
THE PURIFICATION, ANALYSIS AND VALIDATION OF A SERVICE QUALITY SCALE

PF Venter & M Dhurup, North-West University Vaal Triangle Campus.

The retail industry remains one of the largest sectors in the global economy. In South Africa, retailing is one of the toughest and the most competitive industries. In this study factor analysis were used during the pilot stage to examine the robustness of the factor structure of the quality variables. The variables were analysed using principal component analysis, initially u rotated and then through Varimax normalisation. The findings of this preliminary study do provide basic support for a three-factor structure for supermarket service quality in terms of reliability and validity. The reliability analysis, which followed the factor analysis reflected coefficient α values ranging from 0.85 to 0.90 indicating high internal consistency amongst variables within each dimension. In today's saturated retail markets, retailers' face increasing hurdles to attract and maintain customers.

Keywords: Cronbach alpha, design, factor analysis, purification, reliability values, service quality, servqual, validation, varimax rotation

INTRODUCTION

Within the retail industry, supermarkets are renowned for their high level of competitive rivalry between various national chain stores. In order to address the unique needs of their customers and potential customers, management of supermarkets are continuously challenged with the task of having to differentiate their service offering from that which is provided by their competitors (Evangelidis, 1994:5). Increased awareness of consumer rights has also led to greater expectations and demands by consumers.

In South Africa, supermarket retailing had a devastating effect on the traditional corner store. Chain store supermarkets have made great inroads in the retailing field in the last twenty years (Farquhar, 2002:6). From an almost exclusive focus on satisfying the needs of the more affluent white consumer, retailers had to change their marketing strategies in order to bring African consumers into their stores. Driven by highly competitive management, the larger national chains are continuously fighting for market share and continue to apply pressure on smaller, independent retailers. Survival will depend on astute marketing, building relationships and emphasizing the quality of services in meeting the changing needs of the consumer.

THEORETICAL BACKGROUND

There is a general agreement that a basic retailing strategy for creating competitive advantage is the delivery of high service quality (Berry, 1986:3-6; Hummel & Savitt, 1988:5; Reichheld & Sasser, 1990:103; Sui & Cheng, 2001:88).

For a merchandise retailer, competitive success is now and will continue to be driven to a large extent by consumer perceptions of the quality of service. The demand for high quality customer service is on the increase, as consumers have become more value conscious and seek a hassle-free shopping atmosphere (Lewison, 1995:115). The modern shopper is more sophisticated and better informed than before and retailers have little option but to provide certain services at a competitive level if they want to appeal to the consumer.

Definitions of service quality focus on meeting customers' needs and requirements, and how well the service delivered matches the customers' expectations. The most relevant approach in defining and measuring service quality is the user-based approach, i.e. from the customers' perspective (Woodruffe, 1995:105) in which the human element forms an integral part in the offering of service. Keltner and Finegold (1996:57-58) assert that many service processes require the active involvement of the consumer of the service and the consumer therefore becomes involved as a co-producer of the service. In seeking quality service, customer needs and expectations may differ.

MEASURING SERVICE QUALITY

Service quality is an elusive and abstract construct that is difficult to define and measure (Parasuraman *et al.*, 1988:21; Brown & Swartz, 1989:93; Carman, 1990:33). Measuring service quality poses difficulties for service providers because of its unique characteristics: intangibility, heterogeneity, inseparability and perishability (Boshoff, 1990).

Furthermore, the improvement and measurement of service quality in retailing cannot be approached the same way as that of a service perspective (Metha *et al.*, 2000:63). The uniqueness of services offered by a retailer makes the use of scales developed for other services questionable.

Although the ground breaking SERVQUAL scale has been designed to measure service quality, it has been empirically tested in a number of studies, involving "pure" service settings. It has not been successfully adapted to and validated in a retail environment that offers a mix of merchandise and services such as department stores, hypermarkets and supermarkets (Dabholkar, *et al.*, 1996:6). A considerable variation in empirical factor structure has been reported in literature, which hampers our understanding of service quality and therefore cast doubts on the wide applicability and use of the SERVQUAL scale (Boshoff, 1997:124). It also seems that more research still needs to be done concerning the dimensionality of service quality in general as called by researchers of the SERVQUAL scale (Parasuraman *et al.*, 1994:122).

The problem addressed in this study is a need to better understand the attributes that are important for consumers in their evaluation of supermarket service quality. The study focused on the following central research questions:

- What are the dimensions that consumers use to evaluate supermarket service quality?
- What relationships can be observed between the proposed service quality dimensions and future store patronage?
- What relationships can be observed between the proposed service quality dimensions and overall service quality?

RESEARCH OBJECTIVES

The main purpose of this study is to develop a multi-dimensional scale that can be applied to measure consumers' perception of service quality in supermarkets.

Specific objectives of the study are:

- To establish the reliability and validity of the service quality scale.
- To analyse the factor structure and dimensionality emanating out of the study.
- To evaluate the relationship between the proposed service quality dimensions on future store patronage.
- To evaluate the relationship between service quality dimensions on overall service quality.

RESEARCH DESIGN

Empirical studies were undertaken in two phases. Firstly, qualitative research was undertaken in the form of focus group interviews. Zeithaml's and Bitner's guidelines (1996) for critical incidents technique (CIT) were used to solicit responses (both positive and negative) from supermarket consumers. They were then paraphrased and further condensed into themes, which were then utilised in the scale construction. Secondly, two pilot studies were undertaken with sample sizes of seventy-five and seventy respectively to purify the measuring instrument. The general procedure used by various researchers (Churchill, 1979:64; Parasuraman *et al.*, 1988:14; Avkiran *et al.*, 1994:12; Baber, 1992:43; Phillip & Stewart, 1999:179; Sureshchander, *et al.*, 2002:24) served as a framework in developing the customer service quality instrument. The steps are summarised below:

- Establish dimensions of service quality through review of literature by identifying critical dimensions of the construct,

- Generation of items by careful selection of representative items through qualitative research,
- Develop instrument and pre-test the instrument,
- Scale purification through pilot testing,
- Collect fresh data from new sample on a set of items that emerged from the previous stage
- Purify the instrument through factor analysis, item modification, remove items which affect unidimensionality, remove items which affect internal consistency,
- Evaluate reliability, dimensionality and validity of the instrument.

The final sample consisted of 607 respondents.

The nature of this study necessitated the use of a combination of convenience and judgement sampling (Parasuraman, *et al.*, 1991:436; Nauman & Giel,1995:201; Churchill, 1995:454; Meidan, 1996:53).The survey method was used to obtain relevant data to evaluate the scale and the factor structure. Care was taken to randomise the data collection. The population comprised individuals, both male and female, eighteen years and over, who have shopped at the particular supermarket one or more times in the last two months. A completely random sample was difficult to obtain as some control had to be exercised due to the requirement that respondents should have visited the supermarket at least once in the last two months. The data was collected over a three-week period in April 2003. Data was gathered from personal interviews conducted at a well-known supermarket chain in a store intercept type situation. The particular chain of supermarket was chosen because of the high service element involved and it was large enough to permit a research of this nature. In addition, the researcher was given permission and support from the management to conduct the research project. The supermarket chain appeared amongst the top thirty companies in South Africa over a five-year period from 1998 to 2002.

The table below reflects the sample composition amongst the three supermarkets.

SUPERMARKET	SAMPLE SIZE	MALE	FEMALE
Store A	198	109	89
Store B	201	116	85
Store C	208	99	109
TOTAL	607	324	283

Table 1: Sample size and Composition

A six point likert scale was used ranging from strongly agree to strongly disagree, with a category "not applicable" in the end. This category was added to pre-empt mid-point responses from customers having no experience of the items under consideration. In addition, the questionnaire contained a statement on overall service quality, intentions to shop, intentions to recommend the supermarket to a friend and complaints about poor service. Demographic information was collected which included marital status, age and income levels. The questionnaire made use of a perceptions based measure of service quality in the light of the suggestions put forward by various researchers (Cronin and Taylor, 1992:55; Carman, 1990:46; Teas, 1993:33; Vasquez *et al.*, 2001:6; Dabholkar, *et al.*,1996:3; Boulding *et al.*, 1993:9., Kim and Jin, 2002:225) that consumers evaluate service quality mainly on perceptions. The response data was first analysed for reliability using Cronbach alpha. Multivariate statistics, namely factor analysis was utilised to reduce the variables into identifiable factors.

RESULTS AND ANALYSIS

Focus Groups

Focus group interviews were used as a preliminary data gathering mechanism to generate variables for the pilot questionnaire. Groups were developed by initially establishing their experience in supermarkets. The main part of the interview involved a discussion of the aspects each participant perceived as being important in evaluating service quality in supermarkets. Each anecdote was numbered and summarised into a list of key words and

phrases (paraphrased), which encapsulated the customers' experience of the service. To facilitate the discussion, the researcher recorded the main ideas. In addition, each group discussion was tape-recorded.

Following the discussion, the tapes were transcribed. The summaries of the paraphrases were then given to two independent researchers in order to evaluate the appropriateness of the paraphrases against the original anecdote. Some of the incidents exceeded thirty words, while the rest were just short comments on certain aspects of service quality. A total of ninety-three incidents were analysed which comprised 47% males and 53% females.

The pilot study

A total of forty representative variables that were extracted during the qualitative phase were then administered via a structured questionnaire to seventy-five supermarket consumers. The standardised alpha for the scale was recorded at 0.8700, exceeding the suggested level of 0.70 (Nunnally, 1978:245). Factor analysis (varimax rotation) was then performed on the forty latent variables. Loadings of 0.30 and above (Churchill & Iacobucci, 2002:809) were retained. Factors were extracted with eigenvalues > 1. Five factors were extracted. The reliability of the factors ranged from 0.7887 to 0.4111. Item reduction was then undertaken due to the low reliability values on certain dimensions. Items with low factor loading and low item to total correlations were investigated. Three items were removed.

Using a thirty-seven item scale the Standardised alpha was recorded at 0.9481 (see table 2). At the dimension level, the Cronbach alpha ranged from 0.9116 to 0.6381. Further item reduction as suggested by Aldaigan and Buttle (2002:369) was undertaken by examining low item correlations, multiple loadings and unstable variables and inter-item correlations. This resulted in the removal of four items from the scale.

The iterative process was re-run with thirty-three variables in the calculation of Cronbach alpha. Standardised alpha was recorded at 0.94257. Average inter item correlation was 0.3405 indicating strong correlations amongst variables and data stability. Factor analysis (varimax rotation) showed greater clarity in terms of loading onto appropriate dimensions. For this study the varimax rotation method was used. Rotation involves moving the components or axes to improve the "cleanness" or fit of the solution. The root common rotational strategy used in the varimax or orthogonal rotation, as it is a robust and simple procedure that enhances the interpretability of the factors (Churchill & Iacobucci, 2002 : 809). At a dimension level Cronbach alpha ranged from 0.908 to 0.784 demonstrating good internal consistency and reliability. However some variables still required closer scrutiny. A further two variables were removed as it showed instability and in doing so resulted in the improvement of the reliability values.

Cronbach alpha and factor analysis (principal components-varimax rotation) were computed to establish reliability and a factor structure. A thirty one-item scale comprising five dimensions, were established through several iterations. The standardised alpha for the scale was recorded at 0.941503 and at the dimension level, the reliability ranged from 0.903764 to 0.784792.

The main study

Against this background, the study was then extended to a sample of 607 supermarket consumers of a renowned supermarket chain in the Vaal Triangle region to establish the scales reliability, validity and robustness of the factor structure on a larger sample size. Prior to factor analysis, the appropriateness of factorability on the data set was established. The correlation matrix, i.e. strength of linear association amongst variables was examined. Initial examination of the correlation matrix revealed that a substantial number (90%) of the correlations were > 0.30 which, according to Avkiran (1994:14), indicates factorability.

Furthermore, the Bartlett's Test of Sphericity was 8246.8000 at an observed significance level of 0.000 allowing rejection of the hypothesis that the population correlation matrix is an identity matrix, i.e. with zero correlations. The Kaiser-Meyer Olkin (KMO) measure of sampling adequacy (MSA) was 0.9560 which is considered "marvelous" by Kaiser (1974:35). In the final sample a clearer factor structure emerged as a result of several iterations, which resulted in the extraction of three factors with 30 variables. The computation of the Cronbach alpha and final factor structure is reflected in table 2. A complete factor structure and loading within each factor is reflected in annexure A.

Table 2: Reliability Values

Factors	Cronbach alpha (40 variables)	Cronbach alpha (37 variables)	Cronbach alpha (33 variables)	Cronbach alpha (31 variables)	Cronbach alpha (30 variables) main survey
Factor 1	0.749618	0.881772	0.831784	0.869005	0.901176
Factor 2	0.770040	0.912880	0.883854	0.903764	0.889985
Factor 3	0.788716	0.876834	0.784792	0.784792	0.854343
Factor 4	0.613799	0.815738	0.849175	0.843175	-
Factor 5	0.411118	0.638147	0.822968	0.838451	-
Overall alpha	0.870000	0.948099	0.942536	0.941503	0.949685
N	75	70	70	70	607

In addition, the testing for response bias in the data collection procedure required the computation of separate coefficient α values for the first two thirds and second one third of the completed responses. It was hypothesised that the α values would not be significantly different from both groups (split samples) of responses. The standardised α emerged as 0.9421 and 0.9481 respectively, inferring that the difference is small to indicate that there were any significant differences in the data sets. The summary of the reliability values for the split samples is reflected in table 3 below.

Table 3: Reliability Values – Split Sample

NO. OF VARIABLES	MEAN	STD. DEV.	N	STANDARDISED ALPHA	AVERAGE INTER-ITEM CORRELATION
30	46.38	13.34	204	0.9421	0.357
30	54.66	16.17	402	0.9481	0.380

Factor one labelled **reliability**, comprised ten variables and accounted for 40.9% of the variance. This dimension incorporates the reliability and personal interaction aspects of the retail service quality scale of Dabholkar *et al.* (1996:7). The items that loaded onto this factor relate mainly to the human element aspects of service delivery. The above conclusions are also in keeping with comments from focus group interviews where participants viewed proper complaints handling, short waiting time at cashiers, staff friendliness, courtesy, personal interaction and merchandise availability important in improving services. Comments from participants, for example: "To date nobody telephoned me back;" "since then, I stopped shopping at this particular supermarket;" "many times I had to wait in long queues at the cashier", reiterates the view that customers place reliability as one of the key determinants in evaluating services.

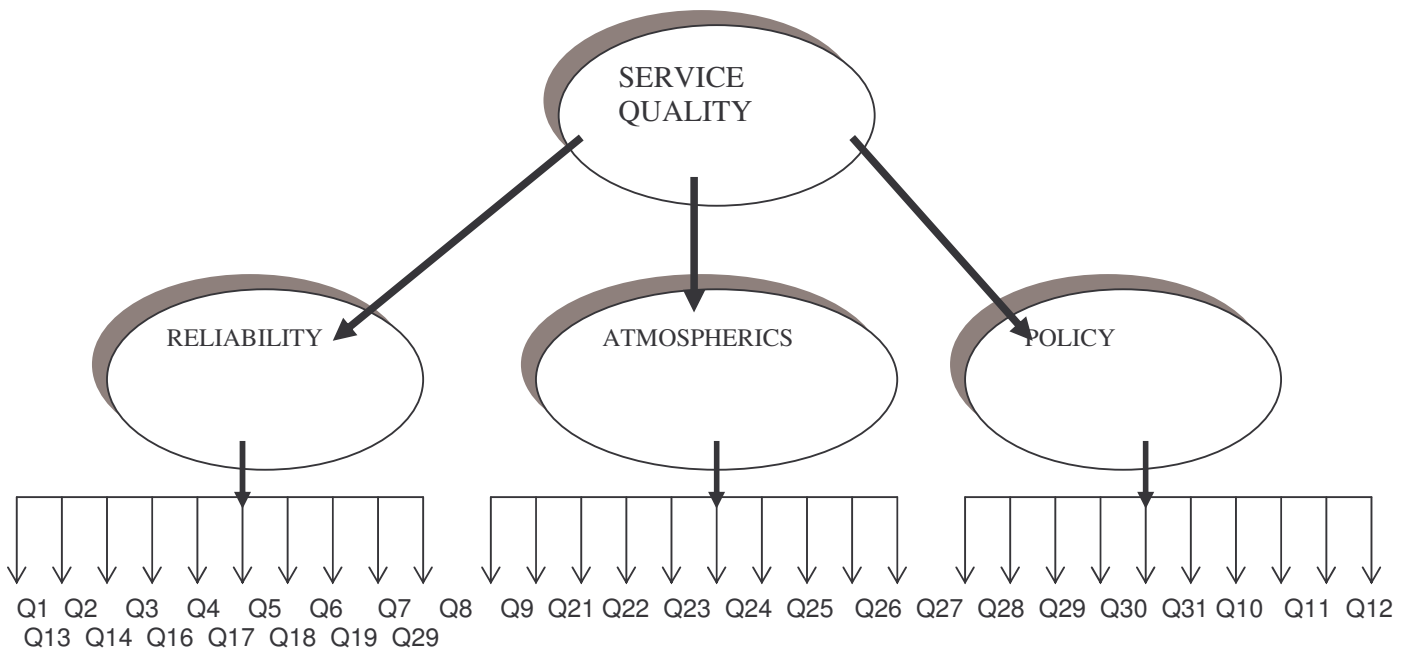
The second factor labelled **atmospherics**, comprised ten variables and accounted for 5.89% of the variance. This factor combines the tangible aspects of the SERVQUAL scale and the physical aspects of the retail service quality scale. This notion is also supported by the findings of focus group interviews. For example, some excerpts from the focus group interviews were: "In the fruit and vegetable section, you find leaves all over the floor and they do not even care to pick it up;" "in the prepared food section of this supermarket, the assistants working with food did not wear hats. I found it dirty because hair can fall into the food served to customers". Consistent with literature on atmospherics, Bitner, (1993:57) reaffirms that store atmosphere and appearance are important in global evaluations of a retailer's service. Further insight and evidence from environmental psychology support the notion that atmospherics induced by store environment influence the attitude as well as the behaviour of the consumers (Donovan *et al.*, 1994:291). Kotler (2000:527) is of the opinion that the environment offered by the store has an

impact, influences the customers' decision to visit the store, and also guides the consumers' inferences about service quality.

The third factor labelled **policy**, comprised ten variables and accounted for 4.41% of the variance. This dimension captures aspects of service quality that are influenced by the supermarket's responsiveness to the needs of the customer. These findings support the qualitative studies undertaken. Participants in the focus groups, *inter-alia*, referred to the following: "You cannot shop freely if you know that your car is not safe in the parking;" "whilst shopping, I found the shelf-packers are busy packing products on the shelves - I find it quite disturbing because we need space to move around with our trolleys".

Thus combining the conclusion obtained from literature review, exploratory research and the main survey, a structure with three basic dimensions is proposed (See figure 1).

Figure 1: Service Quality Dimensions



VALIDITY

To ensure that the service quality scale satisfies **content validity**, a mixed methodology research process was followed. Initially, a qualitative data collection process, namely focus group interviews was undertaken to ascertain customer perceptions of supermarket service quality. The key ideas were then used in the questionnaire construction. Content validity was also ascertained by pre-testing the questionnaire and a review of the questionnaire by academics and practitioners in the field. The instrument was further purified during the various pilot-testing stages during which changes were made to the questionnaire.

The scale's **convergent validity** was assessed for statistical significance by using Pearson's correlation coefficients. The three dimensions of service quality, namely reliability, atmospherics and policy were correlated with the overall measure of service quality (B1) of the questionnaire, i.e. overall, how would you rate the quality of service at the supermarket? Table 4 reflects that the marked correlations are all significant at $p < 0,05000$. This implies that the three dimensions of service quality do in fact converge with the measure of overall service quality. Furthermore, the reliability of a scale as measured by coefficient alpha reflects the degree of cohesiveness among

scale items and is also an indirect indicator of convergent validity (Parasuraman *et al.*,1988:12-35). The Cronbach alpha values (refer to table 2) for the three dimensions are high in the study.

Table 4: Correlation of Overall Service Quality and Service Quality Dimensions

Variable	B1	Reliab	Atmos	Policy
B1	1.00			
Reliability	-0.49*	1.00		
Atmospherics	-0.53*	0.69*	1.00	
Policy	-0.39*	0.73*	0.67*	1.00

* Marked correlations are significant at $p < 0.05000$

Discriminant validity was measured by including an item in the study (B4) relating to complaints about poor services offered by the supermarket. The marked correlation in Table 5 depicts negative correlations between complaints about service offered by the supermarket and overall service quality, thus providing evidence of discriminant validity.

Table 5: Correlation between Complaints about Poor Services and Service Quality Dimensions

Variable	B4	Reliab	Atmos	Policy
B4	1.00			
Reliability	-0.43*	1.00		
Atmospherics	-0.35*	0.69*	1.00	
Policy	-0.24*	0.75*	0.70*	1.00

* Marked correlations are significant at $p < 0.05000$

Table 6 reports on the results of the multiple regression analysis computed in order to establish the predictive power of the three service quality dimensions in assessing **predictive validity**. The three service quality dimensions were regressed with the following opinion data: overall service quality (B1), store patronage (B2) and recommendation of the supermarket to a friend (B3). In terms of the relationship between the individual dimensions and the overall service quality rating, the adjusted $R^2 = 0.30$ was suggesting that the service quality dimensions explain 30% of the variance in the customers' overall rating. Dimensions-reliab (reliability) and atmos – (atmospherics) were statistically significant at $p < 0.0000$. Policy, the third factor showed a negative relationship to overall service quality. The middle part of table 6 reflects the relationship among the individual dimensions and future store patronage, the adjusted $R^2 = 0.182$, which meant that the three dimensions explained 18,2% of the variance in customer's patronage intentions. However, only reliability and atmospherics were statistically significant at $p < 0.0000$. The relationship was strongest between atmospherics and future patronage intentions.

It therefore seems that policy is not an important factor in making decisions with regard to store patronage. The bottom part of table 6 outlines the regression analysis of the three dimensions of service quality and store recommendation. In terms of the relationship between individual dimensions and intention to recommend the store to a friend, the adjusted $R^2 = 0.212$ was statistically significant, which meant that the service quality dimensions explained 21% of the variance of the intention to recommend the store to a friend. The reliability and the atmospherics dimensions showed significant associations at $p < 0.0000$ with the highest association being the atmospherics dimension. These findings are also in line with the results of some earlier studies that have highlighted the importance of soft issues (for example, the physical aspects of the store, complaints handling, trust, politeness, etc.) in improving service quality (Sureshchander, et al., 2002:69; Powel, 1995:15).

Table 6: Regression Analysis

DIMENSIONS *	B	BETA	T	p – level
Reliability	0.2949	0.2980	5.4127	0.0000*
Atmospherics	0.3945	0.5024	7.8090	0.0000*
Policy	-0.1024	-0.1142	-1.8337	0.0719
R = 0.5570 R² = 0.3103 Adjusted R² = 0.3069 F= 3.603 *p< 0.0000				
DIMENSIONS **	B	BETA	T	p – level
Reliability	0.2067	0.23056	4.7417	0.0000*
Atmospherics	0.3092	0.4432	5.6181	0.0000*
Policy	-0.0558	-0.0687	-0.9210	0.3573
R = 0.4320 R² = 0.1866 Adjusted R² = 0.1826 F= 3.603 *p< 0.0000				
DIMENSIONS ***	B	BETA	T	p – level
Reliability	0.1776	0.1971	3.0599	0.0000*
Atmospherics	0.3505	0.4901	6.5115	0.0000*
Policy	-0.0305	-0.0336	-0.5304	0.5959
R = 0.4656 R² = 0.2168 Adjusted R² = 0.2129 F= 3.603 *p< 0.0000				

- * Service quality dimensions regressed with overall rating of service
- ** Service quality dimensions regressed with store patronage
- *** Service quality dimensions regressed with store recommendations

CUSTOMER PROFILES AND SERVICE QUALITY PERCEPTIONS

Sui (2001:91) posits the view that there is a need to examine the demographic characteristics of customers when evaluating service in non-professional services such as retailing. The socio-demographic data was used to examine their association with the identified factors. Table 7 reflects the socio-demographic variables in relation to the identified factors. From the table, it is evident that gender is not significantly related to reliability, atmospheric and policy variables. This implies that the three factors that emerged from the study are not in any way influenced by the gender categories. However, marital status is significantly related to the reliability factor implying that married and single consumers view the various reliability aspects of service quality differently. Age, on the other hand, is significantly related to all three dimensions implying that age plays a role in establishing service quality perceptions.

The study reveals that income levels are significantly related to reliability and policy aspects in shaping consumers perceptions of the quality of services offered by supermarkets.

Table 7: Analysis of Variance: Demographic Variables and Service Quality

VARIABLES	df	RELIABILITY		ATMOSPHERICS		POLICY	
		F	P	F	P	F	P
Gender	1:605	1.087	0.2975	1.072	0.3008	0.702	0.4024
Marital status	4:602	2.510 *	0.0408	1.614	0.1691	1.378	0.2400
Age	5:601	6.964 *	0.0000	3.351 *	0.0054	4.406*	0.0006
Income	5:580	6.579 *	0.0000	1.027	0.4009	3.555*	0.0035

* significant at $p < 0.0500$

RECOMMENDATIONS, LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

The supermarket chain in the study is a top renowned retailer in South Africa. Its consistent service image has proved to be a success in its retail operations in South Africa. The study demonstrated that customers attach great importance on the **atmospheric** variable (physical aspects), the **reliability** and the **policies** of the retailer. For supermarkets to establish or enhance service quality, they have to ensure that staff are polite and courteous to customers, have the knowledge to answer customer questions and handle complaints effectively and promptly. Atmospherics and reliability seems to be strong predictor of overall service quality, store patronage and recommendation of the supermarket to friends. Managements of supermarkets should place greater emphasis on the atmospheric and reliability variables in order to enhance service quality perception among consumers. While the retailer's policy may not seem to be a strong predictor of overall service quality, store patronage and recommendations of the store to friends, its value should not be underscored.

Store policies must be responsive to the needs of the customer. Store policies such as in-house cash withdrawal facilities, payment of utility bills, safe customer parking are essential ingredients of enhanced service quality and customer satisfaction. The role of technology should not be underestimated. New technology and interactive marketing can create new opportunities for supermarkets. Retailers can use technology to simplify and improve the services offered to customers. Routine and repetitious tasks can be handled by a system, freeing employees to deal with more important customer requests and problems.

This study undertaken within the supermarket setting, adds to the growing literature, which calls for the re-examination of how to measure and manage service quality. The results of this study cannot be accepted as being completely relevant and applicable to all retailers who offer a mix of goods and services, because of the limited sample size, the sampling procedure and particularly its focus on supermarkets.

The instrument has been validated by collecting data from customers of a supermarket chain in a developing country (South Africa). There is a possibility that perceptions may vary from customers from other developed countries.

This study has identified categories that are important to customer perceptions of service quality in supermarkets. However it also raises a number of issues outlined below, which could benefit from future research.

The interpersonal category (the human element) recorded a number of incidents in the focus group interviews. There would be value in additional work to analyse these incidents further to try to establish a more detailed perspective on the key influencing factors.

Previous research (Stafford & Enis, 1969:457; Monroe, 1973:75; Sproles, 1977:63-77; Parasuraman *et al.*, 1985:41-50; Zeithaml, 1988:11; Boshoff, 1990:87; Dodds & Monroe, 1991:315; Injazz *et al.*, 1994:26) has shown that price

is often not an indicator of quality. Should supermarkets continue to emphasise low prices in their competitive strategies, or should they accept the risk of asking customers to pay a premium for enhanced services?

The sample was more representative of the white target market of the supermarket chain. Some other possibilities for future consideration could include cross-cultural comparison of the different cultural groups. Cross-cultural comparison of service quality perceptions may provide rewarding research in South Africa. Do different cultural groups have different perspectives of service quality in supermarkets?

CONCLUSION

The findings of this preliminary study do provide basic support for a three-factor structure for supermarket service quality in terms of reliability and validity. The five dimensions conceptualized at the beginning of the study with forty variables were empirically reduced to thirty variables and emerged as three distinct and interpretable factors, namely, reliability, atmospherics and policy. The reliability analysis, which followed the factor analysis reflected coefficient α values ranging from 0.85 to 0.90 indicating high internal consistency amongst variables within each dimension.

Although Managements of supermarkets can pride themselves on many success areas on service quality, with increasing competition, efforts will have to be continuously focused on service excellence. Gerstner (cited in Schiff, 2001:04) aptly sums up service quality in the competitive retail environment as, “being best in class in service quality is not the result of any one person’s effort - it comes from leadership, focus and passion at every level of the organization”.

A comprehensive instrument framework has been proposed which can be used to measure and understand customer perceptions of service quality in a supermarket context. It is hoped that the findings of the study will help to advance an archetype of service quality based on the identified three dimensions in order to comprehend better the concept of service quality and its constituents.

ANNEXURE A: EMPIRICAL FACTOR STRUCTURE*

ITEMS	VARIABLE DESCRIPTION	FACTOR 1 LOADING	FACTOR 2 LOADING	FACTOR 3 LOADING
Q01	Handling of customer complaints	0.656227		
Q02	Waiting time at cashiers	0.600444		
Q03	Provision for customer suggests and comments	0.532962		
Q04	Contact staff are polite to customers	0.667524		
Q05	Safety in transacting with the store	0,502843		
Q06	Willingness to help customers	0.694613		
Q07	Knowledge to answer customer questions	0.708557		
Q08	Respond to customer requests	0.674576		
Q09	Employees give you personal attention	0.696923		
Q21	Error free sales transactions	0.494265		
Q22	Employees are appropriately dressed		0.597551	
Q23	The fresh food display is always fresh		0.573046	
Q24	The store uses time saving technology		0.644694	

Q25	The store has modern looking fittings and equipment		0.721088	
Q26	The physical facilities are appealing		0.680132	
Q27	Clearly specified sales slips are given to customers		0.718639	
Q28	The brands sold at this store are trustworthy		0.669626	
Q29	A broad variety of brands are offered		0.620241	
Q30	The retailer's own brands are of a high quality		0.608552	
Q31	The store has convenient operating hours		0.635372	
Q10	Adequate till packers are available			0.518990
Q13	Convenient Cash withdrawal facilities are available			0.659225
Q14	Merchandise is always available			0.599847
Q11	Safe customer parking			0.415771
Q12	Store layout enables customers to move around			0.547363
Q16	The store is characterized by its pleasant aroma			0.615037
Q17	Prices of products are clearly visible			0.541063
Q18	Layout makes it easy for customers to find products needed			0.600439
Q19	The retailer leads as a corporate citizen			0.581341
Q29	The store provides good service at a reasonable cost			0.465614

* Loading of 0.40 and more were considered significant

* Method of extraction – varimax rotation with Kaiser normalisation.

REFERENCES

Aldlaigan AH & Buttle FA. 2002. SYSTRA-SQ: a new measure of bank service quality. *Industrial Journal of Service Industry Management*, 13(3):362-381.

Avkiran NK. 1994. Developing an Instrument to Measure Customer Service Quality in Branch Banking. *International Journal of Bank Marketing*, 12(6):10-18

Anon. 2002. Taking stock of Retailing: A.C. Nielson's Store Census. *Progressive Trends*, 6:16-17.

Babber S. 1992. A dynamic model for continuous improvement in the management of service quality. *International Journal of Operations and Production Management*, 12(2):38-48.

Berry LL. 1986. Retail Businesses are Service Businesses. *Journal of Retailing*, 62: 3-6, Spring.

Bitner MJ. 1993. SERVICESCAPES: The impact of Physical Surroundings on customers and employees. *Journal of Marketing*, 56:57-71.

Boshoff C & Terblanche NS. 1997. Measuring Retail Service Quality: A replication Study. *South African Journal of Business Management*, 28(4):123-133.

- Boshoff HC.** 1990. *Perceptions of service quality in three selected service industries*. Unpublished D.Com. Dissertation. Pretoria. University of Pretoria. Pretoria
- Boulding W, Kalra A, Staelin R & Zeithaml VA.** 1993. A Dynamic process model of service quality: from expectations to behavioural intentions. *Journal of Marketing Research*, 30:7-27, February.
- Brown SM & Swartz TA.** 1989. A Gap Analysis of Professional Service Quality. *Journal of Marketing*, 53: 92-98, April.
- Carman JM.** 1990. Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL dimensions. *Journal of Retailing*, 66:33-55.
- Churchill GA Jr.** 1979. A paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, 16: 64-73., February.
- Churchill GA Jr & Iacobucci D.** 2002. *Marketing Research: Methodological Foundations*. 8th ed. FortWorth: Harcourt College Publishers.
- Churchill GA Jr.** 1995. *Marketing Research: Methodological Foundations*. 6th ed. Florida: Dryden. 1117p.
- Cronin JJ & Taylor SA.** 1992. Measuring service quality: a re-examination and extension. *Journal of Marketing*, 56:55-68.
- Dabholkar A, Thorpe ID & Rentz OJ.** 1996. A Measure of Service Quality for Retail Stores: scale development and validation. *Journal of the Academy of Marketing Science*, 24(1):3-16.
- Dodds WB & Monroe KB.** 1991. Effects of price, brand and store information on buyers. *Journal of Marketing Research*, 28(1):307-331.
- Donovan RJ, Rossitter J, Marcoolyn G & Nesdale A.** 1994. Store Atmosphere and Purchasing Behaviour. *Journal of Retailing*, 70(3):283-294.
- Evangelidis A.** 1994. *Customer perceptions of service quality at grocery supermarket outlets*. Unpublished MBA. Dissertation. University of Witwatersrand. Johannesburg.
- Farquhar J.** 2002. A brief look at the history of South African Retailing. *Progressive Trends*, 6:6-7.
- Ghobadian A, Speller S & Jones M.** 1994. Service Quality: Concepts and Models. *International Journal of Quality & Reliability Management*, 11(9): 43-66.
- Hummel JW & Savitt R.** 1988. Integrated Customer Service and Retail Strategy. *International Journal of Retailing*, 3(2):5-21.
- Injazz JC, Atul G & Walters R.** 1994. A study of price and quality in service operations. *International Journal of Service Quality Management*, (2):23-33.
- Kaiser HF.** 1974. An index of factorial simplicity. *Psychometrika*, 39(1):31-36.
- Keltner B & Finegold D.** 1996. Adding Value in Banking: Human Resources Innovations for Service Firms. *Sloan Management Review*, 38(1):57-67, Fall.
- Kim S & Jin B.** 2002. Validating the Retail Service Scale for US and Korean customers of discount stores: an exploratory study. *Journal of Services Marketing*, 16(3):220-237.

- Kotler P.** 2000. *Marketing Management: The Millennium Edition*. 6th ed. Prentice-Hall:Upper Saddle River, New Jersey.
- Lewison DM.** 1997. *Retailing*. 6th ed. New Jersey: Prentice Hall.
- Meidan A.** 1996. *Marketing Financial Services*. Great Britain: Macmillan.
- Metha C, Lalwani AK & Li Han S.** 2000. Service quality in Retailing: relative efficiency of alternative measurement scales for different product-service environments. *International Journal of Retail & Distribution Management*, 28(2). 62-72.
- Monroe KB.** 1973. Buyers subjective perception of price. *Journal of Marketing Research*, 10:70-80.
- Nauman E & Giel K.** 1995. *Customer Satisfaction Measurement and Management: Using the Voice of the Customer*. Cincinnati, Ohio: Thompson Publishing.
- Nunnally JC.** 1978. *Psychometric Theory*. 2nd Ed. New York. McGraw-Hill.
- Parasuraman A, Zeithaml V & Berry LL.** 1985. A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49:41-50, Fall.
- Parasuraman A, Zeithaml V & Berry L.** 1988. SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1):12-35, Spring.
- Parasuraman A, Zeithaml V & Berry L.** 1991. Refinement and Reassessment of the SERVQUAL Scale. *Journal of Retailing*, 67(4):420-450, Winter.
- Parasuraman A, Zeithaml VA & Berry LL.** 1994. A reassessment of expectations as a comparative standard in measuring service quality. Implications for future research. *Journal of Marketing*, 58(1):111-125.
- Phillip G. & Stewart J.** 1999. Assessment of the service quality of a cancer information service using a new P-C-P attributes model. *Managing Service Quality*, 9(3):167-179.
- Powell CT.** 1995. Total quality management as competitive advantage: a review and empirical study. *Strategic Management Journal*, 16:15-37.
- Reichheld F & Sasser WE.** 1990. Zero Defections: Quality Comes to Service. *Harvard Business Review*, 68(5):105-111.
- Sproles GB.** 1977. New evidence on price and quality. *Journal of Consumer Affairs*, 11:63-77, Summer.
- Sureshchander GS, Rajendran C & Anantharaman RN.** 2002. Determinants of customer-perceived service quality: a confirmatory factor analysis approach. *Journal of Services Marketing*, 16(1):9-34.
- Schiff L.** 2001. How customer satisfaction improvement works to fuel business recovery. *Journal of Organisational Excellence*, 20(2):3-18.
- Siu NYM & Cheung JTH.** 2001. A measure of retail service quality. *Marketing Intelligence & Planning*, 19(2):88-96.
- Stafford JE & Enis BM.** 1969. Price-Quality Relationships: An Extension. *Journal of Marketing Research*, 6:456-459.
- Teas KR.** 1993. Expectations, Performances Evaluation and Consumers' Perceptions of Quality. *Journal of Marketing*, 57:18;34.

Terblanche N. 1998. *Retail Management*. Johannesburg: Thomson Publishing Co.

Vazquez R, Ignacio A, Del-Bostique R, Diaz AM & Ruiz AV. 2001. Service Quality in supermarket retailing: identifying critical service experiences. *Journal of Retailing and Consumer Services*, (8):1-14.

Woodruff H. 1995. *Services Marketing*. London: Pitman Publishing.

Zeithaml VA. 1988. Consumer perceptions of price, quality and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52:2-22.

Zeithaml VA & Bitner MJ. 1996. *Services Marketing*. New York: McGraw-Hill.