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Effects of service quality dimensions on behavioural purchase intentions

A study in public-sector transport

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Abstract

Purpose – This paper seeks to examine the relationship between service quality and behavioural purchase intentions in the public-sector transport industry in Spain.

Design/methodology/approach – The study first identifies five distinctive research streams in service quality. An empirical analysis is then carried out in which the SERVPERF scale is adapted to the study of service quality in the public-sector transport industry. The study then examines the relationship between service quality and purchase intention using an aggregated ordered logit model.

Findings – The findings confirm a relationship between the five dimensions of service quality and purchase intentions.

Originality/value – The study provides a useful guide to research into service quality by identifying five distinctive streams of research on the field. The study also contributes from a methodological perspective by offering a measurement scale for service quality in the public-sector transport industry. Finally, the study contributes to studies of perceived service quality by providing an aggregated ordered logit model, and by confirming the link between service quality and behavioural intention in a public-sector context.

Keywords Customer services quality, Consumer behaviour, Purchasing, Public sector organizations, Transportation, Spain

Paper type Research paper

1. Introduction

Public-sector service providers play a significant role in most economies. Indeed, the importance of the public sector in Europe is reflected in the fact that the public sector is almost as big as the private sector in many market economies (Bigné *et al.*, 2003). The past 25 years have seen profound changes in the roles, management, staffing, and delivery of public services. Much of this change has been accomplished under the banner of the "new public management" (Lawton, 2005). According to Hoggett (1996) and Hood (1991), this "new public management" was a response to demands for change in the public sector.

Hood (1991) identified two key characteristics of this "new public management":

(1) that it has been used to restructure decision-making in public-sector organisations at both the national level and the local-government level; and

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(2) that it emphasises the objective of "better government" from a political perspective.

These changes must be seen against the background of changes in the private sector in recent decades. Faced with intensified competition, many private firms have been seeking ways to differentiate themselves from their competitors (Tam, 2000). Service quality has been suggested as a means of developing a competitive advantage (Clow and Vorhies, 1993; Gowan *et al.*, 2001; Hensher *et al.*, 2003; Parasuraman *et al.*, 1988). These improvements in service quality were, initially, restricted to private services; however, in the past few years this trend has also become apparent in the public sector (Perrott, 1996; Lagrosen and Lagrosen, 2003). Control of service quality is an increasingly prevalent trend in the context of public management (Ancarani and Capaldo, 2001), and rhetoric about "quality" in the public sector is increasingly being heard (Collins and Butler, 1995; Buckley, 2003).

Against this background, some public-sector organisations have wanted to adopt strategies for quality improvement, but many of these strategies have been somewhat fragmented. Hood (1995) has identified seven dimensions that need to be addressed if change is to be accomplished in the delivery of public services:

(1) a shift towards greater competition;

(2) an increased stress on private-sector styles of management;

(3) a greater stress on discipline and frugality in the use of resources;

(4) a shift towards disaggregation;

(5) more emphasis on visible "hands-on" management;

(6) an increased use of measurable standards of performance; and

(7) a greater emphasis on output controls.

The introduction of "quality management" has become increasingly common in meeting the challenges posed by economic and political pressures on public expenditure. Such "quality initiatives" have been linked to the commercialisation of public services, and to growing recognition of the needs and demands of sovereign customers in the marketplace (Ancarani and Capaldo, 2001).

However, most public-sector organisations, unlike private enterprises, are not inherently bound by competitive marketplace requirements in meeting customers' needs. This is essentially because provision of public-sector resources is not usually connected to performance. In many cases, alternative sources of the service provided by a public-sector organisation are simply not available, or not available at the low price charged by many public services. Dissatisfied users who wish to express their unhappiness with service performance by changing service providers have no means to do so, and are left with the alternative of merely expressing their dissatisfaction (Andreassen, 1994). Moreover, public-sector managers are not usually rewarded for performance; nor do they have the freedom usually accorded to private-sector managers to control what they do in their managerial activities. Overall, as Brysland and Curry (2001) observed, there has been little incentive to improve. Because they are not competing in the marketplace for customers, public-sector managers might not see the need to apply a customer-service focus to their agency (Gowan *et al.*, 2001).

One of the important aspects of the "new public management" discussed above has been a growing awareness of the private sector's emphasis on the delivery of service quality. Superior service quality has a positive effect on customer satisfaction and behavioural intentions, and many service firms in the private sector have used service quality to differentiate themselves from the opposition (Tam, 2000). Scientific interest in service quality has increased greatly since the 1980s (Lehtinen and Lehtinen, 1991), inspired by the publication of works by such authors as Grönroos (1982) and Parasuraman *et al.* (1985). More recently, research in service quality has been oriented towards an analysis of its effects on consumer behaviour and strategic market planning (Boulding *et al.*, 1993; Friman *et al.*, 2001; Friman and Gärling, 2001; Zeithaml *et al.*, 1996).

Much of this research has concentrated on the private sector. A review of the studies that do exist on the public sector reveals there has been little published research on public transport and users' satisfaction with the services they receive (Friman *et al.*, 2001). Some studies have explored the technical aspects of the service, but there has been little research on the important psychological and social aspects of consumer satisfaction (Everett and Watson, 1987).

The present paper therefore explores the relationship between service quality and the behavioural intention of consumers in the context of public transport. The paper first explores the basic theory of service quality and the main research streams in this field. The paper then presents an empirical analysis involving an adaptation of the SERVPERF scale. The study confirms the relationship between service quality and purchase intention behaviour using an aggregated ordered logit model.

2. Literature review

2.1. Research streams in service quality

Service quality has become a critical factor in enabling firms to achieve a differential advantage over their competitors, and it thus makes a significant contribution to profitability and productivity (Vuorinen *et al.*, 1998). Indeed, service quality has become a key concept in a competitive corporate strategy (Grönroos, 2001).

The distinctive attributes of services (Grönroos, 1982; Lovelock, 1996) make the study of service quality difficult. In particular, the intangible nature of services makes quality more difficult to control than is the case with tangible products (Edvardsson and Mattsson, 1993). Horovitz (1986) identified three distinctive characteristics of service quality:

(1) because most services are consumed at the same time as they are produced, the consumer perceives all shortcomings in quality;

(2) a service is made up of a set of benefits, but it is predominantly an "experience"; and

(3) an essential aspect of service quality derives from the quality of the relationship between the service provider and the consumer.

Research into service quality research has followed various lines of enquiry. The present study has identified five main research streams, as illustrated in Figure 1.

First, there have been many studies of the concept and nature of service quality; these include those of Grönroos (1982), Berry *et al.* (1985), Parasuraman *et al.* (1985), and Zeithaml *et al.* (1985). However, there is no general consensus about the nature or

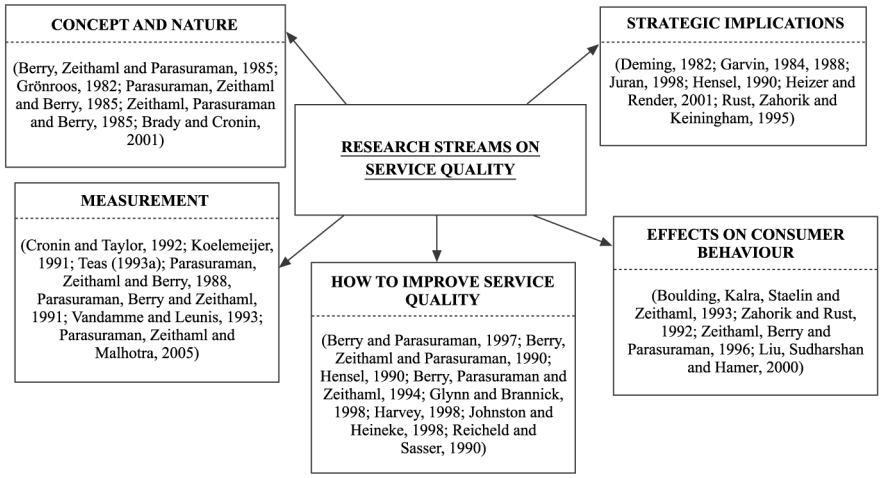

Figure 1.
Main research streams on service quality

content of the dimensions of service quality (Brady and Cronin, 2001; Morrison, 2004). In particular, several authors – including Brady *et al.* (2002), Chui (2002), and Liljander and Strandvik (1997) – have suggested that emotions and behaviour should conceptually be included in assessments of service quality. Nevertheless, there is a general recognition that service quality is a multidimensional construct (Cronin and Taylor, 1992; Grönroos, 1990; Parasuraman *et al.*, 1985, 1988; Brady and Cronin, 2001).

A second research stream into service quality has focused on the strategic consequences of quality. It has been claimed that an improvement in quality has a measurable effect on customer retention, market share, and profitability as a result of increased sales, lower prices, and decreased costs (Garvin, 1984, 1988; Deming, 1982; Juran, 1998; Heizer and Render, 2001). However, it should be noted that some authors have analysed the return on quality and concluded that not all quality efforts are equally valid (Rust *et al.*, 1995).

A third research stream has focused on the measurement of service quality. Important work in this area has been conducted by:

- Parasuraman *et al.* (1988), who developed the SERVQUAL scale;
- Cronin and Taylor (1992), who presented the SERVPERF scale and the weighted SERVPERF scale;
- Parasuraman *et al.* (1991) and Vandamme and Leunis (1993), who revised and weighted SERVQUAL;
- Koelemeijer (1991), who developed the Q scale (equivalent to SERVQUAL based on the subjective non-confirmatory paradigm), IPE scale (equivalent to SERVQUAL weighted by the importance scores), and IP scale (equivalent to SERVPERF weighted by the importance scores);
- Teas (1993a), who evaluated a alternative perceived quality model (EP); and
- Parasuraman *et al.* (2005) who developed E-S-QUAL scale for measuring the service quality delivered in the context of electronic service.

Despite considerable work undertaken in this research stream, there is no consensus as to which of the measurement scales is best suited to measure service quality (Morrison, 2004).

The fourth research stream has analysed how an organisation can improve service quality. This has involved both normative formulations (Berry *et al.*, 1990, 1994; Hensel, 1990; Harvey, 1998; Johnston and Heineke, 1998; Reicheld and Sasser, 1990) and empirical studies (Rust *et al.*, 1995).

The fifth research stream has focused on the effects of service quality on consumer behaviour. In effect, this research stream has concentrated on the link between service quality and an improvement in the profitability of the company (Zahorik and Rust, 1992). Authors such as Boulding *et al.* (1993), Zeithaml *et al.* (1996), and Liu *et al.* (2000) have studied the antecedents of consumer loyalty, and the effect that this has on the profitability of a service organisation. These studies supported the contention that an improvement in service quality has a positive influence on behavioural intentions, but they also showed that superior levels of service quality should be achieved in a cost-effective manner.

The present paper can be included in this last category of research streams – in that it attempts to establish a link between perceived service quality and behavioural purchase intentions in a public-sector context.

2.2. Service quality: nature of concept, modelling and measurement

The concept of service quality is complex, diffuse, and abstract – largely due to three of the distinctive features of a service: intangibility, heterogeneity, and inseparability (of production and consumption) (Carman, 1990; Zeithaml, 1988; Parasuraman *et al.*, 1985). If service quality is conceived from a consumer perspective, it is usually linked to the levels of customer satisfaction, which gives the concept a subjective nature (based on perceived quality), rather than an objective nature (based on technical or mechanical quality) (Carman, 1990). In this regard, Parasuraman *et al.* (1988, p. 16) defined perceived service quality as "a global judgement or attitude relative to the degree of excellence or superiority of service".

Such a subjective conception of quality is linked to notions of expectation. Lewis and Booms (1983) defined service quality as a measure of how well the service delivered matches customers' expectations. Notions of expectation are closely linked to attitude, and quality has also been conceptualised from the perspective of attitude. In accordance with this view, both Olshavsky (1985) and Bitner and Hubbert (1994) regarded perceived quality as a general "global assessment" of a service, closely associated with attitude.

Perceived service quality has been posited as a key factor in explaining purchase intentions, but this relationship has not been fully established (Cronin *et al.*, 2000). Several studies have established a link between perceived service quality and behavioural intentions, but only through value and satisfaction (Anderson and Sullivan, 1993; Gotlieb *et al.*, 1994; Patterson and Spreng, 1997; Roest and Pieters, 1997; Taylor, 1997), whereas others have found a direct link between perceived service quality and behavioural intentions (Boulding *et al.*, 1993; Parasuraman *et al.*, 1988, 1991; Taylor and Baker, 1994; Zeithaml *et al.*, 1996). Furthermore, the concepts of service quality and satisfaction have also been linked in what has been described as a chain of loyalty (Storbacka *et al.*, 1994, p. 23). However, quality and satisfaction are

different concepts and cannot be considered synonymous (Olshavsky, 1985; Bolton and Drew, 1991).

All these relationships point to service quality being a multidimensional concept (Grönroos, 1982; Parasuraman *et al.*, 1985, 1988). Nevertheless, opinions on the dimensionality of the construct vary, and there is no consensus on the question (Brady and Cronin, 2001). According to Martínez-Tur *et al.* (2001), two main approaches can be distinguished: the European view; and the North American view.

With respect to the first, the European tradition, the first scholarly contributions on service quality came from Scandinavia and Northern Europe (Grönroos, 1991). Lehtinen and Lehtinen (1982) defined service quality in terms of:

- physical quality (the tangible aspects of a service);
- interactive quality (the interaction between a customer and a service provider, including automated and animated interactions); and
- corporate (image) quality (the image attributed to a service provider by its current and potential customers).

Moreover, Lehtinen (1983) defined service quality in terms of "process quality" (judged by a customer during a service) and "output quality" (judged by a customer after a service has been performed). Grönroos (1982), an important figure in the so-called "Nordic School" (Edvardsson and Gustafsson, 1999), defined the dimensions of service quality in terms of:

- "technical quality" (what the consumer receives; that is, a result dimension); and
- "functional quality" (how the consumer receives the service; that is, a process dimension).

The European tradition posits service quality as resulting from a comparison between the customer's expectations of the service and the customer's perception of the service actually received (Grönroos, 1984)

The second approach, the North American tradition, has emphasised the fact that there are few tangible elements in service offerings, and has therefore focused its research efforts on the intangible. In this tradition, Parasuraman *et al.* (1988) developed the SERVQUAL scale, which posited five dimensions of service quality and a battery of 22 items, as follows:

(1) tangibility (four items);
(2) reliability (five items);
(3) receptivity (four items);
(4) assurance (four items); and
(5) empathy (five items).

These five subscales are measured using Likert-type scales in the SERVQUAL questionnaire, which is divided into two parts – with the first half measuring the expected service and the second half measuring the actual service (as perceived by the customer).

This scale has received scholarly criticism (Buttle, 1996; Cronin and Taylor, 1992; Harrison-Walker, 2002; Hussey, 1999; Mangold and Babakus, 1991; Peter and

Churchill, 1986; Quester *et al.*, 1995; Teas, 1993a, b). The main point of criticism has been the use of different items for various services, which produces different dimensions of perceived service quality in adapting them to the service being studied (Carman, 1990). These criticisms have stimulated the development of alternative scales – such as the weighted SERVQUAL scale, the SERVPERF scale, and the weighted SERVPERF (Cronin and Taylor, 1992). In addition, Koelemeijer (1991) has developed the "Q" scales (equivalent to SERVQUAL based on a subjective non-confirmatory paradigm), the "IPE" scales (equivalent to SERVQUAL weighted by the importance scores), and the "IP" scales (equivalent to SERVPERF weighted by importance scores).

Some recent studies (Kang, 2006; Kang and James, 2004) have contended that the European perspective is a more appropriate representation of service quality than the American perspective, which has a limited focus on the dimension of functional quality.

3. Empirical analysis

3.1. Setting

The objective of the empirical analysis in the present study was to examine the relationship between service quality and purchase intention behaviour in the context of public transport in Spain. The research setting was the local public-sector bus service in Almería, a medium-sized city in Spain in which various transport programmes are being developed and studied. The transport needs of consumers in this city can be satisfied through several alternative means, thus providing a suitable context for analysing purchase intention. In addition, the city contains a variety of segments of consumers with different motivations and needs.

3.2. Research variables

The present study adapted the "SERVPERF" scale of Cronin and Taylor (1992) to produce a scale ("QUALBUS") suitable for assessment of the local bus service. Five dimensions of bus-service quality were evaluated: tangibility; reliability; receptivity; assurance; and empathy. Each dimension was composed of several factors:

(1) *Tangibility*:
- The firm has buses in good conditions.
- The firm owns appealing installations (information, tickets sales, seats, bus stop, air conditioning, etc.).
- Employees who have a neat, professional appearance.
- Visually appealing materials associated with service (bus facilities, seats, etc.).

(2) *Reliability*:
- Any given information is accomplished by the company (schedules, courses, frequency, etc.).
- The firm provides good information (enough, understandable, etc.) about bus services (schedules, courses, frequency, etc.).
- Dependability in handling customer service problems.
- Providing services at the promised time.

(3) *Receptivity*:
- Employees offer fast services to customers (ticket sales, courses, and others take short time).
- The given service is comfortable.
- Readiness to respond to customers' requests (tickets sellers, drivers, etc.).

(4) *Assurance*:
- Employees' behaviour (tickets sellers, drivers, etc.) inspires trust and safety to customers.
- Customers feel safe in their courses.
- Employees who are consistently courteous.
- Employees who possess the knowledge to answer customer questions.

(5) *Empathy*:
- The firm offers convenient schedules to different customers.
- The firm offers convenient courses to the customers.
- The firm offers convenient frequencies to the customers.
- Employees provide customers with individual attention.
- Employees have the customer's best interest at heart.
- Employees who understand their customers' needs.

Adaptation of the scale to the local bus service required the omission of one item from SERVPERF's reliability dimension and one item from the receptivity dimension. One item was added to the empathy dimension, giving a final scale of 21 item. A Likert-type five-point scale was used to assess each item).

Service quality was estimated by the weighted SERVPERF scale, which is defined as:

$$\mathrm{SQW}_i = \sum_{k=1}^{5} W_{ik} \left[\sum_{j=1}^{j'} \mathrm{SQ}_{ijk} \right] \tag{1}$$

where:

SQW_i is the weighted perceived service quality for the ith consumer ($i \in \{1 \ldots n\}$),

W_{ik} is the importance given to the kth dimensions for the ith consumer ($k \in \{1 \ldots 5\}$).

SQ_{ij} is the perceived service quality for the ith consumer for the jth aspect of the ith dimensions ($j \in j'$).

The variable of behavioural intention used the three-item scale of Cronin *et al.* (2000). They used three items to measure this construct that are similar to those reported and used throughout the services marketing literature (see, Babakus and Boller, 1992; Cronin and Taylor, 1992).

Demographic statistics were also collected. These included sex, age, level of education, annual incomes, profession, and fare. Data were also collected on the main reason for using the bus service.

3.3. Data collection

Data were collected by personal interviews with 1,000 users of the local public-sector bus service. All respondents were 14 years of age or older. To ensure the representativeness of the sample, the sampling design was stratified according to the number of users of each bus line. The interviews were carried out in different schedules and involved two groups of consumers:

(1) frequent users (approximately 85 per cent of respondents); and

(2) infrequent users (approximately 15 per cent).

3.4. Validity and reliability

Cronbach's alpha coefficient was used to assess reliability for the whole scale. This revealed a value of 0.9203, which indicated satisfactory reliability. Content validity of the scale was ensured by the way in which the scale had been adapted from previously used scales of a similar nature.

Table I shows the results of the confirmatory factor analysis used to test the individual dimensions and items of the model.

All factorial loads were significant ($t > 1.96$), which indicated convergent validity. To evaluate factorial validity, the evaluation indicators of the model were considered. The χ^2 statistic had a value of 1,432.684 with 179 df. Although this value appeared to be high, the structure of the test produces this effect when the sample size is large; in the circumstances, the results can be regarded as acceptable (Lichtenstein *et al.*, 1993). Other overall statistics had moderate values. The χ^2 statistic was 1,307.516, which is also significant. The Bentler-Bonett normal fit index (BBNFI) was 0.846, which was similar to the same non-normalised statistic of 0.839. The comparative fit index (CFI) was 0.863 and the robust comparative fit index (RCFI) was 0.857.

Criterion-related validity was demonstrated when perceptions of the five service-quality dimensions were regressed against the global construct. All dimensions proved to be significant and positive, with a R^2 coefficient of 0.5.

Finally, the average of standardised residues off-diagonal had a value of 0.0405, which confirmed the reliability of the estimated model. These results indicated unidimensionality in the subscales and confirmed their joint use.

3.5. Analysis and results

For the purpose of this study, the model was contrasted using aggregated ordered models (logit models). The justification for this approach was the qualitative nature of the behavioural intention variable; in this context, these models fit better than traditional regression models (Greene, 1997).

The level of behavioural intention regarding the use of the service (Bi_i) was estimated. In view of the fact that this variable contained ordinal data with J levels, a model of probability was implemented in which the explanatory variables were the five measured dimensions of service quality. To establish the predictive strength of this procedure, the modelling was carried out following Currim's (1981) approach in an aggregated perspective that considered the whole sample; it was implemented with a

Indicator	Standardised factorial loading	*t*-statistic	*t*-statistic (robust)
Tangibility dimension			
SQ1	1[a]	–	–
SQ2	0.582	13.879	14.815
SQ3	0.583	13.907	13.027
SQ4	0.422	10.759	8.112
Reliability dimension			
SQ5	1[a]	–	–
SQ6	0.575	17.377	18.608
SQ7	0.678	20.714	19.848
SQ8	0.750	13.006	25.331
Reactivity dimension			
SQ9	1[a]	–	–
SQ10	0.630	10.834	18.300
SQ11	0.545	10.307	14.005
Assurance dimension			
SQ12	1[a]	–	
SQ13	0.773	27.272	29.772
SQ14	0.787	27.918	29.174
SQ15	0.687	23.344	20.495
Empathy dimension			
SQ16	1[a]	–	–
SQ17	0.595	17.135	21.910
SQ18	0.656	18.767	18.558
SQ19	0.648	18.551	17.038
SQ20	0.760	21.419	19.967
SQ21	0.762	21.478	20.771

Note: [a] Parameters fixed value 1 for the identification of the model

Table I.
Results of the confirmatory factorial analysis

logit choice structure. Model estimation was carried out using LIMDEP 7.0 software by the method of maximum likelihood and aggregated data.

In accordance with Greene (1997), the model defined the discrete choice probability as:

$$P[y_i = j] = \Im\left[\frac{\mu_j - \beta' x_i}{\sigma_i}\right] - \Im\left[\frac{\mu_{j-1} - \beta' x_i}{\sigma_i}\right]. \quad (2)$$

where:

- β is the regressors coefficients vector;
- μ_j is the threshold value for the jth level of the dependent variable;
- σ_i is the standard deviation for the ith consumer, with a unitary value for all observations or specific for each consumer; and
- $\Im(\cdot)$ is the functional form (normal or logistic).

The maximum likelihood function was defined as:

$$\ln L = \sum_{j \in J} \ln L_j = \sum_{j \in J} p_j \ln P\left[Y_i = y_i\right]$$

where:

Y_i is the theoretical random variable; and

y_i is the observed value of Y_i for the ith consumer.

3.6. Aggregated ordered probability model: logit model

The study developed an aggregated ordered probability model that considered the whole sample. Behavioural intention was determined by the weighted service-quality perceptions, and was defined as:

$$\mathrm{BI}_i = \alpha + \sum_{ik} \beta_{ik} \mathrm{SQW}_{ik} + \varepsilon_i. \quad (4)$$

where:

BI_i is the behavioural intention for the ith consumer $\{i = 1 \ldots N\}$, and $N = 1,000$;

α is a constant;

SQW_{ik} is the weighted service quality of the kth dimensions for the ith consumer;

β_k is the coefficient of the kth dimension $\{k = 1 \ldots 5\}$ of service quality; and

ε_i is the random error for the ith consumer, with a logistic distribution.

Tables II and III show the estimations and marginal effects for the model with a logit probability structure, respectively.

Table II shows the parameter estimation. It shows that all dimensions of service quality were significant. It also confirms the positive link between service quality and behavioural purchase intention. The positive sign of the constant (intrinsic preferences) showed a positive bias towards service use.

Variables	Coefficient	Standard error	Significance
Constant	1.757	0.759	0.020
SQW_1	0.015	0.002	0.000
SQW_2	0.019	0.002	0.000
SQW_3	0.015	0.002	0.000
SQW_4	0.019	0.002	0.000
SQW_5	0.022	0.004	0.000
Threshold parameters			
μ_1	5.603	0.718	0.000
μ_2	10.334	0.748	0.000
μ_3	14.855	1.249	0.000

Note: Model assessment – LL(() = −662.841; LL(C) = −815.806 $\rho^2_{\mathrm{adj}} = 0.181$ $\chi^2_5 = 305.928$ ($p = 0.000$)

Table II.
Estimated parameter in the aggregated ordered logit model

Considering the positive character of β coefficients, marginal effects were negative for all central and inferior values; however, they were positive for superior values (see Table III). In the assessment of the model, the ρ^2_{adj} coefficient showed a value of 0.181, which indicates an adequate level of fit (Greene, 1997; Malhotra, 1984).

4. Discussion and conclusions

4.1. Major findings

In view of the large number of studies that have been conducted on various aspects of service quality, the present paper has made a useful contribution by classifying the notable studies into five streams of research. The paper has also made it own contribution to the fifth research stream thus identified – the effects of service quality on consumer behaviour. This line, characterised by the work of Zahorik and Rust (1992) and Zeithaml *et al.* (1996), established the link between perceived service quality and behavioural intentions, and the present study has extended its scope to include services in the public sector. From an empirical perspective, the present study has adapted the SERVPERF scale to the context of public transport, specifically bus transport. In doing so, the study provides a reliable and valid instrument of measurement of service quality in this industry.

The study has demonstrated that the five dimensions of weighted SERVPERF showed a relationship with intention to use the bus service. However, this relationship had a "saturation point", beyond which further increases in service quality did not lead to increased intention to use the service. This might be a special characteristic of a public-sector industry.

The study has also assessed the relationship between service quality and behavioural intention using the methodology of a qualitative regression model. This suggests that it would be useful to incorporate perceived service quality as a tool to evaluate marketing efforts in this industry. In addition, the present study has linked the essential aspects of consumer-behaviour research (perceptions, conductual intention) and marketing management (service quality).

4.2. Managerial implications

Some clear managerial implications emerge from our findings. First, it is apparent that a multidimensional construct of service quality explains consumer behavioural intentions in public services. Managers should therefore be aware of the need to include all service-quality dimensions in their efforts to improve service quality. This finding should encourage marketing managers to develop a deeper understanding of the various components of this construct in improving their service to consumers.

Variables	$BI_i = 1$	$BI_i = 2$	$BI_i = 3$	$BI_i = 4$
Constant	−0.0014	−0.2595	0.1962	0.0639
SQW_1	0.0000	−0.0023	0.0017	0.0006
SQW_2	0.0000	−0.0028	0.0021	0.0007
SQW_3	0.0000	−0.0023	0.0017	0.0006
SQW_4	0.0000	−0.0028	0.0021	0.0007
SQW_5	0.0000	−0.0034	0.0026	0.0008

Table III. Marginal effects in the aggregated ordered logit model

The finding that service quality has a significant effect on behavioural purchase intentions justifies expenditure on the design, communication, and delivery of service quality. In particular, expenditure on sales and promotion strategies and employee training programmes is justified on the basis that consumers actively seek service quality. With regard to the employee training programmes, leadership and teamwork are essential in improving services, and employees must understand how the enhancement of customer-oriented service activities can benefit all stakeholders.

4.3. Limitations and future research

As with all empirical studies, the present research had certain limitations. First, there were limited alternatives available to consumers in the present study. Future research could include another study context in which consumers have a greater variety of alternatives in a more competitive sector. Second, the use of a post-purchase variable such as "intention to use" could be considered problematical. However, there is significant evidence of a high correlation between intentions and actual behaviours. Nonetheless, future studies could consider other variables. Finally, there are limitations associated with the use of a single research scenario. Generalisation of the measurement scale (for service quality) used here should be undertaken with caution because the research dealt primarily with the bus transport industry. More research is needed to assess the generalisation of the measuring instrument presented here.

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