Service Quality in Public Services as a Segmentation Variable

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The application of perceived service quality to marketing segmentation makes a significant contribution to customer quality expectations by enabling more efficient segmentation. By means of an empirical analysis, the present work firstly contrasts the validity of perceived service quality measurements in public services. It goes on to analyse the usefulness of this concept as a segmentation criterion. Finally, customer segments are identified as a function of perceived quality and profiles are established for each segment. This study proves that service quality is a useful tool for segmentation in public services.

INTRODUCTION

Over recent years, and especially through the publication of works by Grönroos [1982] and Parasuraman *et al.* [1985] (Parasuraman, Zeithaml and Berry team), service quality has become one of the most controversial and widely discussed topics in marketing services literature. Developments in conceptualisation and measurement have led researchers to study the effects and consequences of service quality and its usefulness in strategic market planning. Nevertheless, this complex concept and its undoubted importance for business require new contributions [Comm and Mathaisel, 2000; Engelland *et al.*, 2000].

Whether focusing on measurement or management, the analysis of service quality constitutes a dynamic and evolving research line. Service quality can provide researchers with a good opportunity to find answers to many unsolved questions on consumer behaviour or human resource management, for example.

On the other hand, segmentation has become a key tenet in business strategy, since the relationships between strategies and their effects are different depending on the segmentation. Keltner *et al.* [1999], in their study on the services industry,

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claim that productivity and performance are not synonymous, since factors such as determinants of the level of service quality may require reductions in productivity. It can be said that the type of segment served by the organisation determines organisational strategies.

We assume that the aforementioned factors have created an interest in service quality research and its usefulness as a market segmentation criterion, taking public services such as local transport as the empirical setting. This work aims to contribute to our knowledge of market segmentation by applying conventional segmentation methodologies that identify the underlying heterogeneity in the perception of service quality to provide a joint profile of consumer behaviour in the identified segments. In order to do so, we must be aware of the relationship between service quality and behavioural intention, assessing whether consumers perceive these concepts differently.

To achieve its aim, this paper is structured as follows. Firstly, the basic theory of service quality in literature is reviewed, focusing on the nature of the concept modelling and measurement. Service quality is then studied as a segmentation variable, and an empirical analysis is outlined. Finally, conclusions are drawn and implications of the work are suggested.

LITERATURE BACKGROUND

Service Quality: Concept Nature

Service quality is a complex concept [Grönroos, 1982], diffuse and abstract [Carman, 1990; Zeithaml, 1988], due to three features regarding service: intangibility, heterogeneity and inseparability of production and consumption [Parasuraman *et al.*, 1985]. For service managers, these features present a challenge because the lack of quality may increase consumer perceptions of risk, which is higher for services than for physical goods [Webster, 1989]. This concept has evolved from an eminently internal approach, influenced by the consideration of industrial quality from the point of view of product quality [Crosby, 1990], to a more external one, more customer orientated and introduced through the perception concept [Gil and Mollá, 1994].

When service quality is more consumer orientated, it is bound to be linked to the expected level of customer satisfaction. It is therefore no longer a question of 'objective', but rather 'subjective' quality based on perceived quality, as opposed to the initial technical or mechanical quality [Carman, 1990]. Accordingly, Parasuraman *et al.* [1988: 16] define *perceived service quality* (PSQ) as 'a global judgement or attitude relative to the degree of excellence or superiority of service'.

In an approach complementing those mentioned above, the concept of quality is linked to the concept of *expectation*. Works by authors such as Grönroos [1982] or Parasuraman *et al.* [1985] stress that quality as perceived by consumers is a result of a comparison between what consumers consider the service offered by the company should be (expectation), and their perception of the performance of those providing that service. Consequently, it can be considered the result of a process of

continuous assessment. Thus, Lewis and Booms [1983] define PSQ as the difference between expectations and perceived outcome. In other words, it is the result of an assessment in which the user compares experience of the service with the expectations held at the time of purchase, which constitutes a measurement of the degree in which the service provided lives up to the customer's expectations. This view of the concept is widely supported in the literature [Bitner, 1990; Bolton and Drew, 1991; Brown and Swartz, 1989], and it provides the basis for the technical and methodological development of the PSQ model as proposed by Grönroos and the PZB team.

In the literature, quality is also identified from the point of view of attitude. Thus, this concept has been considered as a kind of global assessment, and in some cases it may be similar to attitude [Olshavsky, 1985; Parasuraman *et al.*, 1985; Zeithaml, 1988]. Holbrook and Corfman [1985] share this view when they suggest that quality plays the role of relatively global value judgement. Following this, Bitner and Hubbert [1994] consider perceived quality as a general global assessment of the service that can be compared with a global attitude.

The concepts of service quality and satisfaction have also been linked in what is now considered the 'chain of loyalty' [Storbacka *et al.*, 1994]. However, as Bolton and Drew [1991], or Olshavsky [1985] point out, quality and satisfaction are two different concepts and cannot be regarded as synonymous. The distinction between these terms is coherent with the distinction between attitude and satisfaction: PSQ represents a global judgement or attitude concerning the superiority of the service. It is a long-term assessment representing a stable affective orientation, whereas satisfaction is associated with a specific transaction [Bitner and Hubbert, 1994; Parasuraman *et al.*, 1988]. Many other authors have supported this distinction [Fiore and Damhorst, 1992; Mentzer *et al.*, 1993].

When considering service quality, we find that this notion of a multidimensional nature is widely shared [Grönroos, 1982; Parasuraman *et al.*, 1985, 1988], and the identification of the determinants of service quality is a topic of growing concern in the literature on services marketing. Nevertheless, the dimensionality of the construct varies greatly, and there is still no agreement on this point [Brady and Cronin, 2001]. According to Martínez-Tur *et al.* [2001], two main approaches can be distinguished: the European tradition and the North American tradition.

Chronologically, the first contributions on service quality came from Europe. Grönroos [1982], the greatest example of academic developments surrounding the concept of quality from the so-called 'Nordic School', defines the dimensions of service quality in global terms based on two components: technical quality and functional quality. The former refers to the service being technically acceptable and leading to a specific result. In other words, it means *what* the consumer receives (result dimension). The latter refers to the treatment given to the consumer when supplying the service. That is to say, it means *how* the consumer receives the service (process dimension). Grönroos adds image as another dimension of service quality, but it is based on the two previous dimensions. This tradition considers PSQ as the result of a comparison between the perceived and the expected service [Grönroos, 1984].

The North American tradition, based on the previous European contributions, stresses the idea that there are few tangible elements in services companies and so focuses its research efforts towards the intangible. This has been the leading line in the literature over the l0ast 15 years, establishing five dimensions of service quality [Parasuraman *et al.*, 1988]:

- Tangible elements: physical facilities, installations and staff appearance.
- Reliability: the perceived ability of those rendering the service to provide it in a precise way.
- Receptivity: the ability of the staff in contact with customers to respond to them and offer a fast service.
- Guarantee: the competence and courtesy of employees and their ability to inspire confidence.
- Empathy: individual attention.

This perspective has made a considerable contribution to the measurement of service quality and to our understanding of the intangible dimension. However, it underestimates the importance of the tangible elements of service quality [Bitner, 1992; Martínez-Tur *et al.*, 2001].

The public services sector encompasses a wide variety of services [Bigné *et al.*, 1997]. Local transport, the subject of our study, is one of the most important due to its presence in most cities, its socio-economic importance and its complex management. From a marketing point of view, there are certain difficulties when analysing public services. Cervera *et al.* [2001] identify several features in local administration affecting the rendering of a public service such as local transport: fulfilment of different functions, more diffuse responsibility and difficulty in decision making, services of a highly direct nature and in a defined area, relationships with service providers, or greater difficulty in assessing management.

In spite of the inherent difficulty, public services management has evolved considerably over recent years, improving in both efficiency and productivity. Thus, several researchers have dealt with service quality in public services [Donaldson and Runciman, 1995; Friman and Edvardsson, 2003; Hazlett and Hill, 2000; Rowley, 1998; Teck-yong and Niininen, 2005; Williams *et al.*, 1999; Wisniewski and Donnelly, 1996]. Bigné *et al.* [1997] highlight the consensus in public administration to implement quality systems which enhance their image and increase their competitiveness. For these reasons, we consider local transport to be an area of particular interest as a focus for our study.

Conceptual Model and Measurement of Service Quality

As well the aforementioned definitions, there is a research line that seeks to link service to other similar concepts such as organizational resources, satisfaction and corporate image. Bitner [1990], Bolton and Drew [1991], Koelemeijer *et al.* [1993] and Nguyen [1991] are examples of authors whose models relate service quality to other concepts.

Quality and satisfaction are linked to intention of purchase. Thus, whereas Bitner [1990], Bolton and Drew [1991], or Nguyen [1991] stress that satisfaction explains quality, Cronin and Taylor [1992] support the opposite view. Finally, Bolton and Drew [1991] suggest that quality leads to a definition of intention to purchase.

Undoubtedly, the most widely adopted model in the literature is that of Parasuraman *et al.* [1985], which marked a significant advance in the field of service quality by identifying four sources of non-quality (gaps 1 to 4), and a final gap depending on all of them (gap 5).

The model stresses the nature of the last gap, and researchers suggest a number of items to assess it: the SERVQUAL scale [Parasuraman *et al.*, 1988], which is based on the operational complement of the gap theory. Several studies have contrasted the validity of this model, for instance Augustyn and Ho [1998], Donaldson and Runciman [1995], Murfin *et al.* [1995], O'Connor *et al.* [2000] and Parasuraman *et al*. [1994]. This scale is created following the method recommended by Churchill [1979] to establish marketing measurement. This proposes a final battery of 22 Likert-type items to measure service expectations and consumer perceptions regarding the service supplied, following the conceptual definition of PSQ already described. The set of items can be divided into five subscales, corresponding with the five dimensions of PSQ.

Several studies have made use of the SERVQUAL instrument, either using the scale in its original form, or making minor modifications to the item headings in order to adapt them to the service studied. This scale has also been criticised on methodological grounds [Babakus and Boller, 1992; Carman, 1990; Cronin and Taylor, 1992; Holmberg *et al.*, 1991; Koelemeijer, 1991; Koelemeijer *et al.*, 1993; Oliver, 1981; Teas, 1993, 1994; Wetzels *et al.*, 1995], and psychometric grounds [Babakus and Boller, 1992; Carman, 1990; Cronin and Taylor, 1992; Koelemeijer, 1991; Koelemeijer *et al.,* 1993]. This criticism has given rise to a series of alternative scales, such as the weighted SERVQUAL, SERVPERF and weighted SERVPERF scales proposed by Cronin and Taylor [1992], the model EP (assessed result) by Teas [1993], or the 'P' scales (which do not consider expectations), 'Q' scales (equivalent to SERVQUAL based on the subjective non-confirmatory paradigm), 'IPE' scales (equivalent to SERVQUAL weighted by the importance scores) and the 'IP' scales (equivalent to SERVPERF weighted by the importance scores) by Koelemeijer [1991].

Bearing in mind the limitations of the SERVQUAL scale, and from the results obtained in works such as those of McDougall and Levesque [1994], the present study chooses the SERVPERF scale proposed by Cronin and Taylor [1992].

In any case, as Martínez-Tur *et al.* [2001] point out, these two scales in fact correspond to two different perspectives of quality service: SERVQUAL corresponds to service quality as *discrepancy*, and SERVPERF as *attitude*.

SERVICE QUALITY AND SEGMENTATION

It goes without saying that the perception of information and individual ways of assessing and adopting attitudes differ among consumers, resulting in heterogeneous

consumer behaviour. In the context of service quality, differences in perception have been explained as differences in culture [Donthu and Yoo, 1998; Furrer *et al.*, 2000; Herbig and Genestre, 1996; Mattila, 1999; Winsted, 1997], or in social demography [Webb, 1998; Webster, 1989], using the paradigm of disconfirmation as the main theoretical framework to explain the problems and disadvantages of service quality.

The most recent works in marketing literature on services and service quality [Athanassopoulos, 2000; Furrer *et al.*, 2000; Pitt *et al.*, 1996; Webb, 1998] have begun to consider a varying incidence of behaviour based on levels of satisfaction and of PSQ which varies according to the consumer group. This line of research highlights the importance of the segmentation concept. In this sense, Parasuraman *et al.* [1988] have considered the need to group consumers of an organisation in segments of service quality.

The characteristics of services represent the first argument in favour of adaptation and differentiation: the nature of the result (the performance rather than the object), customer participation in service production, the lack of stock inventories, the great importance of the time factor, problems of quality control or availability in marketing channels [Lovelock, 1996]. These are all characteristics of services prone to differentiation, which complicates their globalisation. Adaptation is greater in those services implying tangible actions for customers. In other words, as customer–supplier interaction increases, so does the need for adaptation [Lovelock and Yip, 1996].

When defining the SERVQUAL scale, Parasuraman *et al.* [1988] also propose using it to explain consumer segments according to their perceptions of quality. Recent research by Furrer *et al.* [2000] focuses on cultural differences as an explanatory factor for differences in perception of service quality. This research was carried out in an international context, and concludes that differences in PSQ imply the existence of different segments. A cultural service quality index (CSQI) was designed, allowing services markets to be segmented, and using SERVQUAL as a tool to measure service quality.

Previous works have shown interest in the importance of perceived quality as a tool for segmenting markets by means of the differences in expectations of service quality [Díaz-Martín *et al.*, 2000; Thompson and Kaminski, 1993; Webb, 1998; Webster, 1989]. From a conceptual viewpoint, this approach is based on the need to know and respond adequately to customer expectations in order to provide better service quality [Parasuraman *et al.*, 1991a].

Thus, Díaz-Martín *et al.* [2000] report some findings in the tourism industry regarding the possible classification of service consumers on the basis of their quality expectations. Webster [1989] assesses the use of quality expectation as a segmentation criterion for professional and non-professional services, obtaining by ANOVA analysis differences in expected quality as a function of several socio-demographic variables. Similarly, Webb [1998] suggests incorporating the customer expectation concept to formulate the standard by which customers evaluate organisations. Previous knowledge of different expectations among heterogeneous consumer groups enables services policies to be designed more efficiently.

McDougall and Levesque [1994] use the importance of quality dimensions to segment the retail banking market within the segmentation for benefits sought, and

Marshall *et al.* [1998] explore the dimensionality of quality offered by an internal service provider, examining how different internal user segments might vary in the importance they place on different service dimensions. In the industrial services sector, Pitt *et al.* [1996] show that companies have differing service quality expectations, which suggests that industrial marketing management should focus on these different expectations to enhance the efficiency of their marketing strategy. Also, Mentzer *et al.* [2001] provide empirical support to the idea that logistics service quality can follow a segment-customized process, and Bolton and Myers [2003] describe how price elasticities differ across customer segments as a result of the customization of service quality dimensions.

EMPIRICAL ANALYSIS

Having completed the theoretical reviews, we shall carry out an empirical analysis aimed at verifying the evaluation of the usefulness of service quality as a segmentation criterion. To do so, once the research methodology has been described, we shall analyse the reliability and validity of the service quality scale using confirmatory factor analysis. Subsequently, service quality will be studied as a segmentation variable, using conventional analysis techniques such as cluster analysis and discriminatory analysis to validate the results.

Research Methodology

The research scenario for this study was the local bus service in Almería (a medium-sized city in Spain). This service is contracted out by the local Town Hall. The present work is within the framework of a research project (being carried out since 2000) between our research group and the transport company. The sample has been chosen randomly using a stratification procedure. The large sample size and its random nature result in low sample error and adequate representativeness.

Measurement of PSQ hinges on the dimensions and items of revised SERVQUAL scale [Parasuraman *et al.*, 1991b], which is described above. Based on this scale, we have developed a scale named 'QUALBUS', adapted to the local bus transport service. Adaptation of the scale involves omitting one item from the reliability and receptivity dimensions and adding an item to the empathy dimension, giving a scale of 21 statements and using a Likert-type five-level scale for each one. These items allow us to measure expectations (in terms of the service that an excellent organisation could provide), and also users' perceptions (related to the service provided by local transport in this town). Also, a summated scale of 100 points is used to measure the importance of each of the dimensions that make up service quality [Zeithaml *et al.*, 1996].

Bearing in mind that this study aims to explain the formation of segments according to perceived quality, if SERVQUAL were used, problems would arise, particularly due to the consideration of service quality as discrepancy [Cronin and Taylor, 1992], since service quality assessment would be determined by expectations to a greater extent. Cronin and Taylor [1992] focus on service quality as performance,

and this perspective enables us to better reflect the sense of attitude in service quality. Consequently, the weighted SERVPERF scale will be used to evaluate the incidence of service quality in consumer behaviour.

Nonetheless, the adaptation to the service quality scenario also requires some measurements of the consumer's quality expectations (desires), and so the items of the revised scale will also be used.

Therefore, service quality is determined by the weighted SERVPERF scale, which is analytically defined as:

$$CSW_i = \sum_{k=1}^{5} W_{ik} \left[\sum_{j=1}^{j\prime} CS_{ijk} \right]$$

where:

CSW_i = weighted services quality perceived by the *i-th* consumer ($i \in \{1.n\}$).
W_{ik} = importance given to the *k-th* dimensions by the *i-th* consumer ($k \in \{1..5\}$).
CS_{ij} = PSQ perceived by the *i-th* consumer for *j-th* aspect of *k-th* dimensions ($j \in j\prime$).

To guarantee that the research was representative enough, samples were stratified according to lines and districts to gain power. Data were collected by means of personal interviews carried out among 1,000 local bus users.

*Reliability and Validity of the Service Quality Scale*

The efficient use of a compound scale such as SERVPERF requires prior checking of its psychometric properties of reliability and validity.

For the reliability analysis the Cronbach's alpha coefficient was estimated for the whole scale, obtaining a value of .9203, which provides us with an indication of reliability. Nonetheless, the capability of the confirmatory factor analysis allows the marketing constructs to be validated properly [Steenkamp and Van Trijp, 1991].

Content validity of scale is guaranteed by the way the scale has been developed, and by its application in different studies and contexts. Using the EQS software [Bentler, 1995], a factorial model was estimated with five factors (corresponding to the five service quality dimensions). It was estimated using maximum likelihood, but also taking into account the large sample size ($N = 1,000$) the robust covariance matrix was used [Bentler, 1996]. Figure 1 shows the estimated model with the values of the parameters obtained.

The factorial validity of service quality scales is complex, and different studies have come up with varying results. Babakus and Boller [1992] point out that the factorial structure of the concept may vary greatly from one sector to another. All factorial loads are significant ($t > 1.96$), indicating convergent validity. In order to evaluate the dimensionality of the model (factorial validity) the evaluation indicators of the model are considered, thus the χ^2 statistic reaches a value of 1432.684 with 179 df. Although this value may appear high at first, the test structure (product of the

FIGURE 1
ESTIMATED SERVPERF CONFIRMATORY FACTOR MODEL
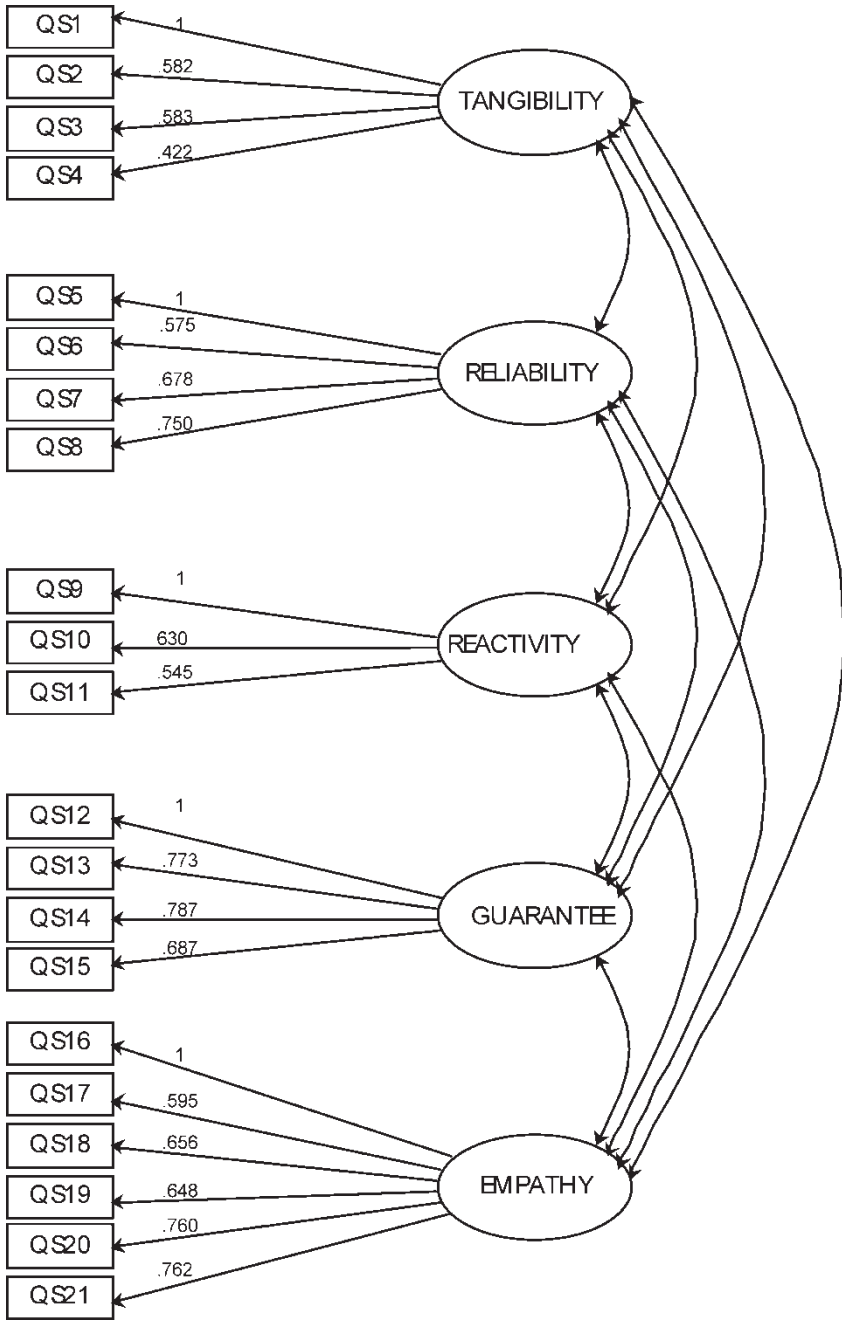
maximum likelihood function by the sample size) produces these effects when the sample size is large. The results can therefore be regarded as acceptable [Lichtenstein *et al.*, 1993]. Other overall statistics reach moderate values. The Satorra–Bentler chi-square statistic reaches 1307.516, which is also significant. The Bentler–Bonett Normet Fit Index (BBNFI) is .846, which is very similar to the same non-normalised statistic of .839. The Comparative Fit Index (CFI) is .863, and the Robust Comparative Fit Index (RCFI) is .857.

Moreover, there was evidence of criterion-related validity when perceptions of the five service quality dimensions were regressed against global dimensions. All dimensions proved to be significant and positive, with an R^2 coefficient of .5.

Finally, the average of standardised off-diagonal residues reaches a value of .0405, which is most acceptable and confirms the reliability of the estimated model. These results show unidimensionality in the subscales used, and therefore allow us to use them jointly.

Specification and Fit of a Bietapic Segmentation Model

Segment Identification: Cluster Analysis.. The analysis will be carried out applying Currim's [1981] approach as the methodological basis to decide the segmentation criterion. Given the high number of elements in the sample, it seems suitable to apply a cluster analysis using the non-hierarchical method or k-means of iterative division. Nonetheless, a hierarchical cluster analysis was first carried out using the Ward method and the square Euclidean distance, which resulted in the consideration of two groups.

The solution of two segments obtained by non-hierarchical cluster analysis gives two groups of 386 and 614 cases. The distance between the centroids of the two final groups is 86.039. An analysis of two centres for each of the five dimensions of perceived quality (Table 1) shows that segment 1 presents lower levels of tangibility, reliability, guarantee and empathy than segment 2, although reactivity in segment 1 is almost twice that in segment 2. Segment 1 can therefore be considered of low perceived quality in all dimensions except reactivity. Segment 2, on the other hand, can be considered of high perceived quality in all dimensions except reactivity.

Table 2 shows the F-univariant ratios and the significance levels of the differences; for all five perceived quality dimensions the differences between the two segments are statistically significant.

TABLE 1
CENTROIDS OF THE FINAL CONGLOMERATES

	Segment 1	Segment 2
Tangibility	57.16	75.89
Reliability	132.73	152.61
Reactivity	154.69	75.21
Guarantee	69.68	83.17
Empathy	42.88	55.46

TABLE 2
ANOVA OF THE NON-HIERARCHICAL CLUSTER

	Cluster		Error			
	Square average	df	Square average	df	F	p
Tangibility	83157.392	1	1370.659	998	60.670	.000
Reliability	93606.214	1	2871.441	998	32.599	.000
Reactivity	1497134.1	1	1028.809	998	1455.211	.000
Guarantee	43104.426	1	1809.388	998	23.823	.000
Empathy	37480.003	1	1249.236	998	30.002	.000

Validation of Cluster Analysis Results by Means of Discriminatory Analysis. In order to test whether the subjects belonging to each of the groups identified by the cluster analysis can be differentiated in terms of the different perceived quality dimensions, a discriminatory analysis was carried out. This analysis shows that 99 per cent of the cases have been correctly classified in their groups. The Wilk's lambda values are very high in the dimensions of tangibility, reliability, guarantee and empathy, and their transformation into F-statistics shows low but significant values.

Taking into account the explanatory level of the discriminatory function, the Wilk's lambda value is .401, which gives a significant value ($p < .001$) when transformed into an χ^2-statistic of five degrees of freedom. Therefore, it can be assumed that the analysed function discriminates significantly between the two groups. Reactivity is the dimension with the highest discriminatory power.

Segment Description. For a better segment description, expectations values are included. The values of weighted expectations and service quality for the two segments are shown in Table 3. The first segment comprises consumers with lower expectations of service quality, and lower perception of service quality. The opposite is true for the second segment. These results are applied to four of the quality

TABLE 3
DESCRIPTION OF THE SEGMENTS IDENTIFIED IN THE CLUSTER ANALYSIS

Size (N)	Overall N = 1,000	Segment 1 N_1 = 386	Segment 2 N_2 = 614
Average of the weighted expectations of the service quality dimensions	$\overline{EXP - TANG} \to 68.663$ $\overline{EXP - RELI} \to 144.935$ $\overline{EXP - RECEP} \to 105.889$ $\overline{EXP - GAR} \to 77.962$ $\overline{EXP - EMPA} \to 50.604$	$\overline{EXP - TANG} \to 57.162$ $\overline{EXP - RELI} \to 132.733$ $\overline{EXP - RECEP} \to 154.689$ $\overline{EXP - GAR} \to 69.681$ $\overline{EXP - EMPA} \to 42.883$	$\overline{EXP - TANG} \to 75.893$ $\overline{EXP - RELI} \to 152.607$ $\overline{EXP - RECEP} \to 75.210$ $\overline{EXP - GAR} \to 83.167$ $\overline{EXP - EMPA} \to 55.458$
Average of the perception of the service quality dimensions	$\overline{TANG} \to 56.479$ $\overline{RELI} \to 83.326$ $\overline{RECEP} \to 71.867$ $\overline{GAR} \to 57.231$ $\overline{EMPA} \to 31.976$	$\overline{TANG} \to 45.758$ $\overline{RELI} \to 76.092$ $\overline{RECEP} \to 103.689$ $\overline{GAR} \to 51.643$ $\overline{EMPA} \to 26.365$	$\overline{TANG} \to 63.218$ $\overline{RELI} \to 87.874$ $\overline{RECEP} \to 51.862$ $\overline{GAR} \to 60.744$ $\overline{EMPA} \to 35.504$

dimensions: tangibility, reliability, guarantee and empathy. Reactivity shows differing behaviour from the other four dimensions. Segment 1 can therefore be said to correspond to consumers with lower perception of service quality, and also with lower expectations. On the contrary, segment 2 corresponds to individuals with a higher perception of service quality, and their expectations are also higher.

The statistics describing the segments obtained indicate that segment 1 is characterised by subjects who often use the service, and there are slightly more female users and senior citizens. This segment is also characterised by subjects with a lower level of education and of low to medium income (students, employees, the unemployed and senior citizens). Segment 2 is similar to segment 1 in the frequency of usage and income level. However, the number of female users and the level of education of these users is higher. Once again, the main groups of users are students, employees and the unemployed. To sum up, the segments differ depending on age, educational level, gender and profession, but are similar regarding frequency of usage and income level.

CONCLUSIONS AND DISCUSSION

The research carried out has achieved the original aims of this paper. Firstly, from a conceptual point of view, we made a review of studies based on service quality and its link with market segmentation.

The paper approaches the problem from a perspective of conceptual integration and interdisciplinarity. We think that if research on service quality is included in a wider framework comprising the consumer and the organisation itself, its applications and scope are enhanced, thereby increasing its usefulness for marketing management, and making its implementation easier. As a consequence, marketing management should consider its policy on developing service quality, analysing the way consumers perceive the efforts made by the organisation and its implications when choosing target markets.

From an empirical point of view, PSQ has proved to be a useful tool for market segmentations, enabling us to identify segments, explain differences and show how the marketing activity of the organisations is perceived heterogeneously. This leads us to propose the incorporation of PSQ as a tool to evaluate marketing efforts. Likewise, the empirical evaluation of the scale and its application in the public services context represents another contribution to studies on service quality measurement. However, variables allowing us to identify clear differences among segments have not been found.

Regarding future lines of research on service quality that could arise from this study, we would analyse the discriminatory ability of other variables, and highlight the elaboration of a panel of service quality. The development of such a measurement tool would provide us with: (i) a dynamic diagnosis of service quality, (ii) more efficient monitoring and detection of problems of service quality, and (iii) a considerable enhancement of service quality evaluation methodologies by incorporating heterogeneity into the models. Other future contributions should aim to evaluate quality effects on consumer choice.

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