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## Service quality assessment in retail industry: some evidence from supermarkets in Greece

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**Abstract:** This study aims to investigate the service quality dimensions at supermarket stores. It uses a modified SERVQUAL approach to analyse the gap between perceptions and expectations of the customer, concerning the service provided by the retail units in Greece. The factor analysis technique is used to extract the important factors on the basis of responses obtained from customers. The analysis reveals that six dimensions in service quality capture the content of quality in the Greek context. In addition, it reports that there exists a gap between the rating which customers assign to expectations and to perception statements. Generally, the results of the research show that the services offered by retail units have a positive impact and are significant in building customer satisfaction.

**Keywords:** service quality; SERVQUAL; retail industry; supermarkets; factor analysis; Greece.

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## **1 Introduction**

In nowadays competitive environment the main challenges faced by any firm is to understand and to improve its operational processes in order to achieve high levels of customer satisfaction. Modern management science considers customer satisfaction as a baseline standard of performance and a possible standard of excellence for any business organisation (Gerson, 1993). As a result, customer satisfaction has been receiving a great deal of attention from managers and researchers due to its strong impact on business performance. In addition, measuring customer satisfaction offers an immediate, meaningful and objective feedback about their preferences and expectations. Usually, it involves a comparison of the customer expectations with the customer perceptions of the actual service performance (Parasuraman et al., 1985, 1988).

Service quality is considered as a significant measure to increase the customer satisfaction and loyalty. It is defined as a global judgment or an attitude related to the superiority of the service (Parasuraman et al., 1988). It has been revealed, in many studies, as the key factor in the search for sustainable competitive advantage and differentiation in the service sector (Jun et al., 1998; Jabnoun and Al Rasasi, 2005). Further, it has been recognised as a highly important tool to increase value for the consumers as a means of positioning in a competitive environment and to ensure consumer satisfaction, retention and patronage (Mehta et al., 2000; Sivadas and Baker-Prewitt, 2000; Yavas et al., 1997). Therefore, measuring service quality has become a significant key factor due to its relationship to customer satisfaction and economic competitiveness (Reicheheld and Sasser, 1990; Boulding et al., 1993; Spreng et al., 1996; Bolton and Drew, 1991).

Service quality is linked to retail environment as well. The high service quality has long been established as the vital retailing strategy (Berry, 1986; Reicheheld and Sasser, 1990; Hummel and Savitt, 1988). Recent researches indicate that service quality can serve as a tool to increase the brand image of the retail store and can act as a positioning tool (Mehta et al., 2000). However, the service quality of the retailing market differs from any other service market due to its unique characteristics. According to Gagliano and Hathcote (1994) the retail services have been classified into 'store services' and 'sale services'. The store services concerns the extent to which variety, quality, and dependability of service can be obtained, while sales service concerns the extent to which prompt and individual service attention can be achieved.

Supermarkets within the retail industry are renowned for their high level of competitive rivalry among various chain stores. Within this competitive environment and in order to address the unique need of the existing and potential customers management of supermarkets is obliged to differentiate their services. Such differentiation takes the form of price discounts, cheaper private labels, loyalty programs, customised shopping and so forth.

In the case of Greek supermarkets, this competition is more severe. They face domestic and foreign competitors and have to serve more demanding customers with great consumer and service expectations.

Nevertheless, its contribution to the national economy is of great importance. In Greece, supermarkets and cash and carry stores account for 90% of the total turnover of the foodstuffs sector. The supermarket's sector is one of the most dynamic sectors of the Greek economy, it accounts for 40% of the total turnover of grocery retail in the country.

However, the long standing crisis causes turbulence in the productive sector that have a direct impact on them. It has created a completely new retail environment, with conditions in which many retailers and suppliers have never operated. In addition, the high unemployment rate is having a negative impact on retail sales, as the austerity program. Therefore, supermarkets must continually develop new strategies in order to cope with these new conditions.

The objectives of this research are fourfold, firstly it aims to identify the level of the customers' satisfaction from their shopping experience, secondly to identify the relevant service – quality dimensions used by Greek supermarket customers to evaluate service quality, thirdly, to assess customers' perceptions and expectations related to the quality provided by the supermarkets and fourthly, to investigate how closely customers' perceptions and expectations of service quality match. To achieve the defined objectives, the present study utilises a modified SERVQUAL instrument in which the original SERVQUAL items were modified (basically rephrased) and enriched to suit to the study. All items used to capture the factors affecting the shopping experience in retailing are in accordance with the existing literature. The analysis reveals that there exist a gap between the rating which customers assign to expectations and to perception statements. In fact, expectations exceed perceptions of the provided service quality, suggesting that there is room for quality improvement initiatives. Thus, the findings can be used as a guide for the managers to improve the crucial quality attributes and enhance service quality and business performance.

The rest of the paper is organised as follows: Section 2 is devoted to the concept of service quality measurement. The methodology followed for the purpose of the study is presented in Section 3, while in Section 4 study's main results are presented. Finally, the paper concludes in Section 5.

## **2 Measuring service quality**

Measuring service quality seems to pose difficulties for service providers because of the unique characteristics of service: intangibility, heterogeneity, inseparability and perishability.

The most widely known scale for measuring service quality is the SERVQUAL model developed by Parasuraman et al. (1988). It is used as a diagnostic tool for the measurement of customer service. The SERVQUAL approach has been accepted and utilised as a generic instrument that captures the multidimensionality of service quality across a broad range of service categories. Parasuraman et al. (1985) had originally stated that consumers evaluate service quality by comparing expectations (of service to be received) with perceptions (of service actually received) on ten dimensions of service quality. In a later stage and after extensive research and empirical testing, the authors reduced the original ten dimensions to five (Parasuraman et al., 1988):

- a Tangibles, which encompass the appearance of physical facilities, equipment, personnel and written materials.
- b Reliability, which refers to the ability to perform the promised service dependably and accurately.

- c Responsiveness, which is the willingness to help customers and provide prompt service.
- d Empathy, which is defined as caring, easy access, good/communication, customer understanding and individualised attention that a company provides to its costumers.
- e Assurance, which addresses, employees' knowledge and courtesy and their ability to inspire trust and confidence.

In addition, to these five determinants of service quality, Gronroos (1990) has added a sixth dimension, that of recovery, that is the ability to recover from mistakes, to customise the service or add additional services.

Each dimension is measured by four to five items (making a total of 22 items across the five dimensions). Each of these 22 items is measured in two ways:

- a the expectations of customers concerning a service
- b the perceived levels of service actually provided.

Each statement is recast into two statements: one to measure expectations about firms in general within the service category being investigated, and the other to measure perceptions about the particular firm whose service quality is being assessed. A seven-point scale ranging from 'strongly agree' (7) to 'strongly disagree' (1), with no verbal labels for scale points 2 to 6, accompanies each statement. The SERVQUAL proposes a gap based conceptualisation of service quality where the gap indicates the extent to which the service obtained confirms to expectations. The quality perception or gap score (G) is calculated by subtracting the Expected scale values (E) from the performance scale values (P). Therefore,  $G = P - E$ . The greater the gap score, the higher the score for perceived service quality. In SERVQUAL, both – store service performance and consumer expectations of the store service, are explicitly measured to assess the 'gap'. Several researchers find the performance perceptions to be sufficient in assessing service quality as compared to the gap (Carman, 1990).

The SERVQUAL model has been widely applied to measure service quality in various service industries in the past decade, including: the health sector (Carman, 1990; Headley and Miller, 1993; Lam, 1997; Kilbourne et al., 2004; Karassavidou et al., 2009); telecommunications (Van der Wal et al., 2002) information systems (Jiang et al., 2000) and library services (Cook and Thompson, 2001); banking (Lam, 2002; Zhou et al., 2002); fast food (Lee and Ulgado, 1997).

On the other hand, as it is pointed out by (Finn and Lamb, 1991; Gagliano and Hathcote, 1994) service quality in retailing is different from any other service environment. This is mainly due to the fact that the customer satisfaction from the service quality provided by such stores depends also on some particular factors such as quality of goods, after sales service, ease of transaction, evaluating product variety and interaction with store personnel. For that reason the application of a pure SERVQUAL instrument to evaluate the service quality in retailing is not always successful. Finn and Lamb (1991) tested SERVQUAL in four different types of retail stores. They were unable to find a good fit to the proposed five-factor structure and concluded that SERVQUAL, without modification, could not be used as a valid measure of service quality in a retail setting.

The need for a measurement instrument that can accurately assess service quality in a retail environment was answered by Dabholkar et al. (1996), who provided an approach

to define and measure retail service quality by developing the retail service quality scale (RSQS). According to Dabholkar et al. (1996), RSQS is able to serve as a diagnostic tool for retailers to determine which service area needs improvement. In the recent years the research studies related to the measurement of service quality specifically in retailing can be classified into the following streams:

- a Studies that follow the original SERVQUAL approach, for example, Krishna Naik et al. (2010) and Phiri and Mcwabe (2013) used the five quality dimensions of SERVQUAL to measure customer satisfaction in various retail stores in India and South Africa respectively.
- b Studies that replicated the RSQS in their own culture and research settings, for example, Siu and Chow (2004), employed the RSQS's dimensions of quality in order to examine the service quality in a Japanese supermarket in Hong Kong.
- c Studies that tried developed new dimensions in measuring service quality in the retail industry, for example in Venter and Dhurup (2005), Dhurup et al. (2005) a dimension scale comprised of three factors, namely, reliability, atmospheric and policy in the context of South Africa's supermarket is developed.
- d Studies that applied the SERVQUAL instrument with modification. For example, in (Lin et al., 2012) the SERVQUAL items were modified and enriched to incorporate more relevant factors of the service level provided by supermarkets in China.

The present study can be categorised into this later stream.

### **3 Methodology**

#### *3.1 The generation of questionnaire items*

In order to achieve the above mentioned objectives a service quality diagnostic questionnaire was developed by modifying and extending the SERVQUAL model.

The questions included in the questionnaire were drawn from the original SERVQUAL with modifications in order to fit in the objectives of the study. The remaining ones were drawn from and are in accordance with the existing literature (Finn and Lamb, 1991; Guiry et al., 1992; Dabholkar et al., 1996). They aim to identify and define specific service groups that are of high importance for supermarket customers. They were related to issues such as facility proximity, layout, feeling safe during transactions, employees' performance, service policies (Finn and Lamb, 1991; Guiry et al., 1992; Dabholkar et al., 1996). Furthermore, three items were included to incorporate the effect of price, quality and availability of the private label products on the service level provided by the super markets.

More precisely, the questionnaire contained 44 questions in total. The questions were separated into six groups in order to cover the following service dimensions:

- *Store*. This group contained ten variables that were related to the service provided by the facilities of the supermarket.

- *Safety* during the shopping experience. This factor was comprised of seven variables, incorporating all the questions regarding the ability of a store to ensure a safe transaction environment to its customers.
- *Personnel performance*. This group was comprised of nine variables incorporating questions about the attitude of the staff towards consumers needs.
- *Equipment*. This group contained six variables about the specialised equipment of a supermarket and their effect on the service provided.
- *The supplementary services* group of questions contained nine variables regarding the additional services that may exist in a supermarket store. The selected questions refer to the type and the availability of additional services.
- *The price quality relationship* group of questions contained three variables aimed at investigating how the price quality relationship demanded by the customers affects their satisfaction.

Table 1 presents the contents of each group in more details.

**Table 1** The quality factors covered by the questions

<i>Store</i>	
Q1	Comfortable facilities
Q2	Access by public transport
Q3	Closeness to residential areas
Q4	Sufficient parking
Q5	Cleanliness
Q6	Service of professionals
Q7	Sufficient numbers of cash registers
Q8	Easy to read signs
Q9	Attractiveness
Q10	Spacious corridors
<i>Safety</i>	
Q1	Noticeable emergency exits
Q2	Employees readiness
Q3	Existence of fire safety
Q4	Errors' avoidance
Q5	Sense of security
Q6	Sense of trust
Q7	Maintenance
<i>Personnel</i>	
Q1	Professional appearance
Q2	Provision of information
Q3	Provision of services
Q4	Qualified personnel
Q5	Willingness to serve
Q6	Specialised personnel
Q7	Complaint handling
Q8	Guiding purchases
Q9	Courtesy of personnel

**Table 1** The quality factors covered by the questions (continued)

<i>Equipment</i>	
Q1	Modern refrigerators
Q2	Modern cutting machines
Q3	Price scanners
Q4	Electronic scales
Q5	Automatic slicers
Q6	Security cameras
<i>Supplementary services</i>	
Q1	Infrastructures for people of disabilities
Q2	Credit cards
Q3	Return policy
Q4	Product warranties
Q5	Product demonstration
Q6	Discounts cards
Q7	Product replacement
Q8	Product recycling
Q9	Delivery
<i>Price quality relationship</i>	
Q1	Quality products at low prices
Q2	Private label products
Q3	Sufficient stock of offers

The questionnaire included an expectations' and a perceptions' section of service quality and an extra section relating to demographics (age, gender, education and income). A seven-point Likert scale was used, where (1) is 'strongly disagree' and (7) 'strongly agree' meaning that higher scores indicate higher expectations and better customers' evaluations of the quality of service provided. A pilot study was conducted to correct errors and ambiguities that may existed within the questionnaires. The feedback received was encouraging thus only minor changes were made. The corrections mainly concerned the phrasing of the questions.

### 3.2 *Sample and data collection*

To determine customers' expectations and perceptions of service quality as well as the relevant quality gaps, a survey was conducted in major super market chains located in five cities in northern Greece. The necessary data were collected using personal interviews with customers. The interviews were conducted over a period of four month. A total of 1,000 questionnaires were completed, 795 of which usable.

## 4 Results and discussion

### 4.1 Profile of the respondents

Female respondents represented 62.77% of the survey population. The largest groups of respondents (22.26%) were aged 26–33 years. The next largest groups, 43–50 and 26–40 years, represented 20.75% and 19% respectively. The smaller group of respondents (8.6%) was aged over 58 years. Personal income was measured in Euros and not surprisingly the vast majority of respondents, over 94%, reported a monthly income lower than 1,500 Euros.

### 4.2 Scale purification

The first step was to assess how many attributes the data contained. Factor analysis is a useful tool towards this direction. Factor analysis is used for investigating variable relationships for complex concepts such as socioeconomic status, dietary patterns, or psychological scales. The main applications of factor analytic techniques are:

- 1 to reduce the number of variables
- 2 to detect structure in the relationships between variables, that is to classify variables.

Therefore, factor analysis is applied as a data reduction or structure detection method (the term factor analysis was first introduced by Thurstone (1931)).

The main issue arising during the application of factor analysis in the SERVQUAL context is the choice of the score (expectation, perception or quality gap scores) that should be factor analysed to test for the dimensionality of service quality. Indeed, in the literature about SERVQUAL, there is no agreement about this issue; actually, all three types of scores have been used in previous research.

In the present study we adopt Carman's view (1990), which suggests that neither the gap scores nor the expectations should be factor analysed but the perception scores. In our study the choice of the perception scores is further supported by the fact that all expectation scores had a mean value ranging from 6 to 6.4 on a seven-point Likert-type scale. Moreover, the variability of these measures was very low. Hence we concluded that they were not so reliable as intended. These systematic high expectation scores may indicate that respondents had difficulties in making a trade-off between the different components of the service offering.

Thus, for the purposes of the study, all 44 items were factor analysed by principal component analysis in the perception scores together with a VARIMAX rotation. VARIMAX rotation was selected to guard against multicollinearity and because a clearer factor pattern emerged. The analysis was performed using the programming language R (R Core Team, 2016) and the psych package (Revelle, 2016).

The most interpretable factor solution to emerge was a six-factor solution with 33 items. All the factors in the factor solution had eigenvalues above 1.00 and a sufficient number of items loading on them to a significant (0.40) extent (Hair et al., 2009). Items with loadings less than 0.4 were excluded from the analysis.

**Table 2** Loadings of factor analysis

	<i>Personnel</i>	<i>Safety</i>	<i>Store's convenience</i>	<i>Product</i>	<i>Store's access</i>	<i>Supplementary services</i>
safq1		0.44				
safq2		0.46				
safq3		0.62				
safq4		0.70				
safq5		0.57				
safq6		0.60				
safq7		0.60				
facq8			0.60			
facq1			0.65			
facq5			0.56			
facq10			0.55			
facq9			0.42			
facq4					0.71	
facq3					0.70	
facq2					0.63	
facq6					0.52	
supservq1						0.59
supservq2						0.43
supservq7						0.49
supservq8						0.51
supservq9						0.65
persq1	0.53					
persq2	0.66					
persq3	0.69					
persq4	0.66					
persq5	0.67					
persq6	0.60					
persq7	0.62					
persq8	0.48					
persq9	0.43					
valpricq1				0.64		
valpricq2				0.69		
valpricq3				0.69		

Table 2 show the final result of component factor analysis of the remaining 33 variables with loadings, i.e., the variance explained, by each factor. The six factors that were identified were named personnel, safety, store's convenience, product, store's access and supplementary services. As stated in Table 2 the findings support almost all of the quality variables considered. The only exception is the equipment variables which seem that they do not affect the customer satisfaction.

In order to quantify the degree of inter-correlations among the variables and the appropriateness of factor analysis the Kaiser-Meyer-Olkin (KMO) test was employed. The computed KMO was 0.912, indicating that the examined data set is highly adequate for factor analysis (Kim and Mueller, 1978). Moreover, the dataset was found to be multivariate normal and acceptable for factor analysis according to Bartlett's test of sphericity. The result were significant at 0.05, ( $\chi^2 = 4,967.70$  ( $p = 0.000$ )), a clear indication of suitability of factor analysis.

### 4.3 Reliability analysis

Reliability is concerned with the extent to which any measuring procedure yields the same results on repeated trials. In order to assess the reliability of the derived six factors of quality an internal consistency analysis was performed. A general measurement that is used to compute the internal consistency reliability of a set of scale or test items is the Cronbach's alpha coefficient. Nunnally (1978) suggested that Cronbach's alpha coefficient of more than 0.60, is an indication of the significance and the reliability of a concept. Table 3 presents the results of the reliability analysis of the derived factors. Table 3 indicates the derived six factors are reliable measures of service quality provided by the Greek supermarkets since their corresponding alpha coefficients range from 0.84 (personnel's performance) to 0.697 (product).

**Table 3** Reliability analysis

<i>Factor</i>	<i>Cronbach's <math>\alpha</math></i>
Safety during the shopping experience	0.81
Personnel's performance	0.84
Store's convenience	0.69
Store's access	0.75
Product	0.70
Supplementary services	0.74
<i>Overall</i>	<i>0.85</i>

### 4.4 Confirmatory factor analysis

The next step was to subject the empirical factor structure to a confirmatory factor analysis (CFA). CFA is used in order to verify the goodness of fit of a model to a set of observed variables. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent exists.

According to Hair et al. (2009) six indexes are used as measurement of a model's overall goodness of fit. All these measurements are presented in Table 4.

**Table 4** Confirmatory factor analysis results

<i>Measures of absolute fit</i>	
$\chi^2$	1463.48
d.f	480
$\chi^2 / d.f$	3.04
RMSEA	0.05
<i>Incremental fit measures</i>	
NFI	0.81
CFI	0.86
TLI	0.85

The chi-squared test  $\chi^2 = d.f$  indicates the difference between observed and expected covariance matrices. Values closer to zero indicate a better fit and therefore smaller difference between expected and observed covariance matrices. The suggested value is less than three. However  $\chi^2$  values are easily affected by the sample size (Brown and Cudeck, 1993; Chow et al., 2001).

The root mean square error of approximation (RMSEA) avoids issues of sample size by analysing the discrepancy between the hypothesised model, with optimally chosen parameter estimates, and the population covariance matrix. The RMSEA ranges from 0 to 1, smaller RMSEA values indicate better model fit. The RMSEA is generally regarded as one of the most informative indices of fit (Diamantopoulos and Siguaaw, 2000). The criteria for approximate model fit are RMSEA < 0.05 = close fit, RMSEA > 0.05 to 0.08 = fair fit, RMSEA > 0.08 to 0.10 = poor fit (Brown and Cudeck, 1993; Chow et al., 2001).

A number of goodness-of-fit measures were proposed to eliminate or reduce the dependence on sample size.

- Normed fit index (NFI) assesses the model by comparing the  $\chi^2$  value of the model to the  $\chi^2$  of the null model (Bentler and Boneet, 1980).
- The TLI index is similar to the NFI.
- The CFI index compares performance on the model to performance on baseline model. Baseline model assumes zero correlation between all observed variables.

These goodness-of-fit indices have values ranging between zero and one, with higher values indicating a better fit.

As illustrated in Table 2 all goodness of fit measures indicate that the model fits fair to the data.

#### 4.5 Gap analysis

Gap scores were calculated for all six quality dimensions revealed by factor analysis. The gap score for each dimension was computed by subtracting expectations from perceptions. The service quality gaps are presented in the fifth column of Table 5. As

Table 5 demonstrates, customers' perceptions of the service provided by the Greek supermarkets are falling short of their expectations. Using a two tailed test at a 5% level of significance it was found that the differences between perceptions and expectations for each of the six dimensions are statistically significant since p value equals 0.000 for each dimension gap. Therefore, it could be concluded that service quality gaps do exist in Greek supermarkets. This finding suggests that there is a room for improvement on the part of the managers and administrators.

**Table 5** Mean scores for customers' expectations, perceptions and quality gaps and t-test

	<i>Expectations</i>		<i>Perceptions</i>		<i>Gap</i>		<i>t-value</i>
	<i>Mean</i>	<i>S.D</i>	<i>Mean</i>	<i>S.D</i>	<i>Mean</i>	<i>S.D</i>	
Safety	6.35	0.56	4.90	0.98	-1.45	1.03	0.000
Personnel	6.19	0.55	4.87	0.96	-1.32	0.98	0.000
Convenience	6.11	0.56	4.95	0.84	-1.16	0.89	0.000
Access	6.03	0.62	4.84	1	-1.19	0.91	0.000
Product	6.37	0.64	4.32	1.24	-2.03	1.29	0.000
Services	6.40	0.52	4.67	1.03	-1.72	1.14	0.000

The largest differences between expectations/perceptions found in the product dimension (see Table 5). Customers' evaluations suggest that they are disillusioned regarding the quality of the products provided by the supermarkets, in relation to price paid. The rest two of the highest quality gap scores are in the supplementary services and the safety dimensions. They refer to the lack of additional services and the failure of the stores to create a feeling of safe transaction environment to their customers.

## 5 Conclusions

The present work sheds light on a poorly researched field in the Greek context. It provides managers, administrators and policy makers of a supermarket chain with a conceptual and operational framework to measure and manage service quality. A frame that adopts customers' orientations since it integrates their expectations and perceptions related to the service provided. To the best of our knowledge, a modified SERVQUAL instrument was utilised for the first time in the retailing sector in Greece. The results revealed that six dimensions of service quality capture the content of quality in the Greek context: personnel's performance, safety during shopping, store's convenience, quality-price relationship, store's access and supplementary services provided. The findings of this study do support the Finn and Lamb's conclusion that a modified SERVQUAL instrument can be used as a valid measure of the service quality in retailing.

The analysis revealed areas in which supermarkets are close to meeting customers' expectations and areas in which supermarkets fall far short of expectations. This is particularly true in the case of the price-quality factor. In general, expectations exceed perceptions of the provided service quality, suggesting that there is room for quality improvement initiatives in all six dimensions.

To sum up, the results clearly establish the areas where quality improvements are more demanding and have important implications for supermarket managers. They give

direction towards the development strategies which will meet customers' expectations of service quality, increasing thus their competitiveness. Finally, it gives support to the view that, although difficult, service quality in the supermarkets can be measured and consequently be monitored systematically in order to narrow previously identified gaps and take corrective actions when necessary.

However, it should be noted that the results of this study can not be accepted as being completely relevant and applicable to all retailers who offer different mix of products and services because of its focus on supermarket chains. In addition, the study has been validated by collecting data from a survey in five cities in Northern Greece. There is a possibility that their perception may vary from customers among other regions of Greece.

Finally, it should be kept in mind that customers' attitudes, perceptions and expectations can not be fully captured by a questionnaire. Therefore, the use of qualitative research along quantitative methods in future studies would provide a better understanding of the complex issue of quality in retailing sector.

## References

- Bentler, P.M. and Bonnet, D.C. (1980) 'Significance tests and goodness of fit in the analysis of covariance structures', *Psychological Bulletin*, Vol. 88, No. 3, pp.588–606.
- Berry, L.L. (1986) 'Retail businesses are service businesses', *Journal of Retailing*, Spring, Vol. 62, pp.3–6.
- Bolton, R.N. and Drew, J.H. (1991) 'A multistage model of customers' assessment of service quality and value', *Journal of Consumer Research*, Vol. 17, No. 4, pp.375–384.
- Boulding, W., Kalra, A., Staelin, R. and Zeithaml, V.A. (1993) 'A dynamic process model of service quality: from expectation to behavioural intentions', *Journal of Marketing Research*, Vol. 30, No. 1, pp.7–27.
- Brown, M.W. and Cudeck, R. (1993) 'Alternative ways of assessing model fit', in Bollen, K.A. and Long, J.S. (Eds.): *Testing Structural Equation Models*, Sage, Newbury Park, CA.
- Carman, J.M. (1990) 'Consumer perceptions of service quality', *Journal of Retailing*, Vol. 66, No. 1, pp.33–55.
- Chow, J.C.C., Snowden, L.R. and McConnell, W. (2001) 'A confirmatory factor analysis of the BASIS-32 in racial and ethnic samples', *The Journal of Behavioural Health Services and Research*, Vol. 28, No. 4, pp.400–411.
- Cook, C. and Thompson, B. (2001) 'Psychometric properties of scores from the web-based LibQual and study of perceptions of library service quality', *Library Trends*, Vol. 49, No. 4, pp.585–604.
- Dabholkar, P.A., Thorpe, D.I. and Rentz, J.O. (1996) 'A measure of service quality for retail stores: scale development and validation', *Journal of the Academy of Marketing Science*, Vol. 24, No. 3, pp.3–16.
- Dhurup, M., Venter, P.F. and Oosthuizen A. (2005) 'A factor analytical service quality measurement scale for supermarkets in South Africa', *South African Journal of Economic and Management Sciences*, Vol. 8, No. 2, pp.140–153.
- Diamantopoulos, A. and Siguaw, J.A. (2000) *Introducing LISREL*, Sage, London.
- Finn, D.W. and Lamb Jr., C. (1991) 'An evaluation of the SERVQUAL scales in a retailing setting', *Advances in Consumer Research*, Vol. 18, No. 1, pp.483–490.
- Gagliano, K.B. and Hathcote, J. (1994) 'Customer expectations and perceptions of service quality in retail apparel specialty stores', *Journal of Services Marketing*, Vol. 8, No. 1, pp.60–69.
- Gerson, R.F. (1993) *Measuring Customer Satisfaction*, Menlo Park, CA.

- Gronroos, C. (1990) *Service Management and Marketing*, Lexington Books, Lexington, Massachusetts.
- Guiry, M., Hutchinson, W. and Weitz, B.A. (1992) *Consumer's Evaluation of Retail Store Service Quality and its Influence on Store Choice*, Unpublished Working Paper University of Florida.
- Hair, J.F., Anderson, R.F., Tatham, R.L. and Black, W.C. (2009) *Multivariate Data Analysis: A Global Perspective*, 7th ed., Prentice Hall, Upper Saddle River.
- Headley, D.E. and Miller, S.J. (1993) 'Measuring service quality and its relationship to future consumer behavior', *Journal of Health Care Marketing*, Vol. 13, No. 4, pp.32–41.
- Hummel, J.W. and Savitt, R. (1988) 'Integrated customer service and retail strategy', *International Journal of Retailing*, Vol. 3, No. 2, pp.5–21.
- Jabnoun, N. and Al Rasasi, A.J. (2005) 'Transformational leadership and service quality in UAE hospitals', *Managing Service Quality*, Vol. 15, No. 1, pp.70–81.
- Jiang, J.J., Klein, G. and Crampton, S.M. (2000) 'A note on SERVQUAL reliability and validity in information system service quality measurement', *Decision Sciences*, Vol. 31, No. 3, pp.725–744.
- Jun, M., Peterson, R.T. and Zsidisin, G.A. (1998) 'The identification and measurement of quality dimensions in the health care: focus group interview results', *Health Care Management Review*, Vol. 23, No. 4, pp.81–96.
- Karassavidou, E., Glaveli, N. and Papadopoulos, Ch.T. (2009) 'Quality in NHS hospitals: no one knows better than patients', *Measuring Business Excellence*, Vol. 13, No. 1, pp.34–46.
- Kilbourne, W.E., Duffy, J.A., Duffy, M. and Giarchi, G. (2004) 'The applicability of SERVQUAL in cross-national measurements of health-care quality', *Journal of Services Marketing*, Vol. 18, Nos. 6/7, pp.524–533.
- Kim, J. and Mueller, C. (1978) *Introduction to Factor Analysis*, Sage Publications, Beverly Hills, CA.
- Krishna Naik, C.N., Gantasala, SW. and Prabhakar, G.V. (2010) 'Service quality (Servqual) and its effect on customer satisfaction in retailing introduction – measures of service quality', *European Journal of Social Sciences*, Vol. 16, No. 1, pp.231–243.
- Lam, S.S.K. (1997) 'SERVQUAL: a tool for measuring patients opinions of hospital service quality in Hong Kong', *Total Quality Management*, Vol. 8, No. 4, pp.145–152.
- Lam, T.K.P. (2002) 'Making sense of SERVQUAL's dimensions to the Chinese customers in Macau', *Journal of Market-focused Management*, Vol. 5, No. 10, pp.43–458.
- Lee, M. and Ulgado, F.M. (1997) 'Consumer evaluations of fast-food services: a crossnational comparison', *Journal of Services Marketing*, Vol. 11, No. 1, pp.39–50.
- Lin, C.C., Chang T.M. and Guo, T.T. (2012) 'A service quality diagnosis model for supermarkets', *Siuping Journal*, September, Vol. 25, pp.103–124.
- Mehta, S.C., Lalwani, A. and Han S.L. (2000) 'Service quality in retailing: relative efficiency of alternative measurement scales for different product-service environments', *International Journal of Retail and Distribution Management*, Vol. 28, No. 2, pp.62–72.
- Nunnally, J.C. (1978) *Psychometric Theory*, 2nd ed. McGraw-Hill, New York.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985) 'A conceptual model of service quality and its implications for future research', *Journal of Marketing*, Vol. 49, No. 4, pp.41–50.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988) 'Servqual: a multiple item scale for measuring consumer perceptions of service quality', *Journal of Retailing*, Vol. 64, No. 1, pp.12–44.
- Phiri, M.A. and Mcwabe, T. (2013) 'Customers' expectations and perceptions of service quality: the case of pick n pay supermarket stores in Pietermaritzburg area, South Africa', *International Journal of Research in Social Sciences*, Vol. 3, No. 1, pp.96–104.
- R Core Team (2016) 'R: a language and environment for statistical computing', *R Foundation for Statistical Computing*, Vienna, Austria.

- Reicheheld, F. and Sasser, W. (1990) 'Defection: quality comes to service', *Harvard Business Review*, Vol. 68, No. 1, pp.107–117.
- Revelle, W. (2016) *Psych: Procedures for Personality and Psychological Research*, Northwestern University, Evanston, Illinois, USA.
- Siu, N.Y.M. and Chow, D.K.H. (2004) 'Service quality in grocery retailing: the study of a Japanese supermarket in Hong Kong', *Journal of International Consumer Marketing*, Vol. 15, No. 2, pp.71–86.
- Sivadas, E. and Baker-Prewitt, J. (2000) 'An examination of the relationship between service quality, customer satisfaction, and store loyalty', *International Journal of Retail and Distribution Management*, Vol. 28, No. 2, pp.73–82.
- Spreng, R.A., MacKenzie, S.B. and Olshavasky, R.W. (1996) 'A re-examination of the determinants of consumer satisfaction', *Journal of Marketing*, Vol. 60, pp.15–32.
- Thurstone, L.L. (1931) 'The measurement of social attitudes', *Journal of Abnormal and Social Psychology*, Vol. 27, pp.249–269.
- Van der Wal, R.W.E., Pampallis, A. and Bond, C. (2002) 'Service quality in a cellular telecommunications company: a South African experience', *Managing Service Quality*, Vol. 12, No. 5, pp.323–335.
- Venter, P.F. and Dhurup, M. (2005) 'Consumers perception of supermarket service quality: scale development and validation', *South African Journal of Economic and Management Sciences*, Vol. 8, No. 4, pp.424–436.
- Yavas, U., Bilgin, Z. and Shemwell, D.J. (1997) 'Service quality in the banking sector in an emerging economy: a consumer survey', *International Journal of Bank Marketing*, Vol. 15, No. 6, pp.217–223.
- Zhou, L., Zhang, Y. and Xu, J. (2002) 'Acritical assessment of SERVQUAL's applicability in the banking context of China, Asia Pacific', in Hunt, K. (Ed.): *Advances in Consumer Research*, Vol. 5, pp.14–21, Association for Consumer Research, Valdosta, GA.