, especially from Selwyn and also your call centres and all that."
 "Well, I think you are on top of things and the work you do I think is professional. I can see all your HT lights going down here, from here to Umtata. Actually on my home I check. Overall, once again I use the word professional and that's it."
 "maybe the reaction time of your people, I'm saying that again, also I don't know what training you give, what kind of standards you set for your service technicians, especially which I saw that night, that okie did not know exactly what was going on. Maybe I am wrong, but maybe you can look into that, but otherwise, that all."
 "Well, I would look at quality first, service. You must look at service, quality and pricing."
 "If you talk pricing, I don't usually go for the cheapest pricing. If he's service and quality is not the same as the guy who is a bit more, I would rather go for the service quality."

"I think if you call the call centre, they give you a reference number and all that, but I don't have a problem with that and communication between Selwyn and myself, that's good."
 "but I need to have a contact person like Selwyn himself so if there is any miscommunication or whatever."

	Communication	Proactive	Reliability	Price/Value	Professionalism Image?	Personal Contact	QOS	Empathy
Nigel Brick and Clay	"The one thing I don't like about the call centre is the relationship. We speak to somebody that does not know you or they don't have that personal relationship." "When there is a problem you want to know how long it's going to be out so you can plan."	"I believe it is a clever move on your side in the way you <i>read the meters</i> instead of sending a vehicle around to point to all the points to go and read the meter with that labor available, to have that maintenance for us." "I would like to know what day we will be off, what maintenance is going to be done here and from when to when" "I would like them to ask me what a suitable time would be for me because there are alternative dates and before the power is switched off I will always be contacted before the power is going to be switched on and then I know exactly where I stand."	"They say that they will get back to me and they don't."		"They don't know what is going on."	"We speak to somebody that does not know you or they don't have that personal relationship. A have an arrangement with Selwyn if I have a problem and then he will follow up."	"The quality of supply is better and has improved." "One of worst things for us is single phasing because we are not at the stage where we have protective all over the plant. That can cost us dearly as well, burnt out motors."	

Stutterheim Municipality.	"Normally what they do is, they inform us, the ground people, inform us through the call centre or by themselves, if they have our telephone numbers and keep us in track as to what the problem is."	"Normally what we like is when we get contacted beforehand, even if it is unplanned and they ask us or notify us, the reasons and why."		"People will always go for price. I want the cheapest source, but the cheapest source has been proven in the world, which is not always the best one." "I think it is the cheapest form of energy."	"I think the company is fine. I haven't got a problem there, but the people on the ground, there is a problem." "It looks like they are a bit slow to react once they are here. I know it is a problem to get from point A to us when we have problem, but once they are on the ground there are certain problems with the people, looks like they don't perform and somebody else has to come and sort out their problem. I don't know if it is ignorance or what the story is and I believe that the training that they get, the little bit I know of Eskom, is that they can give training and they concentrate on training. I can't put my finger on it."	"I use the call centre and I do use control centre and to a lesser extent, I use Selwyn, unless we have a big problem I will phone him directly." " Sometimes, I think it is human that each one wants personal attention."	"The quality of electricity, I think is fair." "Quality of supply, I think outages of electricity, there are factors that are beyond that and that is part of quality of supply but when you have outside influences like the weather that is not quality of supply anymore." "they had some 180 power failures in extent of nine months about eight years ago"	
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Amatola Water

"but there was an occasion that we had a problem where the guys phone in and the call centre cant tell you what the progress is on it, for whatever reason they just give you a new number and other numbers, and eventually you would have 3 numbers for the same enquiry." "There was the odd problem where like I said when people get to something and they just cant give you answers or the guys are somewhere else." "I said please I am just looking for this guy's cell number in the field. I need to track him down to find out where they were because my electrician sit right under the fault and you have got no idea where your guys are or how long they are going to take to get there." "they are working somewhere on the system but we don't get any feedback." "I am 98% happy with Eskom. Our biggest frustration is on the operational side. Its purely just frustration with the call centre, when we report a fault and x hours later you haven't seen anybody and you don't know where they are. The feedback does not always come."	"On the bad side is when you feel frustration when you sit in the dark, when the guys in the call centre cant give you any details and you've just got no idea where the guys are and nobody sees anybody." "If there was some way that the guys could inform us as they are already working on it and we are not aware of it."		"I think anybody who tries to get into this thing (competition) in whichever way; the obvious thing is that they are going to look at the pricing. What are you going to pay for the service?"	"When your guys are called out, they normally, the ones I have dealt with, they are normally quite friendly and quite efficient and at least look like they know what they are doing." "We normally get a good quality service and it's a good quality product from you guys." "You guys are driving better than Telkom, that's for sure."	"If we don't get through to the call centre, we can't blame Selwyn, and then we call somebody else." "I didn't mind phoning Willie because I know him personally. I do understand why because we sometimes have this problem as well. It just takes sometimes long for the guys to get there and you are in two minds whether to phone the call centre." "The service we are getting from Selwyn is normally exceptionally good." "I believe you also look at established relationships, so its give and take. If you are happy with what you have got, you know the guys, everything is there, I think there is a smaller chance that you will actually move to somebody else." "We have partially bridged that by pulling Selwyn in to phone people and find out what is happening and we get feedback that way"	"but I think the bulk of the problem that we have here in terms service from Eskom is interruptions." "It was a big eye-opener for me to see sometimes how many interruptions we have, especially in the rural areas."	"Sometimes it is very difficult for us because sometimes it is 4 or 5 days before we are contacted again and they send the guys." "If I lose one of my 3 or 4 big plants, then it becomes a problem and the guys that reported it they just don't see anybody" "A drop of phase, a storm comes through or anything like that, but sometimes the guys are not, in my opinion, sensitive enough to the customers."
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Hong Fu Industries.	"I never know what is happening." "The worst thing is I didn't get any feedback." "For me the call centre is not such a good idea, the people are too far away." "The purpose of the call centre is to give some feedback but I don't think it is working out that way."		"The worst thing is I didn't get any feedback. I reported the fault at night, they only came at 07h30 the next morning." I phone to your call centre, they say the people on the way - finish. They never come back to me." "I want to see what you are going to do for us on these issues."		"I phone Eskom and I get the impression they are all on lunch." "Are the electricians here good enough?" "Sometimes they take too long to fix the problems." "I can see that the people are not working with great efficiency". "It seems to be getting worse and worse."	"Better to have someone to talk to or else you are blind" "I never see the Eskom staff, I do not know where they are?" "They just give you a number and keep you waiting." "Please bring your chap in charge, I want to see who he is."	"Because the power is so bad I am thinking of moving to East London." The power is going off all the time." "Power Quality is always on our meeting agendas." "We are on a hill and I am sure that is why we have so many failures". "Many times we have power failures and everyone else is on." "Is the network not too old?" "Yesterday we had a power failure three times"	"Really it must be resolved now, these power failures are costing us big time. You guys need to understand what power failures do to my business."
SANTA	"I have thought of approaching Buffalo City to ask if we can link up with them because I am tired of talking to Eskom." "It is difficult to get hold of a guy who has the power to make a decision." "Each and every time you just walk into a wall" "I have a problem to get straight to the top of Eskom." "Don't even talk to me about the call centre." "Is Eskom's Senior Management more important than the ministers of this country? Right up to the state president's number is in the telephone directory. But Eskom is too high and mighty to have their line managers telephone numbers listed." "The state presidents number is listed."			"The price has gone up a lot in the last few years." "In a competitive market, the first thing I will look for is price." "I would rather pay a bit more for an uninterrupted supply." "I think competition would be a good thing to reduce the monopoly of Eskom."	Laughs, "restoration time is a few hours, too long". "You phone in there and you get language choices, I push the button for Afrikaans and I get an English speaking Xhosa person." "I can't tell which is a statement and which is an invoice."	"It is difficult to get an answer from the brick wall". "I haven't spoken to anyone on a personal basis in a long time." "I would talk to the manager if only I knew how." "If only one knew who to call". "It would help a lot to have someone official inside the organization that I can talk to."	"When the thunder claps, the power is gone, when the wind blows, the power is gone. In Winter time it is OK, but in summer time it is off all the time." "We sometimes sit here for hours." "It is probably old lines that are too costly to replace."	"We burn out motors here and spend a lot of money on phase fail protection." "If you can solve my problems you will have a very grateful person. It is not fun to run a hospital in the dark. Show me some empathy, some understanding!" "It would seem Eskom is more concerned about supplying the city than they are of me."

Suntex	"We've only got the relationship with Selwyn and the call centre." "That bloody telephone message" "Nothing pisses you off more when your power has gone off than to talk to a mechanical voice." "People do not enjoy the electronic queuing system." "The blokes in the contact centre don't seem to be in touch with the guys in the field."		"If there is an issue we want it to be sorted out quickly."	"Electricity is a big input cost to our operations. We just have to accept the price because there is no competition in electricity." "Three things Price, Quality of Supply and Service"	"I think as a generating utility it does very well." "I don't think their repair crews are very quick, especially after hours." "You can't get hold of someone to come and sort out the problem quickly." "I think they have improved in the last year or so." "We were spoilt in the past with the old TESKOR staff who were very experienced and quick." "By and large I would say the quality is good."	"People actually like to see another human being face to face or hear that voice on a phone line." "The electronic voice annoys me." "If I have a problem I talk to Selwyn, he keeps me informed as best he can, he is very good about that."	"If the power goes off the whole factory stops." "The most single important thing is you light us the nation." "I just get pissed off when the electricity stops because it provides us with our means of production. This is different from basic necessities." "I would say that the supply has improved." "We could live with one outage a month and the power back on within a maximum of two hours." "The most important thing is people want their power all the time, in the 21st century, if the power goes off you sit. In the factory, R22 million turns to scrap without electricity."	"If the power is off for more than an hour we have to throw away all the fabrics." "You are losing money as soon as that power stops, workers are idle, heaters go cold and that can cost R20 to R30 thousand."
DWA Gariep	"Excellent – total co operation, total support. Very happy with the way communication is at the moment. Good communication channels with Bob Vermaak – e-mails or phones. Slip ups very infrequent." "Communication is good. Communication can always be improved but no drastic improvement is needed. No lack of communication."			"Value for money - Would be nice if it were cheaper."	"Overall, very professional level between Eskom and DWA Gariep, solve major problems together." Our staff have an excellent relationship with Eskom so if there are any problems it gets sorted out. Eskom is more than accommodating." "By large I cannot think of any other organization which I would deal with other than Eskom. Eskom are always able to solve problems, they are more than accommodating and helpful. If Eskom had competition they would have to be good."		"On the Electricity Supply Side – I don't want any abnormal problems – if Eskom has a breakdown it inconveniences all. It has improved." "In general, we have more outages than failures which Eskom always inform us of or ask us when we would like the power outage." "The quality of supply is excellent."	

MNR van Niekerk	"PIC very impersonal and long winded. Had better contact in the old days. The positive side of the PIC for Eskom is that the faults are screened and there is better control." "Improvements in communication are required. Communication is important." "We have had two very informative meetings with Eskom regarding tariff changes. Suggestion – Farmers have meetings regularly – Eskom representatives could be invited and inform all farmers of any changes."			"Accounts – has more than one point of supply and Eskom send individual accounts. Waste of postage. Put all points of supply in one envelope." "If another company would surface – I would go for price and service." "Price – Eskom is expensive."	"Eskom wastes a lot of resources e.g. money. Send so many vehicles out to fix a small problem – waste – and at the end of the day the customer pays for this when the price of electricity goes up."	"I think he has got the right to eyeball someone."	"I am spoilt to have electricity but it needs improvement. Older lines seem to have fewer interruptions. Earthing seems to be a problem on the new lines. That is a problem. " "	"If you don't know what your customer is doing with your product, I don't think you understand the customer because you have got to be able to appreciate the problems he has when he doesn't have it. If you don't do that, I think you are fighting a losing battle. You will never appreciate his side of the story."
Mnr. Witt	"I need better contact with Eskom." "Would like personal contact like an SMS informing him of how the repair is going, when supply is expected to return etc." "He did not even go and talk to the customer who was right there, just postponed."		"No one goes back to the customers to say, look it is not happening today for this reason, it is going to be next week or whatever."	"The Eskom bill is easy to understand but the tariffs are unacceptable. Far too high!" "If I were to chose another company I would go for price first then service."	"Staff needs to be more experienced in handling problems. Staff that go out and fix problems rely on others with more experience to sort the problem out."	"The Contact Centre which isn't always effective. Would prefer direct contact with Eskom technicians." "I would love to tell management that I need personal service."	"Electrification, installations and erection of lines – it's going better." "The electricity supply was weak but the problem has been sorted out and is better."	

Mnr. MEYER	"When you call the call centre, they just take down your details and say someone will call you back; they don't issue any reference number or the name of the person that took the call" "The call centre agents need to be trained in listening and communications skills"		"There is not one consistent answer, which you get from the Eskom people, one person will tell you this and the next will tell you some thing different. There must be one consistent story coming out of Eskom" ""Eskom is not responsive to problems when we call the call centre, it can take up to a week and 7 faxes to get someone from Eskom to call you back"	"The first competitive priority would probably be price. That affects his entire set up. The pocket is important."	"The staff at the customer service branches are not properly trained to help people nor to answer questions" "Eskom should not offer services that it does not have. At the call centre, you have the option of many languages if one of the languages is not available then they should not offer the option of choosing it"	"I think Eskom need more customer contacts in the field"	"Then, after that, depending on the application, the quality of supply"	
BJ VORSTER HOSPITAL	"Yes, I have phoned the call centre and I don't know how many times I phoned management afterwards to say I was not impressed with the information I got." "The communication is a shocker and I think part of the problem is ownership, a sense of urgency does not exist."		"In the past when you reported a problem, Eskom would call you back to see if your problem got fixed, now they don't do that — there is no feedback"	"I think there is a problem with the new billing system which creates incorrect accounts or abnormally high accounts based on averages that are calculated in the new system"	"The accounts department should start becoming more organised so that they are able to handle the account problems more efficiently"	"The technical people are very good once you have managed to reach them. Admin people give a very bad image of Eskom"	"I personally think that it might be partly quality supply, duration in particular, duration has become a major problem and the guys don't like being out for too long."	"The way the Eskom people feel about their customers comes out quickly" "if they don't care it comes out very quickly" "They should be trained so they know how to deal with customers properly"

Appendix 5 – Quantitative Questionnaire and Cover Letter.

WIN a NOKIA 6210 Cell Phone!

Answer the enclosed questionnaire and we will enter your details into a draw to take place 1 October to win a cell phone. Reply now, your chances of winning are better than 1 in a 1000!



11 August 2003

Barry MacColl

Tel: 043 7032019

Fax: 043 7032233

Dear Customer

Do you want to tell Eskom how you feel? I would like to ask you a favour that will ultimately directly benefit yourself. I am conducting a Region wide survey amongst our larger customers of their opinions of our service.

I want to assure you that this is not just another survey. It is a serious attempt to seek an understanding of what is important to you, one of our most significant customers. We have over four hundred thousand customers in the Region, this survey is being sent to only 1000; the large power users. Your feedback is key to our company as we strive to improve our service to this crucial segment.

The enclosed questionnaire has been designed specifically to target areas pertinent to the electricity services sector and Eskom in particular. The whole process should take less than 15 minutes to complete.

Please could you fill in the questionnaire enclosed by following the instructions and returning it in the postage paid, self addressed envelope at your earliest convenience. I would like to thank you in advance for your help and feedback and assure you that it will be taken very seriously by our executive management.

Yours Faithfully



Barry MacColl
Electricity Delivery Manager
Eskom - Southern Distribution Region.

Quantitative Questionnaire

As an Eskom customer you must have experienced the services of the company in some form or another. Think about these experiences and how they have made you **feel** towards Eskom.

For each of the statements below, indicate on the adjacent scale, the degree to which you believe Eskom **performs** against item. If you strongly agree that Eskom is performing a specific item then you would score them a seven (7) on the scale next to that statement. Similarly, if you strongly disagree, then you would score them a one (1) on the scale. If your feelings lie somewhere in between then use the numbers between 1 and 7 to properly reflect the actual strength of your feelings. A score of 4 for example lies in the middle of the scale and would reflect that you are indifferent to that particular item, that you neither agree or disagree.

Similarly, rate the **importance** of that statement to your situation. Importantly, there is no right or wrong answer and every customers response will be different so simply record your feelings about Eskom's performance in an honest and constructive way.

Statement (about an area of the business)	Performance (indicate your sentiment).	Importance (significance to you)
1. Eskom invests in appropriate technologies and equipment.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
2. Eskom's employees are well presented, neat and professional.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
3. When Eskom makes commitments regarding time, they stick to the schedule.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
4. When you have problems, Eskom is sympathetic and reassuring.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
5. When Eskom says something will happen, it does.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
6. Eskom's accounts and records appear accurate.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
7. Eskom gives its customers accurate, proactive information regarding what services it performs.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
8. You receive punctual service from Eskom's employees.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
9. Employees of Eskom are always willing to help customers.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
10. Eskom responds to customer requests promptly.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7
11. Eskom employees act ethically and are trustworthy.	Strongly Disagree Strongly Agree 1 2 3 4 5 6 7	Unimportant Crucial 1 2 3 4 5 6 7

Statement (about an area of the business)	Performance (indicate your sentiment).	Importance (significance to you)
12. Eskom employees are polite and courteous when dealing with customers.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
13. Eskom employees are empowered to do their jobs.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
14. Eskom gives customers individual attention regardless of their size.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
15. Eskom and its employees give you personal attention.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
16. Eskom knows what your needs are as a customer. Eskom puts its customer's interests before it's own.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
17. Eskom makes it easy for customers to do business with them.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
18. Eskom employees have the knowledge and competence required to provide a proper service and instill confidence.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
19. Eskom is a model corporate citizen that is striving for a better South Africa for all.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
20. Eskom communicates well with customers regarding <i>planned</i> interruptions for maintenance.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
21. Eskom keeps the duration of power outages to an acceptable level by restoring the power efficiently and effectively when you experience <i>unplanned</i> interruptions.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
22. Eskom supplies electricity with an acceptable number of interruptions.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
23. Eskom consults with you when planning their operations.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
24. Eskom resolves queries quickly and effectively.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
25. Eskom supplies electricity of an acceptable quality.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
26. When you talk to Eskom they listen.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
27. The current methods I have to communicate with Eskom meet my needs.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial
28. The price of electricity is fair and acceptable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree	Unimportant 1 2 3 4 5 6 7 Crucial

Statement (about an area of the business)	Performance (indicate your sentiment).	Importance (significance to you)
29. The Eskom bill is an accurate reflection of my energy usage.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
30. Eskom gets back to me when I ask them to.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
31. I can do business with Eskom easily because it is an accessible and approachable company.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
32. Eskom is a transparent, open and honest company.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
33. Eskom's accounts are simple and easy to understand.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
34. Eskom gives caring and individual attention to customers by having their best interests at heart.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
35. Eskom uses feedback from customers to improve their service standards.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
36. I have someone to talk to on a personal level inside Eskom about my service issues.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
37. Eskom has visually appealing signage, symbols, advertisements, pamphlets and facilities.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
38. The Eskom Call Centre (086 number) effectively meets my communication needs as a customer.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial
39. Eskom's service has improved over the last five years.	Strongly Disagree 1 2 3 4 5 Strongly Agree 6 7	Unimportant 1 2 3 4 5 6 7 Crucial

Overall, the quality of Eskom's services are

Very Poor	Average			Excellent		
1	2	3	4	5	6	7

My feelings towards Eskom can best be described as

Very Unsatisfied		Neutral		Very Satisfied		
1	2	3	4	5	6	7

I would like to suggest the following to improve Eskom's service.....(add extra paper if reqd.)

Appendix 6 – Item to Total Correlations and Cronbach Alphas per Scale.

Dimension	Item Number	Item to Total Correlation	Alpha if deleted.
Communication	14p	0.590174	0.929326
	15p	0.691110	0.926263
	16p	0.764785	0.923503
	17p	0.798589	0.922477
	23p	0.590135	0.929525
	24p	0.678767	0.926486
	27p	0.751334	0.923991
	30p	0.707620	0.925492
	31p	0.805152	0.922452
	34p	0.803978	0.922663
	35p	0.719360	0.925290
	36p	0.554771	0.931777
	38p	0.574378	0.930426
Tangibles	1p	0.477543	0.679857
	28p	0.593387	0.526557
	37p	0.535653	0.621912
Assurance	2p	0.643530	0.934664
	3p	0.819196	0.935809
	4p	0.763073	0.931147
	5p	0.694061	0.933274
	8p	0.782509	0.930565
	9p	0.718504	0.932634
	10p	0.745378	0.931707
	11p	0.696509	0.933492
	12p	0.648214	0.934826
	13p	0.675967	0.933842
	18p	0.706413	0.932873
	26p	0.752350	0.931506
	32p	0.683328	0.933558
	39p	0.668026	0.934609
Quality of Supply	21p	0.650147	0.766640
	22p	0.734373	0.683483
	25p	0.640361	0.778513
Price	6p	0.668906	0.721181
	29p	0.738580	0.646381
	33p	0.564501	0.820184
Empathy	7p	Invalid	Invalid
	20p	Invalid	Invalid

Chapter 7 - References

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